

The quest for a new museum—a cartography of the shifting organizations of collaboration in the case of the New Acropolis Museum

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This article presents the case of the New Acropolis Museum, one of the most important cultural works for contemporary urban development in Greece. We present a comparative study of the briefs and winning projects of the international architectural competition in 1989 and the tender for the architectural, engineering and electro-mechanical studies in 2000. We use assemblage theory as a theoretical basis for studying the two procurement processes. We illustrate how the diverse changes—changes related with costs, quality, technical complexity, and uncertainty—influenced directly the choice and the organization of the procedures. These different procedural organizations framed, in different ways, the selection of solutions, the project realization and thus the quality of urban space. By studying the links between the selection of procurement processes, their organization and their results, we shed light on the trajectories between the initial problems, the actors, and the priorities and we increase our understanding of the relation between the procurement process and the project realization.

Keywords: Assemblage theory, concrete machines, design competitions, New Acropolis Museum, public procurement.

Introduction

This article presents the case of the New Acropolis Museum (NAM), one of the important cultural public works for the contemporary urban development in Greece. The importance and complexity of the project, related to social, cultural and political reasons, as well as its diverse funding resources, required transparency, objectivity and equal treatment. Hence, the case of the NAM comprises 30 years of efforts with two national (1976, 1979) and two international procurement processes (1989, 2000) and involves finding balances in trajectories of evolving issues such as:

- the increased technical complexity due to the architectural, museological and archeological challenges that the building should address, as well as higher demands for quality, innovation and sustainability.
- the financial uncertainty for funding construction costs (covered by national and EU resources),

- the evolution of the European Union regulatory ‘landscape’ (starting with the formulation of ‘the Single European Act’ in 1987) and of the regulations by the European directive for public works (92/50/EEC).

We study the performance of the different types of public procurement processes involved in the creation of the NAM focusing on the international architectural competition in 1989 and the tender for the architectural, engineering and electromechanical studies in 2000. More precisely, this article is a comparative study, of the two aforementioned processes: by studying the briefs and the winning projects, we investigate the consequences of new forms of collaborative governance, such as the tender in 2000, on the performance of the NAM.

In the first part of the article, we present a theoretical basis for understanding and studying the procurement processes, which derives from assemblage theory (DeLanda, 2006) and the work of Guattari (1984) and

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Watson (2009). We will add to urban geography and planning theory by introducing the concept of ‘concrete machines’ (Guattari, 1979, 1984; Watson, 2009), as hierarchization devices that bring things together and organize becomings.

In the second part, we present the case study and analyse the discourses, documents, articles, interviews and plans from the two procurements for the NAM. We study the different organizations involved in the creation of NAM project and the reasons for the emergence of the organizational constellations. The article focuses on the transformations these constellations bring in the procedural frame as well as in the architectural design of the projects. More precisely, inspired by Law’s (2004) assemblage method, we illustrate the different trajectories of the procedural events, affecting the NAM project by studying:

- The two different procurement structures, as presented in the briefs (the differences between the procurement types in terms of performance).
- The affect of each organizational structure in the assessment phase and the future of the projects (the differences between the winning projects and their realization).

In conclusion, we recapitulate the ways in which different procurement types organize collaborations between the public and the private sector. By studying the links between the selection of procurement processes, their organization and their results enable us to define the trajectories between the initial problems, the actors, the priorities and construction. We illustrate how the diverse changes directly influenced the choice and the organization of procedures and framed the selection of solutions in different ways. In other words, changes related to costs, quality, technical complexity and uncertainty suggested different trajectories for the project realization and thus shaped differently the quality of urban space. We argue that unravelling the interrelations between urban problems, the procedures, and the architectural outcomes of the NAM procurements, is of great value for understanding the links between the process of design and the managing of the design (Volker and Prins, 2006). From this perspective, we contribute to the improvement of the relation between the procurement process and the construction.

Procurement settings from an assemblage theory perspective

Brief introduction to architectural competition and tenders

In general, the procurement system currently used for architectural and design services, typically distinguishes

among three systems of selection: tendering for the work, the selective search to identify a suitable designer, and the architectural competition (Strong, 1996).

Architectural competition is a widely used instrument with a long history. Additionally, competition procedural variations in different countries show that competitions, despite their general use and long tradition, are very flexible procedures, and evolve to meet the local particularities of the built sector (Benerjee and Loukaitou-Sideris, 1990; Sobreira, 2010; Van Wezemael and Paisiou, 2012).

The Directives 92/50/EEC and 2004/18/EC systematized tendering procedures, including competitions, in the EU. These directives concern the coordination of procedures for the award of public works contracts. Competitions are referred to as ‘design contests’ and they are part of the official process of public procurement. These Directives affect all European practices in the field of public procurement.

However the two procedures, tender and competition, present many differences. Figure 1 illustrates the underlying principles of the two procurement systems. More precisely, in the competition, the focus is on the product, which mirrors the client’s intention to acquire a design concept; the future project partner is simply the one who (anonymously) submits the design that is assessed to be the best by the competition jury. Whereas anonymity is a key factor in the architectural competition (it ensures fairness of conduct and sets the focus on the quality of architectural propositions), the interaction between the client and the competing architects is crucial in the case of a tender. In tenders, the fairness of conduct is based on a transparent, that is, an ‘irrevocably’ valid brief. While conforming to the EU-law requirements of transparency, it is argued that a call for offers prevents unforeseen, possibly high-quality solutions since the competing designers have no incentive for submitting ‘out-of-the-box’ architectural propositions. According to Volker (2010), developing and assigning weights to predefined criteria for a design assignment is highly impracticable, especially due to the growing insight into the problem during the design and judgment processes. Thus underlying the tender principle (right side of Figure 1) is the aim of finding the most suitable partner in order to maximize the value for the client and not in selecting the design product. This means that architects are considered as entrepreneurial service providers capable of designing future-building and competing for a contract. This approach of merging the role of the architect with the role of the entrepreneur results in serious changes in the structure of the architectural practice and produces new modes of control and supervision into the relationship between the client and the architect-entrepreneur (Dubey, 2005). However, many architects, as well as

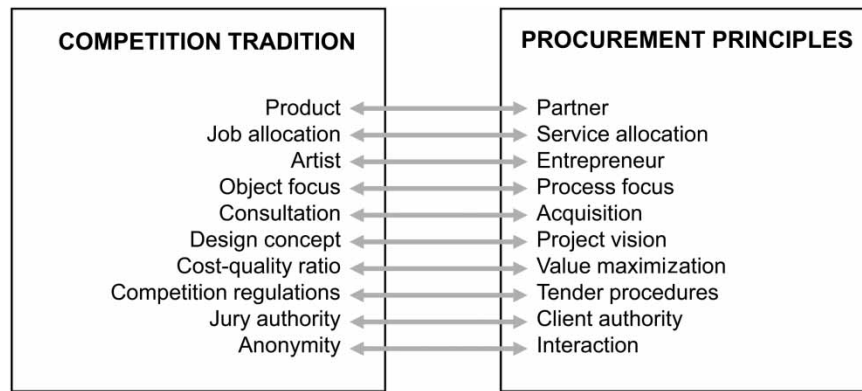


Figure 1 Competing conceptions of the architect selection process (Volker, 2010, p. 115)

many clients, agree on the point that the tender process reduces risks and uncertainties: a participating architect does not have to compete against too many peers and can work from the specifications provided by the client in a more straightforward way. Furthermore, the client has the final decision authority in a call for offers (as opposed to the final decision authority of an autonomous jury in the architectural competition) and hence, the client can ensure getting exactly what he had in mind when initiating a tender.

