The heritage chain management. General issues and a case study, China

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Response to Reviewers:

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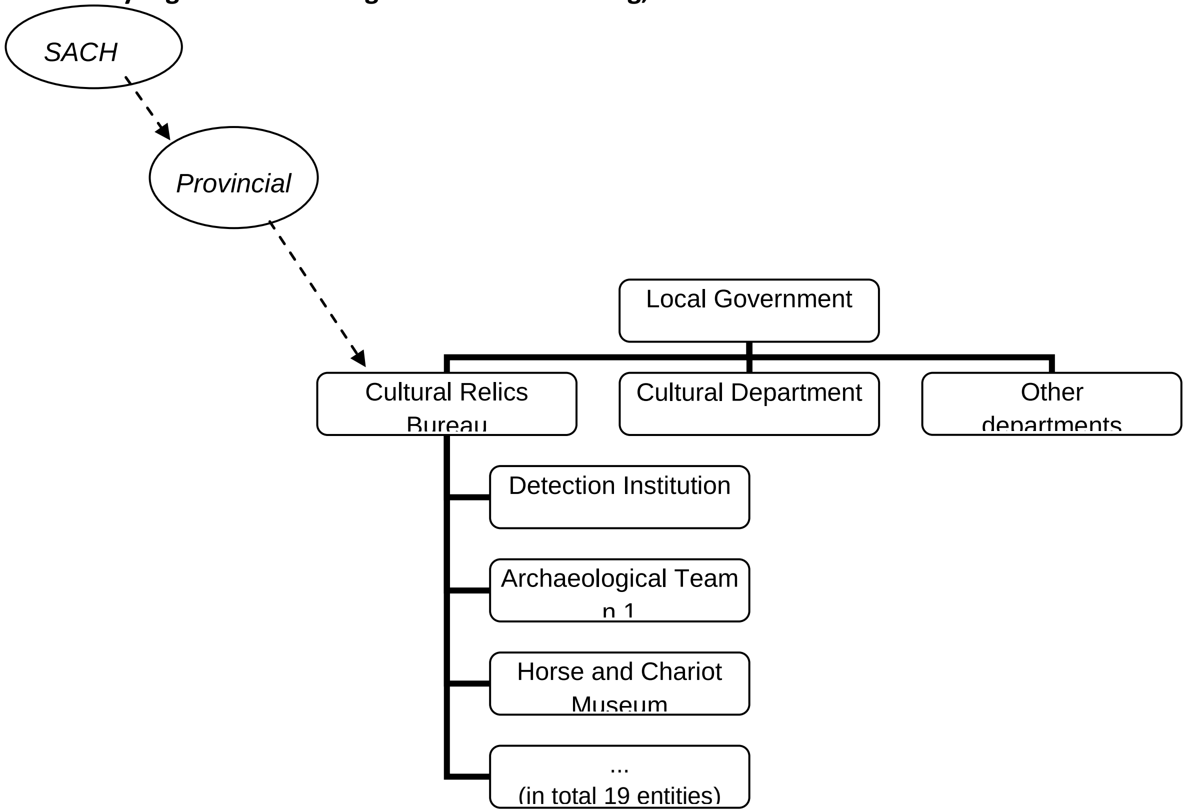
Table

Table 1 - The heritage chain & analysis of structure, behavior, and performance: major macro-activities

Preservation	Archaeological excavation	Conservation	Research	Museum Presentation
- regulation of uses of artefacts - regulation of antiquities trade - artefacts registration - inscription of architecture …	- on-purpose excavation - salvage excavation ….	- individual intervention - standard setting ….	- categories and periods - disciplinary focus ….	- permanent exhibitions - temporary exhibitions - access and presentation …

Table 2 – The Luoyang Cultural Heritage Institutional Setting, with detail of the institutions involved in the Horse and Chariot case.



Source: authors' elaboration

Table 3: The Heritage Chain and structure / behavior / performance analysis in the Horse & Chariot Case

	Preservation	Archaeological excavation	Conservation	Research	Museum Presentation
Structure	- CRB gives building permit, requests detection, makes final decisions - Detection institution investigates	- AT excavates, agrees timeline and price with construction company - Construction company pays	- AT stores finds for a short time - Museum keeps objects over long term	- AT should write a scientific report within three years - Museum should study the objects	- CRB decides to construct museum - CRB controls museum administration, finance, science - Luoyang Gov. decides permanent positions and partially funds the museum - Museum decides on contract employees, keeps ticket revenues
Behavior	- CRB commits to action of CRB - Cooperation among Local Government, CRB, Provincial CRB and SACH	- Bias toward profit-making excavations - AT & construction company collude to reduce time and price - No cooperation with other institutions	- AT unwilling to cooperate with museum - Avoid compliance with law (the AT keeps the finds)	- Underdevelopment of research activities - Little cooperation with other institutions	- no adequate analysis of workloads - no economic constraints deriving from welfare policies
Performance	- Preservation of the Eastern Zhou heritage (stopping destruction) - Relocation of the parking lot	- Profit from salvage excavation - No research excavation - Partial excavation of the Eastern Zhou site - No diffusion of knowledge	- No cooperation	- No scientific report - Minimal professional exchange - Opportunity to study the wider site is lost	Visitor effectiveness - Good visitor results, still underperforming - Lost opportunity for a wider archaeological park Curatorial effectiveness - no depots - more a monument then a research institute - ambiguity on who does what Resource efficiency - lack of curatorial & managerial figures - economic self-sufficiency - lack of accountability

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The Heritage Chain management. General issues and a case study, China

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Abstract

The paper proposes a framework for the study of cultural heritage management issues: the "heritage chain". The notion translates the concept of supply chain derived from industrial organization, investigating the set of activities taking place in the heritage sector (from preservation, to archaeological excavation, conservation, research, and museum presentation) in their relationships and abilities to impact performances. The concept can be used both to address problems and inconsistencies within an individual case and, in a comparative perspective, to understand how heritage became structured differently in different countries. In this paper it is applied to a specific case of heritage preservation and management in China: the "Horse and Chariot" museum. While investigating several aspects of management of the Chinese heritage (a rather unusual field research made possible by an attitude toward international collaboration), the case highlights the ability of the "heritage chain" to grasp a single case of heritage management with a holistic view, opening up possibilities of development for the new framework.