Besides their significant difference (with regard to rationalities and judgement) (Volker, 2010; Paisiou, 2011; Van Wezemael and Paisiou, 2012), both types of public procurement processes concerning design services—call for offers and architectural competitions (international and national)—can be thought of as bridges between different actors of the building sector and both follow a similar sequential order, that is:

- setting-up of the brief,
- creating the design proposals and
- decision-making or award of these proposals.

This means that public procurement processes display a high degree of heterogeneity with regard to the actors involved (human as well as material ones) but also a high degree of intertwining of those actors in different physical settings (Versteeg and Hajer, 2010), such as the ones of the sessions for the creation of the brief, or the architectural offices where the projects are created or the settings of the jury's final judgment. Thus decisions and the creation of new knowledge during the different phases and settings must 'travel' and be communicated throughout the whole process.

Deleuzeguattarian 'abstract' and 'concrete' machines in procurement settings

In order to conceptualize the complexity of the two aforementioned phases of the procurement processes, we will

use an 'adapted' Deleuzian Assemblage Theory. We argue that assemblage theory (DeLanda, 2006) provides a theoretical foundation for planning theory (DeLanda, 2010; Hillier, 2010) and a sound basis for conceptualizing the 'folding in' and also the enduring heterogeneity of the component parts of a public procurement process (Van Wezemael, 2010). As suggested by Allen (2011), the notion of assemblage in geographical research provides both qualities and pitfalls: despite its conceptual advantages, i.e. holding together arrangements of diverse logics or practices, and the topological understanding around proximity and distance, assemblage concepts often tend towards itself to endless descriptions and weak conceptualizations.

We introduce a rigorous way of working with assemblage theory by using these concept of 'concrete machines' to specify the interactions between different logics or modes, through which things work themselves out in practice, and the content of these interactions that hold assemblages in place. The concept of concrete machines is not just 'a joining up exercise' (Allen, 2011) but it enables us to trace the relationships that procurements assemble and thus to gain a new perspective on understanding the processes of the building sector as mediators between the actual and the virtual.

According to DeLanda (2006), an assemblage can be viewed as a mostly unintended and not completely determined emergent product. Its properties are not 'given'; when not exercised they are merely possible. An assemblage is, therefore, not only an actual formation but also, and in an explicit sense, a virtual one. In other words, assemblages comprise a field of actualities, the exercised properties of components, but also a field of virtuality, the potential properties of the components. Furthermore, they comprise a generative field: the intensive, individuating level which can be thought of as the morphogenetic process from a virtual state towards actualization (Figure 2).

Virtual	Intensive	Actual
Virtual continuum formed by multiplicities	Fields of individuation/morphogenesis	Extensites and qualities
⇒ Progressive differentiation ⇒		

Figure 2 A realist Ontology (Van Wezemael, 2011)

The virtual has been addressed by means of a ‘diagram’ of singularities: Deleuze and Guattari refer to the common diagrams or ‘virtual blueprints’ of the morphogenetic processes, that yield different assemblages in the actual field, as ‘abstract machines’. The diagrams-abstract machines exist at the level of the ever-present possibility, a possible whose only impossibility is to exist as a substance (Guattari, 1984, p. 156).

According to Guattari, diagrams-abstract machines work alongside concrete machines (Watson, 2009, p. 75). Concrete machines enable us to follow the trajectories of singularities and their modulations towards the actual field. Guattari gives the example the blueprints for the Concord aircraft: what is noted in these plans is the articulations of the various things that make up the aircraft—aluminium, electrical fluxes—(semiotic fluxes as expressed materially). These blueprints have a double role: on the one hand, their expressive capacity is that they bring together the articulations of the various materials and semiotics that are brought together (aluminium, steel, information, equations, etc.). On the other hand, they are able to activate and organize the (adequate) system of connections (Guattari, 1984, p. 155; Latour, 1986, pp. 24–25).

In other words, concrete machines play both the role of expressive tools and of hierarchization devices/organizational arrangements and thus they make possible to articulate the ‘virtual organisation’ of an assemblage to actual structures, to a singular perspective or a singular version of reality by mutually adjusting—‘hierarchising’—different perspectives and objects. By highlighting the relation between ‘articulating’ concrete machines and the abstract machine that ‘formulates’ the problem, we explore and study the connection between the virtual diagram and the actual structures and, therefore, between the space of possibilities and ‘getting things done’ (Allen, 1999).

Fusing these concepts of procurement processes and concrete machines, we can argue that the way the abstract machine ‘formulates’ the urban problem is revisited and articulated in each of the three phases of the public procurement processes, i.e. the set-up of the brief, the creation of design proposals, and the assessment of design proposals, by different ‘types’ of concrete machines. Concrete machines function as a medium that allows the assemblage of a public procurement process to negotiate and modulate the virtual

singularities of the problem at hand. They are organizational arrangements where the ‘virtual organisation’ of an urban need is articulated to actual (and temporal) structures briefs, design solutions or realizable projects.

The definition of the problem (in the brief) is the first step towards the solution. More precisely, the brief collects requirements, expresses wishes and opinions, codifies them and organizes the procedure. The writing of the brief is a phase where decisions are made in order to define the solution space for the design problem at hand (Kreiner, 2006, 2007a, 2007b; Silberberger, 2011). The creation of the brief can be considered as a first ‘concrete machine’ towards the actualization of the specific set of singularities that defines the future of the procedure and the future of the building.

In the last phase of the procurement, the final decisions are made and the winners are selected. Based on contemporary research in decision-making within juries of competitions, the soundness of the jury’s work relies on the heterogeneity of the perspectives of the jury members (Silberberger *et al.*, 2010; Van Wezemael *et al.*, 2011a) as well as the solution space formulated by the proposed projects (Benerjee and Loukaitou-Sideris, 1990). During the decision-making among the jury members, the projects can be thought of as sites that enable connections and coordination of different perspectives. Simultaneously, they can be thought of as an organizational register for the future of the project: they activate and organize an adequate system of connections that defines a singular version of the becoming of a place since they propose a ‘course of action’ on how to get there.

From the aforementioned perspective, we study the procedural trajectories of the NAM. In the following section, we focus on the competition in 1989 and the tender in 2000 and study the two types of the concrete machines as they actualize singularities in the brief and the winning projects.

Methodology for the qualitative study of procurement processes

In the previous section, we discuss the relation between the abstract and the virtual by means of abstract and concrete machines in order to conceptualize procurement processes. In this section, we introduce the methodology used for data collection and analysis for the study of procurement processes in public projects.

The data are collected from the briefs and official publications of the two procedures, the Ministry of Culture in 1991 and by OANMA in 2001, articles from architectural journals ‘design+art in Greece’ and ‘architecture in Greece’, together with interviews,

video material, official documents and books, are illustrated in detail in Table 1.