Research aims

Our research in general, as well as this article, focuses on the management of cultural heritage. In a sense, more than archaeology, museology etc. per se, what we are interested in is studying archaeologists, museologists etc. in their ways of structuring and carrying out their work. Rather than seeing "management" as something else – often misunderstood by professionals as related to commercial activities, in profit seeking, may be in running museum shops or "additional" activities – we intend it as ways of organizing. In their daily life professionals in fact take part to very complex organizational and inter-organizational interactions that they tend to see under their particular disciplinary lenses. Our contribution, as critical management scholars, is developing more general aspects of these forms of organizing.

More specifically in this article, the aim is to propose a framework, the heritage chain, drawing form the Industrial Organization literature, and apply it to the heritage sector. A comparative attitude is implicit in such a framework: what we are interested in – whether we apply the framework to and individual case as in this article, or to a more structured comparison across countries – is specific aspects and situational elements characterizing the case study, or the organization of the heritage chain in a specific country.

In this paper we take the case of a new museum in China, providing a good example despite enormous process in data gathering in such a country, for the kind of sensible data we are working on. This was made possible by very fortunate positive conditions in access to data during a field research in 2005-2008.

Specific organizational elements and critical issues in managing cultural heritage in China emerge from the case study, highlighting the usefulness of the framework proposed.

1. Introduction

Part of a broader research program, this paper investigates several aspects in managing the heritage chain, that is to say the set of activities taking place from preservation, to archaeological excavation, conservation, research, and may be museum presentation. In addition, an application to a specific case study is presented, the "Museum of Horse and Chariot Pits of the Emperor of Eastern Zhou Dynasty" in Luoyang, Henan Province, China (from hereafter "Horse and Chariot Museum").

Heritage is a socially constructed concept, with huge varieties across cultures and countries, a well known issue in heritage studies. Besides the variety of meanings in academic, historical, and professional discourses, however, heritage is also shaped by the ways in which the different activities are influenced by the administrative coordination that regulate and organize them. For example, usually archaeological excavations are very complex projects, involving several organizations, often employing huge resources and difficult issues in managing them. What is the context in which the excavation takes place? How are times, resources, and bureaucratic constrains dealt with? How archaeological or curatorial works are organized and run (managed) by professionals? What are the outcomes, not only in terms of archaeological results, but also in other organizational meanings, as for instance with new research streams?

A growing concern with management issues can be found in the heritage field, as a direct manifestation of interest by professionals and institutions (e.g. [1] [2] [3] [4]; see also [5] for a bibliographical reconstruction). However, there is a potential to get better insights in such processes of managing the heritage field, looking at them as administrative or organizational phenomena as well, drawing on knowledge developed in management studies. This is not to say that activities inside the heritage field *should* be organized in more economical (or even market-like) mechanisms. Simply, a better understanding of how the heritage field *is* structured and organized – in a way or the other – would help those with substantive interests in the field in "getting things done". Without necessarily questioning their specific viewpoints and concerns, this could be a way to help professionals in better achieving their tasks.

Within the broader research project on the study of the Chinese heritage Management carried out by the authors [6][7][8][9][10], the case of the Horse & Chariot Museum is presented in this paper. This case provides a unique opportunity to investigate different steps in the heritage chain inside the same emerging entity, within a very short period of time.

The paper is structured as follows. In section 2 we provide a methodological focus on the notion of heritage chain. In section 3 and 4 the case of the Horse and Chariot excavation and museum is reconstructed and discussed. Section 5 provides some concluding remarks. Given the need to shorten the paper, some descriptive elements and data are reported in a Virtual Appendix made available on the publisher's web site (link); moreover, a 10 minutes video is made available on youtube by Bonini Baraldi & Zan [11]. The reader is encouraged to have a preliminary view of the visual and textual case study before reading the paper.

2. The heritage chain

The notion of heritage chain is to some extent a sort of “grounded theory”, a framework that emerged in our field research about the management of heritage in various countries. The concept is derived from the notion of supply chain that was developed in the field of industrial organization few decades ago (see [12] for a short reconstruction).

The basic idea in industrial organization was that any industry or sector can be investigated in terms of structure, behaviour and performances. Competitive dynamics between actors are related by the *structure* and division of labour within the field, which influences possible *behaviours* of individual firms, and consequently their *performances*. In turn, performances have an impact on the structure, within an interactive kind of sequences. Investigating the supply chain – the division of labour between producers from the acquisition of raw materials to the distribution of the final product – is thus indispensable for understanding the competitive games within any given industry. It is likely that the inner actors do not even perceive themselves as a member of this chain, as well as it is very unlikely that any single producers position its activity along the whole chain (vertical integration is not sustainable). Nonetheless, the notion is useful for the analyst, addressing the attention on the more or less explicit economic organization of an industry as a crucial driver of behaviours and performances.

The notion of heritage chain tries to translate the concept of supply chain to the heritage “sector”, with important similarities and with relevant distinctive elements. It tends to reconstruct the set of activities that takes place from the production or discovery of heritage (the equivalent of “raw material”) to possible “uses” of it by visitors (the “final product”), including uses made by actors within the chain (as for instance researchers). These activities can be aggregate in some macro-activities that, in principle, can be found in any country (Table 1). However, the internal structure and meaning of each individual macro activity and the relations between them can largely vary in any specific context. Understanding the specificity in the qualification of the heritage chain in a given context is our way to study the sector.

Table 1 about here

Implicit in this view is that there are intrinsic similarities between heritage and any other "industry". It is a sector as any other, an organized activity: a set of actors, doing and exchanging things, with a variety of knowledge, techniques etc. [1] For this reason, a systematic analysis of the economic organization of the sector will help understanding some of its dynamics (in terms of structure → behaviour → performances: SBP). Also, it could help understanding how in different contexts – in different heritage sectors – the similar concept of chain is characterized in different ways.

Some important peculiarities of the sector need however to be underlined, for their impact in characterising prevalent dynamics that are specific to this sector.

- All the terms of the SBP relationship shall be understood in an extensive way. Structure should incorporate aspects that usually are not so crucial for profit seeking sectors, as the role of public funding and the role of the State in characterizing the division of labour inside the sector (with possible changes in private/public relationships, privatization and the like). Behaviour is to be intended more extensively than mere competitive behaviour, referring to degrees of freedom in doing things. Performances, rather than "profit", is to be intended as outcomes, and more specifically as conditions of efficiency or effectiveness characterizing various entities in the field.
- This said, the sector is characterized by the presence of a large variety of professions and bodies of knowledge (from history, to art history, archaeology, architecture, juridical, but also hard sciences as chemistry and conservation and so on).
- Most of the professionals have strong substantive interests in the specific object of investigation. As a consequence of specialization, a situation of fragmentation of knowledge is always at stake: debates tend to be separated, in different communities, with different journals, conferences and other institutional mechanisms. The "producers" along the chain do not interact

[1] To avoid any misunderstanding, we are not suggesting that heritage should be run as business, nor that it should be driven by market forces. But it can be looked at a set of organized activities, using some of the tools that are available in the economic research tradition (particularly Industrial Organization and Organizational Theory).

that much, not only between macro activities of the chain, but even within the same macro-activity (bringing pre-Columbian and Chinese archaeologists to a conference in Pompeii was something rather unusual in our experience).

- There are very different organizational rationalities in some of these macro activities that make the dialogue even more difficult. For instance, most of archaeological excavations take place in form of projects, while some of the museum activities take the form of permanent organization.
- The heritage chain represent a complex of materials (collections, buildings, sites) and knowledge and meanings that are to a large extent relatively "immovable". This is obvious for buildings and site (the Coliseum is just in Rome). But it is also true in softer terms. All over the world – at least in recent years – laws that tend to limit export of movable heritage have been issued, and the protection from illegal export is now in itself an important element of the first macro-activities in the chain.

There are several ways of operationalize a similar framework. The Horse and Chariot provides a good example of the Heritage Chain "in action". Inside a single story it provides a holistic view of the "structure" of the heritage chain in China, in this case from salvage excavation to the opening of the museum: the normative context, the institutional settings and the division of labour (who does what) between different administrative levels, fluxes and interchanges among actors can be "easily" traced. This is what we propose in the next section.

3. The heritage chain at work: The Horse and Chariot case history

Few words are needed to put the Horse and Chariot case history in the broader context of China's development. The extraordinary process of economic growth in recent decades has had enormous impacts on heritage: infrastructure construction, building activities, and the transformation of urban contexts often involve the discovery of new archaeological finds, and represent threats to existing monuments [13] [14], with growing impacts on all various heritage disciplines (archaeology;

conservation; museology; tourism: see for instance [15] [16] [17] in this journal). Tourism has become a new phenomenon as well, and offers both opportunities (potential revenues/profits which are never publicly documented) and threats for heritage [18] [19] [20]. The changes currently affecting professional communities are also huge [21]: an increasing process of integration with the international community of scholars can be pointed out (see for instance [22]). This implies to some extent a less politically-driven agenda compared to the past for museologists (e.g. [23]) and archaeologists [24] [25] [26] [27], though the deliberate use of heritage for cultural diplomacy and as a mean of fostering national identity is still crucial for the sector [18] [28] [29].

In such a context, the Horse and Chariot case is a fascinating and successful story of heritage discovery and preservation recently occurred in Luoyang, Henan province, once the capital city of 13 Chinese imperial dynasties.

The story begins in May 2002, when the Municipality of Luoyang decided to redesign the square along the main street of the City to build several new structures, included an underground parking lot. During preliminary works however important archaeological finds were discovered: 400 tombs, several horse and chariot burial pits, and more than 1000 relics of the Eastern Zhou dynasty of extraordinary archaeological value. In the end, rather than a parking structure a new museum was build (the “Horse and Chariot Museum”), opening 18 months after the initial discovery.

The museum is composed by a first hall, displaying finds from the excavation, and a second hall which presents the procession of horses and chariot of the major pit in its complete grandeur and beauty. Indeed, the new institution – a *shiye danwei* in institutional terms (a cultural operative institution) – appears to be a nice and charming museum, reaching around 80.000 visitors per year. In economic terms, the museum is in itself “profitable” even from the first year of opening, generating a surplus, thus totally financially self-sufficient.