Empirically, we address the complex properties of procurement procedures, as we observe them in the

Table 1 Competition documents and publications, articles, interviews and official regulations from the procurements in 1989 and 2000 used for the data collection

Competition literature

The call for the International competition for NAM (Ministry of Culture and D.O.M.S, 1989),

The NAM (Ministry of Culture and D.O.M.S, 1991),

Jury report of the International competition for NAM, Minutes Phase A (Ministry of Culture, 1990a),

Jury report of the International competition for NAM, Minutes Phase B (Ministry of Culture, 1990b),

Detail call for the preselection of contributors for the elaboration of the architectural, engineering and electromechanical study of the NAM (OANMA, 2000a),

Detailed notes from the official documents of the 'Call for the elaboration the elaboration of the architectural, engineering and electromechanical study of the New Acropolis Museum' (OANMA, 2000b), The competition of the NAM (OANMA, 2001),³

Articles

'The new Acropolis Museum. A critical appraisal' in 'design +art in Greece' 1992: 65–106,

'New Acropolis Museum' in 'architecture in Greece' 2002: 157–91,

'New Acropolis Museum' in 'architecture in Greece' 2010: 115–39.

Interviews—presentations

Mpiris Tasos (architect) (ap.60')

Prof. architecture (National Technical University of Athens), architect,
third prize winner at the international ideas competition in 1989,

Pantermantles Dimitrios (ap.60')

Prof. archaeology, President of the OANMA and President of the jury for the hybrid type of public procurement in 2000,

The Keynote address of Tschumi, first prize winner for the hybrid type of public procurement-design contest (2000), at the Prix Latsis Universitaire in Geneva, 2009

Official documents

The Directive 92/50/EEC of the European Union concerning coordination of procedures for the ward of public service contacts,

The Directive 2004/18/EC of the European Union concerning coordination of procedures for the ward of public service contacts,

The minutes of the session 15.11.1999 of the Hellenic Parliament

brief and the outcome using 'method assemblage' (Law, 2004). Following the actor network theory (Latour, 2005), method assemblage detects, resonates and amplifies relations and traces realities by working with multiplicity, indefiniteness and fluxes. It depicts a mode of 'diagrammatic thinking' (Watson, 2009) since it is a way of knowing which traces the actual settings in terms of presence (what is here), absence (what is not here but it is represented), and otherness (what is absent, hidden or repressed) (Law, 2004, p. 14).

More precisely, we use an elaborated form of qualitative content analysis, related with the work of Mayring (Mayring, 2000, 2001; Titscher and Jenner, 2000), a well-known method of document analysis which studies the relationships between concrete language use and the ways a text is socially and culturally structured. We use this method from the field of text analysis, not as a conceptual framework, but as an explorative tool for the study of the text and design material, more precisely as a way to replace thin descriptions that focus on the narrowly empirical with thick descriptions, explorations and explanations of local contexts which look across a:

multiplicity of complex conceptual stories, many of them superimposed upon or knotted into one another [...]. (Geertz, 1973, p. 10)

Qualitative content analysis allows us to form categories, which are close to material, in terms of the material itself (Mayring, 2000). The material is analysed step by step, being devised into broad analytical units such as people networks, procedural framework, problem type, outcomes (Figure 3, left side). These units are further developed and refined to categories and subcategories (Figure 3, right side). The goal is to filter out a particular structure from the material. The dimensions of the 'structuring' are based on the initial defined categories, on the specificities of the material from each procurement case, and on assemblage theory, more precisely on the theoretical principle of diagrammatic thinking or metamodelling (Guattari, 1979; Watson, 2009).

Diagrammatic thinking describes a specific way of working with cartographies of relations and enables us to create topologies of diverse existing models (Guattari, 1979). Method assemblage comes close to diagrammatic thinking since it enables us to trace the negotiations and manipulations of virtual singularities such as 'the initial aim of procurement' from an actual setting such as a procurement process in 1989 and 2000 (Dogan and Nersessian, 2010; Van Wezemael *et al.* 2011a). Furthermore method assemblage is interested in materialities and forms of presence (such as visual depictions, cross sections, conversations,

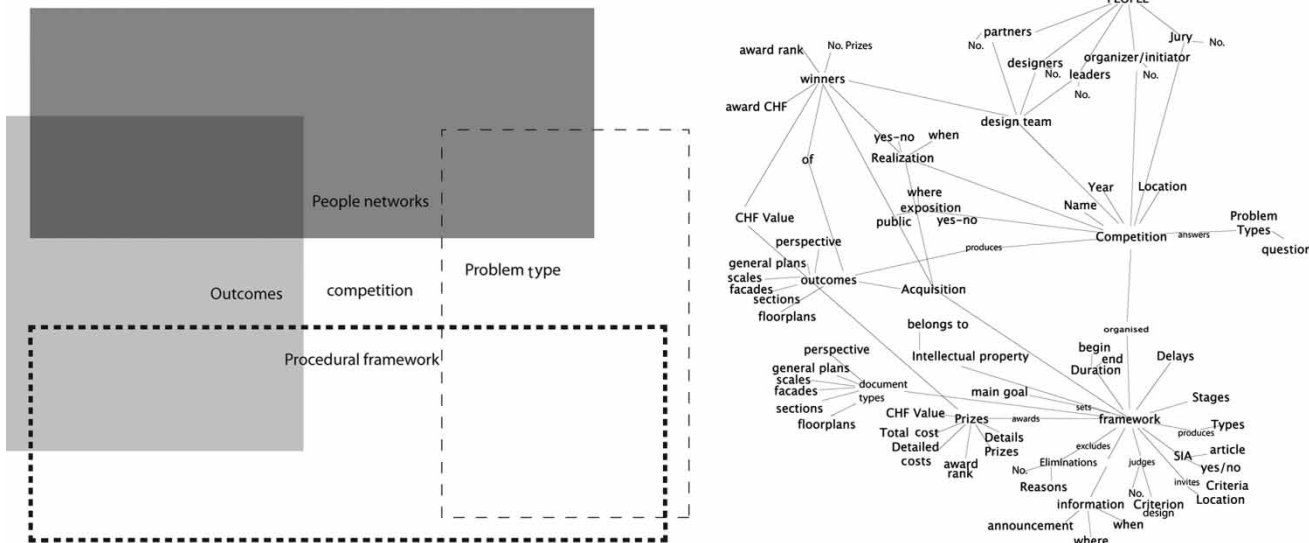


Figure 3 Broad units (left) and categories (right) from qualitative content analysis on procurement material (for more details see Paisiou *et al.*, 2012)

routinized machines-statements, etc) that are not conventional study material in social research (Law, 2004, p. 146). In this way, method assemblage allows us to study cascades of a variety of documents for the set-up of the brief and the assessment of the outcome

In the current study, for each procurement case, a separate cartography was produced (Figure 4).

The categories and data of the two cartographies are systematically compared from an assemblage method perspective: both procurement processes are understood as a bundle of relations and entities. More importantly, with assemblage method, we can detect the absences of diverse elements and objects and trace their affects in the trajectory of the realization of the NAM project. As we see in the following example, the presence of the elements like the budget or the specification of the legislation in the tender (see excerpt below) define a very important trajectory for the NAM project which starts with the absence of these elements in the first competition in 1989.