Some comments are needed to better understand the whole episode of the discovery/construction of the Horse and Chariot museum, from initial surprise to happy ending.

How did it happen? How was it possible, compared to other stories of heritage destruction in the Country and all over the world?

To answer these questions the legal framework developed in China for the protection of cultural heritage needs to be addressed. The discovery in fact was not a mere question of lucky, accidental findings (as it was for the Terracotta Warriors in 1974 in Xi'an), but rather the consequence of a national legally structured routine. Moreover, while other accidental discoveries in China had a different dynamic, the happy ending here is related to the specific power that a key governmental institution – the Local Cultural Relics Bureau (CRB) – has in Luoyang. As the capital of thirteen dynasties, Luoyang is in fact one of the richest archaeological areas of China, from the origin of civilization onward. Not surprisingly, cultural heritage is relatively well-supported within the agenda of the local government and the CRB has a greater status compared to other situation in China. This special power, and the good relationship between local and national administrations, ensured in this case a unique commitment to action, making it possible that the law – often ignored – was actually followed.

The basic law establishing the institutional framework for the heritage sector in China is the *Cultural Heritage Protection Law of the People's Republic of China*, issued in 1982 and later amended in 1992 and 2002. According to the law, in case of willingness to build in an old city area any construction company must ask for permission to the local Cultural Relics Bureau (from now CRB).

The CRB is the Chinese administrative body of each provincial and local government responsible for operative cultural institutions, which might be entities open to the public (museums, historical houses and archaeological sites) or other institutions working in the heritage chain (such as archaeological teams, research institutions etc). Its role is of governance of the system, with a high degree of control on the heritage chain on both administrative (human and financial resources) and professional issues (scientific decisions in terms of preservation, excavation, conservation of relics and development of sites). The local CRB is subordinated for professional aspects to the

Cultural Relics Bureau of the Province and of the State level (State Administration for Cultural Heritage, SACH), while from the administrative point of view it is subordinated to the cultural department of the Provincial or Local Government. The bureau plays therefore a fundamental role in the whole heritage chain, being a key element of connection between the local government, higher governmental levels, and operative cultural institutions working in the territory.

Luoyang is an exception to the rule: here the CRB reports directly to the Major, with a great status compared to other situations, where the bureau reports to the Cultural Department. Also, the heritage system is larger then usual, with the CRB controlling 19 operative institutions: 9 historical sites/museums (included the Horse and Chariot museum) and 10 institutions working in different fields of the cultural heritage chain. Among the latest, two institutions were actually involved in the Horse and Chariot case: the Detection institution and the Archaeological Team n.1 (see Table 2).

Table 2 about here

Once received the request for construction in a certain area, the local CRB starts a process of assessment of the presence of cultural remains sending the Detection Institution to make preliminary investigation: a special technique invented in the 50s which uses long wood sticks to sound the soil for cultural evidences. If nothing is founded through detection the company can start building in the area without any charge of money. If some finds emerge, however, the CRB involves the Archaeological Team for starting a more systematic excavation. In this case, the cost of the excavation is charged to the construction company, which negotiates the time and price with the Archaeological Team, depending on the size and the depth of the area.

During excavation the Archaeological Team must report to the Archaeological Department of the CRB which, in case of important findings, will involve a group of experts for advice. The scholars' advice is taken into account by the CRB Director which decides what to do with the site: the excavation can be halted or continued. In the latter case, time and fee previously agreed must be renegotiated; in some specific cases, the Construction company can be obliged to move in another area, such as the Horse and Chariots Pits site.

In our case, after the decision by the local government in May 2002 to build a parking lot, detection was started in July 2002. This led to the discovery of some relics (a red relic, part of a chariot in small pit, as well as 3 chariots, later buried again) which required further investigation. Thus, according to the law, a big archaeological excavation of the area was conducted between the summer 2002 and January 2003, involving the Archaeological Team n.1. Given the importance of the discoveries made during the excavation, in January 2003 experts from SACH were involved to make an appraisal. Following such assessment, in April 2003 a decision was made by the SACH to definitely stop the initial plans and build an on-site museum. The construction of the museum started suddenly (June 2003), designed by the Ancient Architecture Institution of Luoyang, and was completed in September 2003. The museum opened on October 1st, thus 15 months after the starting of the detection routine, followed by 8 months of excavation involving about 30 people and 5 months to construct the building itself.

The process just described – and the specific application to the successful case of Horse and Chariot in Luoyang – is the Chinese procedure for “salvage excavation”, a kind of excavation existing in several countries around the word in order to “save” ancient cultural heritage from destruction due to the urban and infrastructure development.

In addition to salvage excavation, archaeological teams in China are in charge of other three functions (though non-exclusively). A first duty regards the so-called “research excavations” (or “on purpose excavation”): excavations made for reasons not directly connected to building activities that can start either on archaeological teams initiative (with the permission of SACH, which will subsidized the excavation and establish its duration), or directly from SACH impulse (that can ask archaeological teams to realize the excavations).

The two other functions are protection and research. Protection activities consist in preservation of objects, sometime at least preliminary conservation activities, and guarding them in the storage depot. Research activities on archaeological findings concern two different levels: a first “compulsory” level regards the archaeological report on the excavation, which should be presented within three years after digging, at most (if not, the team should not move to another excavation). A second level could involve the publishing of in-depth studies on the findings.

However, while salvage excavations are very common (examples are numerous but no statistical data are available) – usually bringing to interesting findings and, from time to time also to successful stories of preservation – “on purpose” excavation, protection and research seem not to be sufficiently developed, especially in Luoyang area (no research excavation was active during our research period), and rules are not always followed, as in the case of the Horse and Chariot.

4. Topics and issues: addressing attention along the heritage chain

The legal framework for protection of cultural heritage and the richness of Luoyang heritage have surely played a determinant role for the happy ending of the story, but they have also potentially harmful consequences that should be addressed. Following the notion of heritage chain the whole Horse and Chariot story can be reframed with a full and accurate understanding of behaviour and performances, addressing attention on emergent problems, contradictions, and weaknesses of the system even inside such a successful case. Responsibilities are not easy to track, but the Heritage Chain can help in identifying emergent links amongst structure, behaviours and performances (see Table 3)

Insert table 3 here

An important line of reflection is related to the economic incentives at work. The system ensures in fact a high profitability to archaeological teams for salvage excavation – which indeed are the richest institutions of the whole chain – and a notable amount of money to be potentially reinvested in the chain. This is particularly true for Luoyang, where the uniqueness of the heritage (mainly underground) is coupled with an exceptional speed of urban and infrastructure construction due to the rapid industrial development. However such element creates also perverse mechanisms that distort actions and practices toward uneven directions.

What happens is that “on purpose” excavation, desk research, and conservation – in theory all duties of the archaeological teams – are *de facto* penalized compared to the mere activity of digging in salvage excavation. For the former activities in fact the economic benefit is low if not null, and the opportunity cost is high. In short, why the archaeological team should invest time in research if time could be invested in a directly profitable activity such as other salvage excavation projects? This is probably one of the reasons why in Luoyang area salvage excavation covers almost all the work done by the two archaeological teams, while “on purpose” excavation are almost inexistent (except for those carried out by the Institute of Archaeology of CASS, the China Academy of Social Science).

Moreover, in the Horse and Chariot case three years after the discovery the compulsory scientific report was still lacking, and the SACH was pressing the Archaeological team to present the report. Evaluating more in details what happened in terms of excavation, restoration and understanding of the value of the discovery is still in progress. What are the restoration techniques used? How fragile are the finds? What will last in 20 years of the site? All these questions will remain unanswered, and knowledge diffusion will be blocked, until the scientific report will be published (for an interesting discussion on the different role of written documents for knowledge creation and accumulation in East Asian cultures see [30]). Despite this, and even if the law states that no other excavations can be started before the report is prepared, the archaeological team has suddenly moved to another excavation. Additionally, a systematic reporting on administrative aspects of the whole event is also lacking, weakening the “learning effect” (for instance, there was not any initial budget on time/costs, than updated).

According to the law, after a period of time for studying archaeological finds discovered by salvage excavation should be transferred to museums or museums depot. This not always happens, and some of the best pieces are kept by the archaeological teams without the possibility of being studied by others or exhibited to the public.

The profitability of salvage excavation can also lead to un-virtuous behaviours in inter-organizational terms (i.e. in the relationships among different institutions). The incentive for archaeological teams to involve other archaeological institutions operating in the area in a specific salvage excavation is low (as the Archaeological Team n.2, also under CRB; the CASS itself; and archaeological departments of universities). The risk is again to minimize know how and professional exchange and to exceed in "localism", without opening the excavation to broader national or international experts.

Finally another consequence of the system relates to transparency: bargaining time and price of excavation can potentially lead to the collusion of economical rationales with preservation ones. Both the archaeological team and the construction company would in fact benefit of a fast excavation, putting pressure on the time schedule: as soon as the excavation is over the team could move to another (profitable) excavation, while the company could start its (profitable) construction work. This is probably the reason why in the Horse and Chariot excavation was actually halted (the team was out of money, or had alternative work to be done).

More in general, the discovery of the Eastern Zhou site could have led to a more ambitious project with greater impacts both at the curatorial level (several pits in the area have not been excavated, thus remaining unstudied, while more than 400 tombs have been quickly recovered after excavation) and in terms of visitors attractiveness. The potential of the site for the development of an important archaeological park has not been exploited, may be losing an interesting opportunity for the cultural and tourist attractiveness of the city as a whole.

Issues related to the "event" (the discovery/excavation) have affected the institution as a permanent institution (the museum), with the emerging of critical aspects also in terms of effectiveness and efficiency of the museum itself.

According to a multidimensional framework previously developed [31]), evaluation of museum performances should be realized along three conflicting dimensions: visitors' effectiveness, curatorial effectiveness and resource efficiency. Effectiveness involves the demand side, while efficiency is related to the supply side. The central issue is finding a sustainable trade-off among the three of them.

In terms of visitors' effectiveness (see Virtual Appendix, Table A2), the question here is whether the Horse and Chariot Museum is somehow underperforming compared to its potential appeal (few visitors compared to the site/city). Even during the World Heritage Day there were not as many visitors (13,600). The communication – if not "advertising" – about the museum does not seem to have been carried out. Still today, it is difficult to find information about the museum through internet searches, and most of the tours offered by operators are not including this discovery.

Creating a circuit with other "champions" in the area (such as Longmen Grottoes – an astonishing set of Buddha carved on stones along the river declared world heritage site by Unesco – and the White Horse Temple – a well known and attractive Buddhist temple just outside the modern city) was not considered. Also the name of the museum is weak from a marketing perspective: probably very precise from a historical point of view ("Museum of Luoyang Eastern Zhou Royal Horse and Chariot Pits", or elsewhere "Eastern Zhou King City Horse-Cart-Sacrificial-Pit Museum"), it is surely difficult to communicate from a visitors' viewpoint.