OANMA, in order to assign the elaboration of the architectural, engineering and electromechanical study of the NAM, of an overall pre-estimated budget 1.500.000.000 drachmes (plus taxes of added value), initiates the [procedure for the] expression of interest, according to the closed procedure as defined by the paragraph 6 of article 2 and article 14 of presidential order 18/2000 ‘transformation of the regulations of the Greek legislation for public service contracts according to the regulations of the directive 92/50/EEC [...]’. (OANMA, 2000a, p. 1, author’s translation)

The absence of the aforementioned elements (budget and adequate legislation) is visible in the statements of the jurors in 1990:

A competition can produce an exciting and original concept but it cannot produce the building which should be finally built. Considerations of capital cost and maintenance costs, running costs and environmental performance could not be balanced against the merits of attractive design as shown in the drawings. The reassuring fact is that all the prize winners [...] were by mature architectural firms with great experience. (Feilden in Ministry of Culture and D.O.M.S, 1991, p. 24, o.t.)

This example illustrates that the assemblage method allows a comparative study not only chronologically but also in terms of generative processes: as it is depicted in the case study, method assemblage enables us to trace the events and the bundle of relationships between categories and those that enact the presences and absences in the procurement in 2000.

Case study and results

In this section, the case study of the NAM is presented in order to explore procurement processes in public projects. It is structured as a comparative study between the two briefs and the two winning projects of the competition and tender procurements for the NAM.

Having conceptualized these documents as concrete machines, their comparative study reveals the diverse

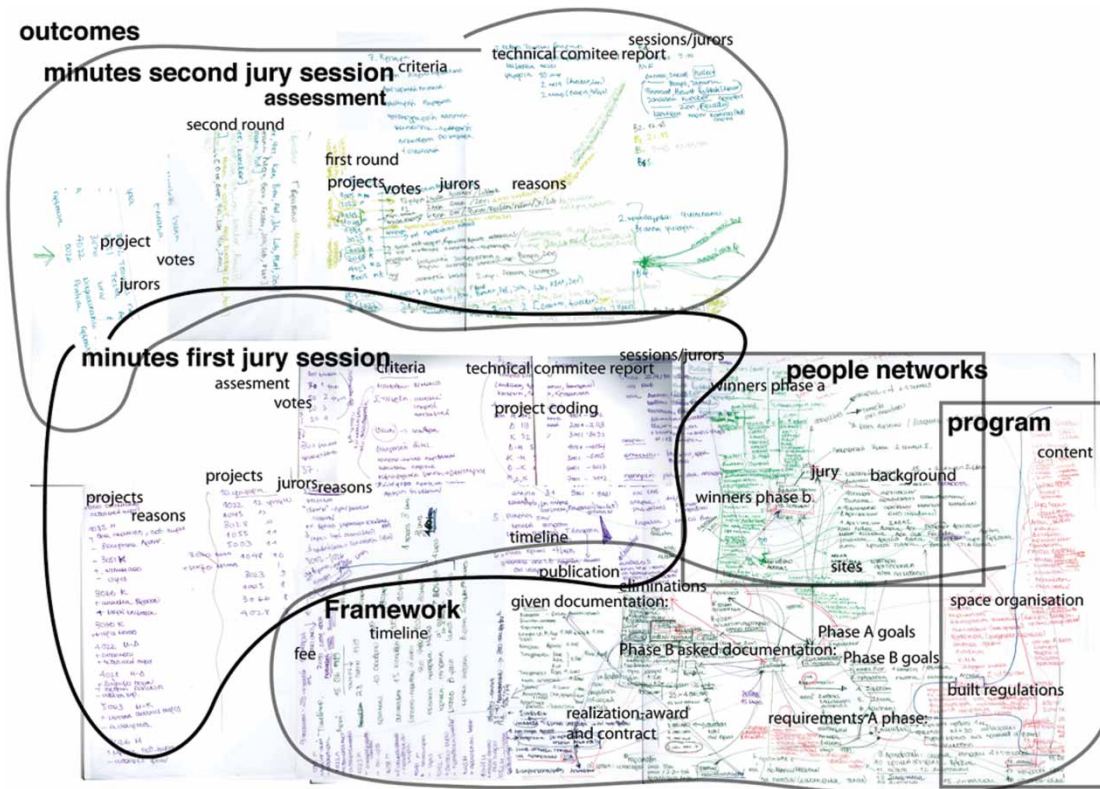


Figure 4 Topological map with the refinement of the initial units from the international architectural competition in 1989. Specific categories, which derive directly from the nature of the data, are illustrated with bubbles

structures of relationships in the initial phase of the two briefs, in 1989 and 2000, and in the assessment phase in 1989 and 2000, between the ‘singularities’ main concerns around which a variety of actualizations of the creation of the NAM emerge. The following list is not at all absolute or a completed one, but it depicts the main concerns—readable as singularities—that govern the processes of the NAM:

- the global problems such as pollution, which was harmful for the sculptures,
- the need for a bigger museum to house new archaeological findings, a specific site that satisfies the practical issues, economic and technical architectural values in terms of the resulting relation with surroundings or the architectural relation with Acropolis,
- the political argumentations, e.g. the return of the Parthenon sculptures to their natural context,
- the adequate, decision-making tools, such as the competitions, to produce the plans for the NAM,
- the flexible and suitable legislation.

Both procurements organized and negotiated the material and human contexts in the brief in a specific

but different manner, and both resulted in the different outcomes-actualizations of the NAM project.

Changing structures in the briefs

This section presents a parallel study of the briefs of the third and fourth procedure, the international ideas competition for the NAM in 1989, and the tender for the architectural, engineering and electromechanical studies for the NAM in 2000.

The competition’s brief

As Table 2 illustrates, the first two competitions in 1976 and 1979 were one stage national competitions, both governed by national laws. The initiator of the first national competition was the Ministry of Culture. Although two projects were selected as third and second prize winners in 1976 and 1979, respectively, the competition did not lead towards a contract or realization.

The year 1981 saw the entrance of Greece into the European Union and in 1987 the European Union starts its trajectory towards a common market with the formulation of the Single European Act. These events

Table 2 Overview of the procurements for the NAM project (source the authors)

Year	Type	Initiator	Winner	Realized	Implemented regulation	Relevant authority
1976	Competition of the Acropolis Museum National, one stage	Ministry of Culture	Third prize: M.Kandreviotou, Prof. Avgoustinos architects	No	Greek law F.E.K (1970)	'Minister of Coordination' and the 'Ministry of Public Works'
1979	Competition of the Acropolis Museum National, one stage	Ministry of Culture	Second prize: I.Liakatas A.Pechlivanidou-Liakata	No	Greek law F.E.K (1970)	'Minister of Coordination' and the 'Ministry of Public Works'
1989	International architectural competition of the NAM, Two stage ideas-project competition.	Ministry of Culture, directorate of museum studies	First prize: Prof.Nicoletti L.Passarelli	No	UNESCO–UIA regulations	International Union of Architects (UIA), mandated by UNESCO to oversee international architecture competitions
2000	Tender for the selection of partner for the architectural structural, electromechanical design of the NAM Two stage tender.	OANMA Organization for the construction for the NAM	Bernard Tschumi Architects, and AR.SY. Architectural cooperation Ltd, and ADK consulting engineering, and MMB design group S.A.	Yes	European Directive 92/50/EU relevant Greek laws for the organization for the creation of the NAM and for the Company Olympic Village and other regulations	European Union

signified the entrance of Greek architecture into the European or even global market. In the same period, the Minister of Culture, aiming to promote and spread the Greek culture at home and abroad, prioritized the support for the NAM project, as well as the conservation for the Acropolis monuments and the reunification of the Parthenon sculptures presently displayed in the British Museum (the first official request for their return was submitted via UNESCO in 1984 (Fouseki, 2006)). Thus, the choice of the UIA–UNESCO framework in 1989 for the international two-stage ideas competition for the NAM was related to the political decision to link the return of the sculptures to the creation of the NAM. This decision shifted the claim for the repatriation of the sculptures to a museological (Fouseki, 2006) and an architectural one, manifesting the same political claim on those two planes (as we will see by examining the brief of the third competition). Furthermore, the open and worldwide call to all architects approved by the UIA (architects with the right to be active in their country of

origin or the country of their residence) organized a network and an international solution space of architects from 26 countries (Ministry of Culture and D.O. M.S, 1991).

The first section of the brief of the third competition stressed this complex political, architectural and museological goal:

an architectural solution for a Museum, which will host the masterpieces of Acropolis. (Ministry of Culture, 1990a, p. 12, a.t.)

The brief of the third international ideas competition continued with describing the organization of the procedure. In the first stage, twenty five projects were nominated out of which ten projects entered the second competition stage. The second stage dealt with the draft plans for the architectural solution of the building(s) from the ten selected teams. The winner of the second phase should sign the contract with the Ministry of Culture for the realization of the project. The only

obligation of the first stage winning teams (in order to enter the second stage) was to follow the recommendations from the Central Archaeological Committee (KAS) related to the protection of the sculptures. In this way, the brief of the third competition established the connection between the architectural winning projects and the importance of the archaeological content that they would host: the architectural projects and the conditions they proposed were also informed by an archaeological point of view.

Furthermore, according to the brief, the competition of 1989 was open to experimentation. Participating architects could experiment with the arrangement and positioning of the NAM building(s) in one—or in all—of three selected sites (the Makrigianni, the Koili and the Dionissos sites) and to propose the necessary traffic arrangements and parking spaces and the organization of spaces and building form(s) of the museum. In this way, participants had to study the relation between the museum and the overall area and its problems.

Section two of the brief comprised the technical details given to the participating architects and reflected on the trajectories of the NAM problem in time, the competitions of 1976 and 1979 and the reasons of their failures:

the museum was treated as an ‘separated’ event without connections to the urban context, development or strategies. (Ministry of Culture, 1990a, p. 23, a.t.)

Thus the brief of the third competition specified that a suitable solution for the NAM had to fit into the urban context and the physical surroundings. Therefore, the handed documents and the brief gave importance and detailed information in order to establish relations between the building and the historical, archaeological and general urban context.

Together with the experimentation and the choice of sites, the importance of the urban context, the third section discussed information about the organization of the design of the project: the details of room arrangements and demands. In this part, the nine types of exposition rooms were presented together with the statues and monuments they hosted. The exposition room ‘H’ was the room where the Parthenon sculptures were going to be placed. The room program of exposition room ‘H’ expressed the problem of the repatriation of the Parthenon sculptures and introduced it in architectural terms. Their absence and substitution by models in a temporary exhibition space is a constant recall of the ‘demand’ to return the Parthenon sculptures to their original context that was to be created in this museum. In this way, the Parthenon sculptures play a double role: an architectural one, since they define the character and organize the exhibition space of the museum, and a

political role, since they recall—thus bring into ‘presence’—to the demand to return the sculptures hosted in the British museum. The political role of the Parthenon sculptures placed the NAM project to the priorities of the Greek state also in financial terms.

Unfolding the future of the project and its realization, the brief focused on two problems: first the establishing of an architectural office in Athens might have not been feasible for the winning team, due to legal, financial or other constrains, while the terms of the competition clearly requested this. In such a case, the initiator could negotiate to use the solution with or without the winning team’s participation. Second, since a winning solution was only the first step towards the realization of complex projects such as the NAM, many other steps and rules had to be taken (i.e. adjustment of legislation, economic resources etc.). As the following excerpt of the brief illustrates, the initiator (the Greek Ministry of Culture) had two years to prepare and sign the contract:

The initiator will commission the architectural study [of the NAM] to the architect or architectural team that received the first prize. [...] The contract between the Initiator and the architect or architectural team will be signed in a period of three months after the announcement of the [competition] results and will be in accordance with the Greek legislation (N.716/77).¹ In case the contract is not signed after twenty four months from the announcement of the [competition] results, the winner will receive an extra amount, equal with the first prize, as a refund. (Ministry of Culture and D.O.M.S, 1989, p. 15, a.t.)

The statement from the brief illustrated that an important and complex project as the NAM needed a strong and dynamic political commitment and will in order to be built, since the urban environment and the wider political and financial landscape were in constant change. The project of the NAM evolved over the ten years between the third and fourth procedure. One important change was due to the increase of the technical difficulties and expert needs: the excavation of important ruins in the Makrigianni site in 1996, despite the reassurance from the Central Archaeological Committee (KAS) in 1989 that no important findings existed in this area (Hellenic Parliament, 1999) blocked the third competition’s outcome towards realization. KAS in 1999, allowed a part of the findings to be moved, and agreed that the rest of the archaeological site could accommodate the foundation for the NAM.

The tender’s brief

In this section, we are going to present the brief of the fourth procurement process. The fourth competition

in 2000 was announced by the 'private legal entity', the Organization for the construction of the New Acropolis Museum (OANMA), which was supervised by the Greek Ministry of Culture. OANMA was created in 1994 according to a legislation related to a 'new' singularity, the Olympic Games in 2004 (N.2260/94 and N.2819/2000). OANMA was not a public institution, but a private one, financed by the state and was managed by a nine-member administrative committee.

The framework in the case of 2000 was given by the European Directive 92/50/EU and the relevant Greek laws. Because the Greek word 'διαγωνισμός' includes both terms, competition and tender, the brief clarified that the initiator referred explicitly to the specific closed procedure as defined by the European regulations:

The tender is initiated as a closed procedure according to the article 1, paragraph e of the Directive 92/50/EEC and to article 2, paragraph 6 of presidential order 346/98. It is clarified that with the term 'διαγωνισμός' this brief refers to the aforementioned closed procedure. (OANMA, 2000a, p. 2, a.t.)

The fourth procedure formulated a different relation with the Ministry of Culture, using OANMA as an intermediary for the organization of the procedure and the realization of the project. OANMA signified a breach between the organizational structure of the fourth procedure and the political issues, which resulted in a more flexible and continuous trajectory from the initiation of the fourth procedure in 2000 until the completion of the project in 2009.

The changes in the political and administrative settings influenced the structure of the brief and the organization of the procedure around a different organization of singularities. As the former minister of culture stated in 1999:

[...] having the new building program, we will initiate the procedure for the new studies. Based on our calculations, we believe that by mid 2001 we will have the final study, which will enable us to tender the work [...] in contrast to the architectural competition of 1989, we are now talking about «coherent» offices and not about architectural ideas, such as those in 1989 [...], firms with extensive experience will be required, who can complete their studies, architecture, statistics and engineering [...], as it is defined by the known process of the European Union. [...] NAM will be ready in 2004. (Hellenic Parliament, 1999, a.t.)