Major issues are however at the curatorial level. A sort of organizational ambiguity about "who does what" can be found between the museum and the Archaeological Team that made the excavation, both in terms of research and in terms of preservation (deposit) of the object. First, the role of the museum's personnel in terms of research is not clearly identified. In terms of knowledge – due to the delay of the Archaeological team in the scientific reporting about the discovery – at present the whole assessment of the discovery and the scientific work around it is to a large extent missing. In such a situation, the museum appears to some extent as a mere exhibition, a sort of "monument" more than an institution devoted to preservation, research, and exhibition of collections.

Second, and related to this, the museum has no place for deposits (storage). Indeed all the relics found during the excavation – according to organizational routines – were moved to the deposit of the Archaeological Team. If the procedure of allowing the archaeologist to study what they found for a limited period has its own logic, the overload of the archaeological teams make this possibility just a wishful thinking. In any case, at the end of the period, there will be no deposit directly linked to this museum.

Also in terms of efficiencies, some issues can be pointed out, especially concerning human resource organization and management. The situation is one of relatively “poor” job positions and skills (less than half of employees have junior college degrees or above, with just one master level: see the Virtual Appendix, table A4). This confirms the impression of a role of the museum and its staff (33 employees totally of which 13 are permanent while the rest are “on contract”) which is not-so-clearly defined in terms of curatorial issues. Indeed a “curatorial” entity is not listed by the documents, though the two vice-directors are referred to as “curators”. One is an archaeologist (coming from the Archaeological Team at the times of the excavation), responsible for protection and research of ancient relics; the other is responsible for the public and education (coming from another museum in the area). The CEO himself is not a curator, coming from a military (army) background.

On a more specific level, in terms of human resources management the museums provide an interesting opportunity for a quick insight in the Chinese public employment system. Given its recent establishment (after most of the reforms within the public sector), it is less involved with welfare policies concerning the “previous” situation (for instance, this institution is not responsible for any retired employee pensions), and more in general with phenomena of “organizational inertia”.

The situation is particularly interesting in terms of recruitment and staffing. Permanent positions were established by the Luoyang Government, from what we understood out of a clear analysis of working loads and staff needs, as it would be in other countries, typically. However, the museum was left free to hire additional staff "on contract", charged within its own budget (indeed, looking at the cost figures, it appears that permanent positions were hired later: see Virtual Appendix, Table A4). While in other Chinese organizations the real meaning of such additional positions is difficult to understand (sometimes an issue of social welfare more than actual working jobs), in this case it seems that they are really working posts, more flexible (not "life-long" jobs), with lower salaries, but with similar contents and task. The number (almost half the positions), the details in which job positions are described, and the amount of expenses all seem to corroborate this impression.

In terms of financial resources, the museum was able to reach the self-sustainability from the first year: the low expenditures (especially personnel, with very low welfare expenses: 18,530 RMB totally – see Virtual Appendix, Table A5 and A6 for comprehensive financial figures) can break even with around 70,000 paying visitors, leaving almost a 9.3% surplus (171,461 RMB of surplus on 1,827,109 RMB of total income). Indeed from a financial point of view, taking into account the transfer to the CRB and from the Luoyang Government (500,000 -100,000 RMB), the attitude of generating a gross margin of the museum (171,461 RMB) is much higher (31.2%, or 500,000-100,000+171,461 on 1,827,109 RMB). Over time, the entity is capable of constituting its equity via surplus accumulation, while the initial investment will be paid back by the yearly transfers to the CRB almost within a decade (at current rates).

Critical issues are related to procedural more than substantive aspects. As usually in *shiye danwei* accounting, what is surprising is the relative lack of relevance of financial statement formats (see also [32]). Very few items are used on both the balance sheet and income statement; on the other hand, the item "other expenses" without details covers about the 20% of expenses (227,019/1,156,198= 19.6%: see Virtual Appendix, Table A6).

The initial investment for the establishment of the museum is not included in this picture (assets are low compared to the initial investment of about 7 million Yuan, information provided outside the financial statement), while a notion of accountability of the entity is to some extent weakened by “transfer prices” towards the higher institution. Finally, the adoption of the cash principle is not very relevant, particularly in such a situation of “investment” by the local government and the establishment of a running institution.

5. Conclusions and research agenda

In this paper the framework of Heritage Chain has been provided as grounded theory, based on previous field research. The case of the Horse & Chariot excavation/museum has been presented, as an example of heritage chain “at work”, and as a tool that could help understanding performances and addressing problems in a more holistic view, taking into account behaviours and interrelationships amongst actors inside the sector as a whole.

However, the framework can be used also at other different levels, all related to crucial issues in professional debates in the field, providing a sort of overarching tool which could make easier the dialogue between different particularities.

5.1 Heritage chain: between global and localism

The issue of localism is perhaps one of the “hottest” in the heritage sector, given the colonialist character of the field in its very historical roots. While professional dynamics (e.g. international professional organizations and events) and the role of international agencies (e.g. UNESCO, ICOMOS, ICCROM) tend to develop more “universal” kinds of discourses, the specific local identity of heritage is still a fundamental element. In our view, the notion of Heritage Chain could help in a comparative perspective in understanding how heritage became structured differently in different countries: how macro activities are constructed, how resources are allocated at various steps in the chain and so on.

Heritage itself tends to differ from country to country for many reasons: the specific role played by the individual country in the past in various periods; different rate and types of constructions in the past and different attitudes in preserving it, for both cultural and technical reasons (e.g. materials and construction techniques and their long term survival). A preliminary characterization even in mere "objective" ways – so to speak – of the Heritage Chain of an individual country would help in addressing major issues and main characterization of that specific set of remains and associated knowledge.