More precisely, the first part presented the general description of the procedure and the requirements for

entering into the second phase: the criteria for participation were detailed and divided into 'formal' and 'actual'. The division of criteria signified a division of the jury in two committees: the 'Procedural' and 'Assessment' committees (OANMA, 2000a, p. 12).

The formal criteria comprised official diplomas, 'professional level', official statements of non-bankruptcy (art.29 in European Directive 92/50/EU and art.30 in the relevant Greek laws), official statements about the organization of the offices and of the details and contracts of the cooperation between teams.

The rating of the actual credentials composed of the biographical notes of the participants, the recent and past works (of the previous 15 years), the structure of the team in terms of expertise and organization of the offices and the official statements of office quality (art.32 2.f in 92/50/EU and art.27.f. in the relevant Greek laws).

In other words, in order to find a solution to the NAM problem the brief of the tender can be thought of as the concrete machine that brought together complex teams and cooperations, with heterogeneity of expertise and extensive experience on relevant types of projects. The types and the details of the requested criteria, were precisely described in thirteen out of the nineteen pages of the brief (first part), and ensured the selection of suitable teams and partners for the second phase. This international call resulted in collaborations between Greek and foreign offices of large engineering firms and star architects (Tschumi, Isozaki, Libeskind, etc.). The work of the Procedural and Assessment Committees in the pre-selection phase strongly influenced the process and outcomes of the procedure since

the likelihood of finding a better solution increases in a direct relationship with the number of fundamental alternatives generated. (Benerjee and Loukaitou-Sideris, 1990, p. 116)

In contrast to the first part of the brief, the second was delivered only to the teams that entered the second phase. It comprised booklets, maps and appendixes which discussed with specificity the architectural, archaeological, technical, financial and other issues related to the elaboration of the design of the NAM as well as the realization of the future building. The present study focuses on and highlights the issues related to the architectural design of the NAM.

The second part of the brief explicitly defined the singularities around which the architectural study should be developed: the unity of the archaeological spaces of the museum, which should be organized around the sculptures of the Parthenon and highlighted the importance of the visual relationship with the Acropolis monument. These concerns were hierarchized and

rated. For example, the relation to the Parthenon monument and the positioning of the foundations were given a high rating (and thus are given priority). As it was explained in other parts of the brief, the goal of the architectural projects was to create a high quality exhibition area for the Parthenon sculptures, which would stem from the Parthenon monument and make use of the natural light.

Concerning the surroundings, the second part of the brief gave priority to the newly built metro station, the particularities of the site in terms of the existing buildings and archaeological ruins and its relation with the Acropolis hill. More importantly, the brief suggested the thinking of the overall site in terms of radical redevelopment in order to achieve an appropriate 'high quality' urban environment for the NAM.

Furthermore, the brief introduced the direct involvement of archaeological constraints into the design of the NAM: the position of each of the foundation pillars should be in line with the archaeological ruins, which covered half of the site's surface and should be preserved and exhibited *in situ*.

Finally, the selection of the procurement regulations EU 1992 also allowed a financial certainty for the overall project as stated by the Minister of Culture:

The NAM as a project is incorporated to the third Community Support Framework with fifty billions drachmes. This means that the study and the realization [...] are going to be financed by the third Community Support Framework. As the procedure that we are initiating is legal the study is going to be covered by the third Community Support. (Hellenic Parliament, 1999, a.t.).

To conclude, the first and second part of the brief illustrated that the focus of tender was to establish the base for a long cooperation for the NAM project, a contracting trajectory which started in 2000. The starting point included the OANMA as a constant supervisor of the overall procedure, the Makrigianni site as the site of the NAM and the complex and multidisciplinary teams as the designers. Furthermore, the trajectory described by the second part of the brief did not end in 2001: after the end of the three months tender procedure, the brief extended to the seven months process that the winning team has in order to prepare the pre-study, the final and the realization study of the NAM, as well as the tender's financial details which initiated the built phase of the project.

Changing structures in the outcomes

In the previous section, we discussed the briefs of the two processes of 1989 and in 2000, respectively, and

how they organized the singularities (main concerns) in order to achieve a solution for the NAM. We illustrate that the two briefs define two different trajectories between the initial problems of the NAM, the actors, the priorities and the construction of the project. In this part, we are going to present the winning projects of the two processes, the project of Nicoletti—Passarelli and the project of Tschumi. However, we do not discuss the two winning projects in terms of their design quality,² rather we are interested in highlighting the specific future structures that the different processes and their outcomes proposed.

The Nicoletti and Passarelli project

The design of the New Museum establishes complex relationships with the Acropolis, and at the same time it cannot keep from making proposals for the facade of the surrounding urban context. Clearly these proposals must be in accord with the area's general urban development plan as laid down by the public administration. (Ministry of Culture and D.O.M.S., 1991, p. 35)

With these lines, Nicoletti and Passarelli introduced their idea and project: a geological form located in Makrigianni site, which brings together the rocky profile of the Acropolis hill and the urban texture, in which:

an irregular corrugation of the earth, ideally merge in the lower 'podium-like' structure of the museum [...]. (Ministry of Culture and D.O.M.S., 1991, p. 37)

As the minutes of the jury sessions illustrate from the first phase, the jury voted for the project of Nicoletti and Passarelli as among the most appropriate solutions.

1022: The big open space on D. Aeropagitou street connects the museum with the archaeological park. The spaces of the exhibitions are very satisfactory. The relations with the streets are unclear. (Ministry of Culture, 1990a, p. 16 a.t.)

Their project, as a concrete machine hierarchized the NAM around the important singularities mentioned in the brief: first their project expressed the importance of establishing relationships between the building and the historical, archaeological and urban contexts. The Nicoletti—Passarelli project addressed the singularity of context by the (exterior) figure of the museum, which was dictated by the mixture of diverse landscapes, both urban and natural in the architectural concept of the podium.

Second, the Nicoletti—Passarelli project addressed the important archaeological content that the exhibition

space of the NAM would house. This content functioned as the main idea around which the architectural concepts for the NAM were developed. This allowed the exhibition space to express the problem of the repatriation of the sculptures. The project of Nicoletti and Passarelli proposed an interior space organized by the dimensions and visual relationship to the Parthenon. This relationship is symbolized by a big window-eye 'the open eye onto the Acropolis', which connects the exhibition room of Parthenon sculptures (exposition room H) with the monument of Acropolis. The eye would achieve to create a continuous relationship with the presence of Acropolis and to bring this special spatial feeling inside the Museum. Furthermore, the exposition room H was to be the museum 'core' and was expressed by an abstract invention of a void reproducing the temple dimensions.

around this void the temple sculpture can be exhibited and viewed in the same spatial relations they had on the original building. (Ministry of Culture and D.O.M.S, 1991, p. 35)

The view towards the Acropolis provided the optical organization of the exhibition space which functioned as a single 'unitary' space organizing the exhibits into different chronological levels (Ministry of Culture and D.O.M.S, 1991, pp. 36–39).

As it might be expected, the architectural organization proposed by Nicoletti and Passarelli was not accepted by many (Kontaratos, 1992) and presented weak points such as the inflexibility of exposition spaces (Ministry of Culture, 1990b, p. 6) or the absence of dialogue with the urban landscape (Filippides, 1992, p. 82). Most opinions, however, treated it as the outcome of a faulty procedure. In a first place, the Makrigianni site was characterized as inappropriate to host the NAM, especially by the local chamber of architects (SADAS). Second, the work of the jury was criticized as superficial, especially during the first phase, where the jury, judged the 426 submitted projects in eight hours. Thirdly, the second phase was criticized as procedurally weak and thus failed to generate further development or refinement of the ideas of the first phase. Finally, transparency and anonymity, crucial characteristics of every competition process, were hard to keep through the end of the process. Members of the jury were accused of supporting the local architectural guild instead of the competition tasks (Kontaratos, 1992, p. 79).

Hence, the Nicoletti–Passarelli project is the outcome of a procedure that neglected some of the uncertainties of a complex project like the NAM. In other words, the project not only folds these relationships between the important singularities, but also the absence of many

other relationships and constrains that could led this project towards realization. The Ministry of Culture and the Greek state had still to negotiate details and developments concerning the contract and the time-plan of the realization, the urban problems related to the Makrigianni site and the weaknesses of the selected project. During the third competition, the aforementioned issues were handled with the same 'openness' that characterized the architectural ideas or concepts.

Thus, although the contract between Nicoletti and Passarelli and the Ministry of Culture was signed in 1992, SADAS was simultaneously instigating a lawsuit at the Supreme Administrative Court (SAC) arguing that the competition was illegal and should be considered void (Pangalos and Mendoni, 2009) due to technical and procedural issues. The SAC cancelled the third competition in 1996. During this time, important ruins were being unearthed in the Makrigianni site, covering almost half of the surface where Nicoletti and Passarelli's project should have been built. Although KAS agreed that a NAM was still possible to be built in Makrigianni site, in 1999, the competition and contract were irrevocably cancelled by the Minister of Culture.

The feeling of uncertainty about the project's future was illustrated by the jurors comments in 1990:

With international help, the idea was taken to its conclusions; the New Acropolis Museum exists... on paper. The most essential work has been completed, but the process of giving it substance remains. Now it is time for commitment. [...] Financial means must be secured to preserve this legacy. The Competition Organiser is bound to continue this project, beyond all political hazards. (Benoit in Ministry of Culture and D.O.M.S, 1991, p. 22)

The Tschumi–Fotiades project

In the last part of the case study, we discuss the outcome of the fourth procedure. According to the winning team, the opposition between concepts and contexts (as well as contents) informed their architectural proposal:

Something that started with the idea of an action, movement and space, finds something new here, and that is the context. (Tschumi, 2009)

In this sense, the fourth procurement process awarded the first prize to a project that proposed a clear hierarchy and organization of the design of the museum around three singularities: the archaeological layer of the ruins, the museum space, and the exhibition

space of the Parthenon gallery, which refers directly to the problem of the missing sculptures (located in the British museum).

As Tschumi (2009) suggested:

(we) divide the problem into three specific parts: one for the archaeological ruins, the second for the main Museum space, and the third for the Parthenon itself, while taking into account the particularities of works they contain. In essence we have as a first step to understand the project as a dialogue between different parties

The structures and relationships between singularities, as proposed by Tschumi's winning team, resulted in two important changes:

First, the most evident change was the priority level assigned to the archaeological ruins, as it was suggested in the tender's brief. According to members of the jury, the archaeologists' opinions were considered an important aspect during the jury sessions. Second, by using the rating tables proposed by the brief, the jury rated the aesthetics and architecture of the museum, as well as the optimal coverage of its functional needs, according to their compatibility with the engineering studies (Architecture in Greece, 2002, p. 158). In other words, the load bearing structure and foundations of the museum and their placement inside the archaeological excavations in the Makrigianni site structured the search for an architectural, functional organization and the realization of the project.

The winning project of the fourth procurement not only acknowledged the singularities and the power formations presented in the brief of the tender, but also expressed in a clear way how they should be organized in order to realize the project. It can be thought of as a concrete machine that provided the structure for successful negotiations and decisions that brought this project to realization. The project brought together (using Law's terms) 'present' realities, like the archaeological ruins that were found in the Makrigianni site, with 'absent' issues like the repatriation of the Parthenon sculptures, which were not present but they were 'presented' or 'represented' by the criteria and priorities form the brief of the tender. Furthermore, the priorities given to the archaeological concerns continued to organize the project after the end of the fourth procurement. As stated by Tschumi (2009), working with archaeologists was an important aspect of this project during the realization phase of the project.

The fourth procurement, overcoming the shortcomings of the third, set a secure base for the selection and realization of an appropriate project for the NAM. Having provided the strong meshwork of priorities in the brief and having selected a solution that organized

concerns in a clear and satisfactory way, OANMA could ensure the realization of the project at the Makrigianni site, the financing by the European Union and the technical and legal guidance of the selected partners, Tschumi and Fotiades multidisciplinary teams, during the realization phase.

Being a private legal entity supervised by the Ministry of Culture OANMA was able to act as a mediator between complex political, archaeological and museological/ architectural concerns. It acted as a constant supervisor and enabler of the overall procedure: it set the rules of the two briefs and presided over the decision-making of the evaluation committee. This assured the selection of the teams and projects that followed the specificities of the needs of the NAM.

Finally, not all the singularities (main concerns) were present, or given priorities for the winning project. More precisely, a second change illustrated by the outcome of the fourth procurement was the 'otherness' of the urban surrounding. These remain absent, hidden and repressed in the project master plans. Their disappearance in the model and their random appearance in the plans, indicates an approach of lesser care. Tschumi (2009) clearly stated that this museum

(due to) its size required by its content, [...] is not in any case of a domestic character

This absence of urban surroundings which was always 'present' in the plans created many problems and protests against the realization of the building. According to Tschumi (2005) this project was involved in 104 court-cases and was the cause for civil protests and the organization of the group 'Citizen's Movement to Prevent Building a NAM'.

Recapitulating, with the help of the case study of the NAM, we have illustrated how the briefs and projects functioned as concrete machines and achieved different actualizations of the NAM (Figure 5).

In the third competition in 1989, the brief remained open to an international scene of new ideas in order to promote the architectural search for the building—symbol that could express the complex expectations for the NAM, as these were defined by the brief. However, the structure of singularities proposed by the brief did not address issues concerning the political commitment, and will, needed to realize the project. Concerning the result of the competition, we have argued that the winning project brought together the singularities for a solution of the NAM problem, producing new knowledge and innovation, as is illustrated in Figure 5. Furthermore, it was the concrete machine that steered the future of this NAM project in the sense that it hierarchized the architectural priorities in the brief of the tender of 2000.