Indeed, doing research at the international level what emerges clearly is how the macro-activities in the chain are largely shaped by local discourse and identity issues. How excavation activities, archaeological sites, and museums are classified tends to vary in individual countries [33]. Similar "objects" can be conceived in very different ways in relation to idiosyncratic local approaches to archaeology (for instance, a roman remains in Italy will be presented in completely different ways that in Turkey [34]). The notion of Heritage Chain will help in "mapping" those varieties in more systematic a way, making comparison across countries and traditions easier. It will help understanding specificities in professional discourses at the local level, at the same time it allows relating these to the institutional and organizational structure of the heritage sector in any country.

The legal system in general and specific regulation concerning heritage are largely different in different countries, also in relation to the different tradition of studies, approaches etc., with different impacts over time of the very capability in preserving heritage, and dealing with it, in protection, conservation, research, access to visitors ([35] for an insight on the Italian tradition, and [36] for China). Relating the understanding of legal systems and regulations to the broader structure of the sector will help better understanding "cause-and-effects" relationships. In this sense, the differences in legal discourse about heritage are already a result of the variety in structure of different national heritage chains over time.

The heritage chain thus tends to be radically "local", and there is a need to understand the specific characterization of the chain in different contexts/countries. This is particularly challenging when comparing countries inside different streams of civilization (as for instance Rome and the China's first emperors period). In this sense two different research agendas could emerge. The first is merely “qualitative”: reconstructing the differences and commonalities in which the heritage chain is characterized in different countries would be of a great interest. The second could be more quantitative: mapping institutions, units, people, resources that can be represented inside a framework of the chain.

5.2 Heritage Chain and its “life cycle”

Different countries are likely to present different stage in the “life cycle” of the Heritage Chain, echoing another notion common to industrial and management studies. We are not here using any notion of “superior” or “less developed” stage in any colonialist sense: we are merely interested in impacts on the “structure, behaviour and performances” of the heritage field in any country in relation to more general economic contexts.

For instance consider the situation in China, were the booming economy of the once under-developed country has giving an enormous impact to archaeology discovery, mostly for salvage excavation. In turn, this has an impact on debates and discourses within the chain that are hard to be found elsewhere. The discovery of the recent 30 years have largely questioned crucial issues taken for granted in text based historiography for millennia [24], even questioning the very existence of the first dynasty [17] [26] [27]. This describes a “revolutionary” situation in Chinese archaeology, which has an impact in tensions about ways in which heritage was/should be organized and structured. The situation will be radically different, say, in Italy, given an “incremental” nature of archaeological discoveries, the sedimentation of finds and research that have been taken plays in the recent centuries. Allocation of resources across different rings of the chain is likely to differ accordingly: relatively speaking the Chinese Heritage Chain is likely to spend more on early steps of the chain (on excavation, and to some extent in research about recent finds) compared to the Italian Heritage Chain (spending more on conservation and research of an already discovered heritage, and on visitor presentation). Here, again, access to data would allow interesting comparison between the density of various steps in various countries (in terms of activities, people, resources).

5.3 The Heritage Chain between practices and policies

The bias toward policies characterizing most of the debates in the heritage field has been addressed elsewhere by the authors [37] [38] [39], within a call for a more micro-focused research on practices as they change at the shop floor, at the level of individual cases study. Policies tend to have an impact only partially, as it is well known in social science (from Hayek [40] to Mintzberg [41]), and in that sense focusing on day to day changes in practices rather than the dreams of law writers is likely to save time. However, in addition to the micro focus on individual organizations, the notion of Heritage Chain could provide an important intermediate tool at the macro level, which is needed *before* any policy attitude could take place.

Understanding the actual structure, current behaviours and present performances (in the broad meaning used in this paper) of the heritage field, reconstructing logics and number characterizing it in any specific context the Heritage Chain would be an indispensable tool for reducing risks in policy making, increasing the probability of success.

References

[1] Unesco, Operational guidelines for the implementation of the World Heritage Convention, WHC 11/01 (2011) 96-119.

[2] M. de La Torre, M.G.H. MacLean, , Heritage Values in Site Management: Four Case Studies, Getty Publications, Los Angeles, 2005.

[3] N.A. Silberman, Sustainable heritage? Public archaeological interpretation and the marketed past, in: Y. Hamilakis, P. Duke, (Eds), Archaeology and Capitalism: From Ethics to Politics, One World Archaeology Series, UCL Press, London, 2006.

[4] A. Leask, A. Fyall (Eds.), Managing World Heritage Sites, Butterworth-Heinemann, London, 2006.

[5] ICOMOS, Management plans and the World Heritage Convention: A bibliography. http://www.international.icomos.org/centre_documentation/bib/Management_plans_bibliography.pdf, 2010.

[6] L. Zan, Managerial Transformation in Chinese Museums. The Shaanxi History Museum in Xi'an, Museum Management and Curatorship 2 (2007) 151-182.

[7] Y. Guo, L. Zan, S. Liu,. The Management of Cultural Heritage in China. General trends and a micro-focus on the Luoyang municipality, Egea, Milano, 2008 (available as print-on-demand at http://www.egeaonline.it/ENG/Catalogue/Search_Results.aspx?Chiave=guo&Tipo=2)

[8] L. Zan, Q. Xue, Budgeting China: macro policies and micro practices in public sector changes, Accounting, Auditing and Accountability Journal 1 (2011) 38-62.

[9] T. Wang, L. Zan,. Management and Presentation of Chinese sites for UNESCO World Heritage List". Facilities 7/8 (2011) 313-325.

[10] L. Zan, S. Bonini Baraldi, Managing Cultural Heritage in China. A View from the Outside, China Quarterly, (forthcoming 2012).

[11] S. Bonini Baraldi, L. Zan, The Horse and Chariot Museum: A happy ending case of heritage preservation (2011). http://youtu.be/eLeNmDtqsFc

[12] R.R. Lummus, R.J. VokurkDefining supply chain management: a historical perspective and practical guidelines. Industrial Management & Data Systems 1 (1999) 11–17.

[13] W.Y. Chan, S.Y. Ma, Heritage Preservation and Sustainability of China's Development. Sustainable Development 1 (2004) 15-31.

[14] H. du Cros, T. Bauer, C.S. Lo, R. Song, Cultural Heritage Assets in China as Sustainable Tourism Products: Case Studies of the Hutongs and the Huanghua Section of the Great Wall, *Journal of Sustainable Tourism* 2 (2005) 171-194.

[15] Ren Zhi Liu, Bing Jian Zhang, Hui Zhang, Mei Feng Shi, Deterioration of Yungang Grottoes: Diagnosis and research, Journal of Cultural Heritage 12 (2011) 494–499.

[16] E. J. Techera, Safeguarding cultural heritage: Law and policy in Fiji, Journal of Cultural Heritage 12 (2011) 329–334.

[17] Xueqin Li, The Xia-Shang-Zhou Chronology Project: Methodology and Results, Journal of East Asian Archaeology 1-4 (2002) 321-333.

[18] T.H. B. Sofield, S. L. Fung Mei, Tourism development and cultural policies in China, Annals of Tourism Research 2 (1998) 362-392.

[19] P. Nyíri, Scenic Spots: Chinese Tourism, The State, and Cultural Authority, University of Washington Press, Washington, 2006.

[20] F. McKann, The Good, the Bad and the Ugly: Observations and Reflections on Tourism Development in Lijiang, China, in: T. Chee-Beng, S. Cheung & Y. Hui (Eds.) Tourism, Anthropology and China, White Lotus, Bangkok, 2002, 147-66.

[21] H. du Cros, Y.S.F. Lee, Cultural Heritage Management in China: Preserving the cities of the Pearl River Delta, Routledge, London, 2007.

[22] N. Agnew, M. Demas (Eds.), Principles for the Conservation of Heritage Sites in China, The Getty Conservation Institute, Los Angeles, 2002.

[23] K.A. Denton, Museums, memorial sites and exhibitionary culture in the People's Republic of China. The China Quarterly 183 (2005) 565-586.

[24] R. Bagley, Shang archaeology, in: M. Loewe , E. L. Shaughnessy (Wds.), The Cambridge History of Ancient China, Cambridge University Press, Cambridge, 1999, 124-23.

[25] Jingsong Shi, Archaeology in China, Acta Archaeologica 2 (2001) 55-90.

[26] Y.K. Lee, Building the Chronology of Early Chinese History, Asian Perspectives 1 (2002) 15-42.

[27] Liu Li, Hong Xu, Rethinking Erlitou: legend, history and Chinese archaeology. Antiquity 314 (2007) 886-901.

[28] Rana Mitter, Behind the Scenes at the Museum: Nationalism, History and Memory in the Beijing War of Resistance Museum, 1987-1997, The China Quarterly 161 (2000) 279-293.

[29] E. Vickers, Museums and nationalism in contemporary China. Compare 3 (2007) 365-382.

[30] R. Chia, From Knowledge-Creation to the Perfecting of Action: Tao, Basho and Pure Experience as the Ultimate Ground of Knowing. Human Relations 8. (2003) 371-381.

[31] L. Zan, Managerial Rhetoric and Arts Organizations, Palgrave MacMillan, 2006.

[32] L. Zan, Q. Xue, Budgeting China: macro policies and micro practices in public sector changes. Accounting, Auditing and Accountability Journal 1 (2011) 38-62.

[33] S. Bonini Baraldi, D. Shoup, L. Zan., Understanding Cultural Heritage in Turkey: Institutional Context and Organizational Issues. International Journal of Heritage Studies (forthcoming 2014).

[34] W. M.K. Shaw, Museums And Narratives Of Display From The Late Ottoman Empire To The Turkish Republic, in: Sibel Bozdoğan and Gülru Necipoğlu (Eds), History and Ideology: Architectural Heritage of the "Lands of Rum". Muqarnas 24. Brill, Leiden, 2007.

[35] S. Settis, Italia S.P.A. L’assalto al patrimonio culturale, Einaudi, Torino, 2002.

[36] N. Agnew, M. Demas, S. Sullivan, K. Altenburg, The Begetting of Charters: genesis of the China Principles, Historic Environment 1 (2005) 40-46.

[37] L. Zan, *Managerial Rhetoric and Arts Organizations*, Palgrave MacMillan 2006.

[38] S. Bonini Baraldi, Management, Beni Culturali e Pubblica Amministrazione, Franco Angeli, Milano, 2007.

[39] L. Zan, S. Bonini Baraldi, C. Gordon, Cultural Heritage between Centralisation and Decentralisation: Insights from the Italian context, International Journal of Cultural Policy 1 (2007) 49-70.

[40] A. Hayek, Law, Legislation and Liberty: A New Statement of the Liberal Principles of Justice and Political Economy, Routledge, London, 1973.

[41] H. Mintzberg, Patterns in strategy formation, Management Science 9 (1978) 934-48.