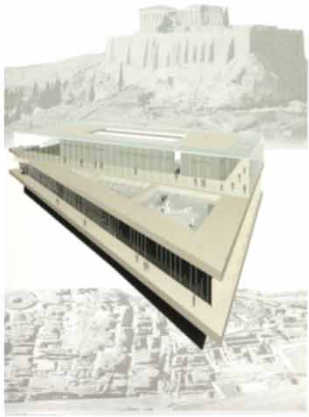
singularities in 1989	outcome in 1990
Preservation of Acropolis monuments [museological goal]	 <p data-bbox="678 527 1166 655">photo from the model (Ministry of Culture, 1991, 36) with lines are illustrated: -the podium referring to the urban tissue, -the entrance via the public space from D. Areopagitou street, -the eye providing direct connection between the Parthenon sculptures and the Acropolis monument.</p>
Return of Parthenon sculptures [political]	
Increasing needs of space and an adequate exhibition room for Parthenon sculptures [museological goal]	
Experimentation—choice of site	
Urban context—problem of urban tissue in Makrigianni site	
First architectural building close to Acropolis [architectural]	
singularities in 2000	outcome in 2001
Preservation of Acropolis monuments [museological goal]	 <p data-bbox="678 1166 1214 1293">poster from the tender (Pantermanles et al. 2009:26) the archeological layer of the ruins at the bottom, the museum space in the middle, the glass exhibition space of the Parthenon gallery on top, in direct visual relation with Acropolis and with the same dimensions and orientation to the Parthenon</p>
Return of Parthenon sculptures [political]	
Increasing needs of space and an adequate exhibition room for Parthenon sculptures [museological goal]	
Exhibition room for Parthenon sculptures in direct visual relation with Acropolis and dimensions of Parthenon [architectural]	
Archeological ruins exhibited in situ [museocological archeological]	
Radical redevelopment of the area	
European directive for public works 92/50/EEC	

Figure 5 Table recapitulating main concerns and outcomes of the NAM procedures in 1989 and 2000 (source the authors)

The brief of the tender of 2000 structured the problem of the NAM in a different way. Changes were introduced concerning the site, the initiator, the main goal, and the competing teams. European legislation provided all the necessary legislative and administrative tools to procedurally describe these changes. Furthermore, the brief of the tender was the concrete machine that defined in detail the singularities around which the architectural study should be developed. Additionally, it organized the future of the procedure by describing the seven months process that the winning team has in order to prepare the realization of the NAM. The result of the tender in 2000, i.e. the winning project of Tschumi was, the concrete machine that organized the design of the NAM around the political, architectural,

archaeological, and economical priorities and set the path towards the realization of the NAM.

From this perspective, the case study of the NAM illustrates that the evolution of the procedural landscape expresses the changing priorities, the uncertainties and the complexity of urban problems. The difference in the organization of the singularities between the competition in 1989 and the tender in 2000, was directly related to the initial main concerns of the tender, and derived from different decisive points in space and in time such as the Olympic Games in 2004, the excavations in 1996, the selection of the project of Nicoletti and Pasarelli, and the brief of the competition of 1989, as they ‘folded’ in the brief and then ‘unfolded’ during the tender (judgement) procedure.

Finally, the case of the NAM illustrate that the different procedures involved in the creation of the NAM are interrelated and create a 'trial and error' trajectory that brought the NAM project to its realization in 2008.

Conclusion and discussion

Procurement processes have long histories and result in a variety of procedural types. Differences are attributed due to local specificities, i.e. the international variations of design competitions (Sobreira, 2010; Volker, 2010), or due to 'genealogical differences' different starting points and aims (Dubey, 2005). In this article, we analyse the mobility from one 'site' of procurement to the other, from the two stages, the international ideas competition of the NAM in 1989 to the tender for the architectural, engineering and electromechanical studies for the NAM in 2000 and we reveal the 'full cost' of relation, displacement and information (Latour, 2005). Our study reveals the important human and non-human actors, that influenced the design phase and continued to influence the project management and realization of the NAM, i.e. the political demands, archaeological constraints and financial needs. It sheds light on the elements that were able to steer the trajectory of the NAM project, referred to as the 'Gordian knot' (Loukaki, 2007), towards realization.

Firstly, with this article, we contribute to planning and urban geography by providing a rigorous way of working with assemblage theory. Assemblage theory enables us to trace the trajectories between the virtual organization of the problem of the creation of the NAM and the different actual procedural settings. By using the concept of concrete machines, we demonstrate how the bundle of relationships is formulated and negotiated in the case of both procurements: how the political, social and economic context influenced the selection and the organization of the two procurement procedures for the NAM, as singularities (main concerns) folded directly into the procurement brief. Furthermore, by conceptualizing the winning projects as concrete machines we were able to see how the negotiation and decision of the brief are temporally materialized and how these temporal settings influenced and organized the future of the project.

Secondly, this study illustrates that each procedure was chosen under specific circumstances, answering contemporary needs. The selection of the procedure is dynamically related, with great precision to the complex and evolving urban needs. However, this is not done on the basis of a strategic blueprint but rather as a result of a trial and error process that lasted several decades (Van Wezemaal *et al.*, 2011b). It can

be thought of as not only a school for architecture (Filipides, 2000) but also as a dynamic learning process for procurement and project management. The case of the NAM started in 1976 as a national concern, regulated by national laws and procedures. Then, in 1989, it became an international concern related to the cultural heritage, regulated by laws for the UIA and UNESCO. Finally, in 2000, it became an international concern financed by the Third European Community Support Framework and following the new European regulations.

From this perspective, we argue that procedures express the priorities, the uncertainties and the complexity deriving from the general social, political, cultural and economical context of the urban problem. Thus, by means of the diverse procedural types these priorities and uncertainties are collected and negotiated and thus influence the organization, the outcomes and realization of the project. As we illustrate in the case study, the decisive moments of the two procedures in 1989 and 2000 constitute a network and are distributed to other places and to different times where they would seem to be not decisions, but facts (Mol, 1999). As examples of these dispersed decisions this study presented the following: on one hand, the political decision to connect the NAM with the repatriation of the Parthenon sculptures: this decision resulted in the selection of the international, two stages, ideas competition of UIA and to the selection of the project of Nicoletti and Passarelli, which demonstrated the direct relationship of the exhibition space with the Acropolis. On the other hand, the two winning projects of Nicoletti—Passarelli and of Tschumi can be thought of as different actualizations, but the singularities such as the Parthenon gallery and the organization of the museum, are structured in identical ways, derived from the visual relationship with Parthenon and the dimension and orientation of the Parthenon monument. In 1989, these relationships were the results of the procedure and its strong relationship with the political claims about the Parthenon sculptures, whereas in 2000 these relationships were given. Thus, we can state that the two projects are related on a virtual level, 'isomorphically' (DeLanda, 1998).

In conclusion, we can argue that the evolution of the procedural landscape and the decision about procedures can be thought of as a dynamic 'trial and error' learning process that acts as a vehicle for collecting and expressing the changing priorities, uncertainties and complexity of urban problems. The change in priorities forms a network of (distributed) decisions, which is expressed by the selection and organization of diverse procedures and their results. Every procedure proposes a solution 'space', where solutions should be searched and found through the selection of participants and the definition of assessment criteria. Furthermore,

each procedure frames the realization of the projects by means of contracts, of financial sources and commitment. The shortcomings, strengths and innovation of each procurement case form an intermittent trajectory, guiding the way projects are defined, designed, judged, managed and realized.

The comparative study of the brief and results of the two procurements enables us to define the trajectories between the initial problems, the actors, the priorities and construction and to unravel the interrelations between urban problems, the procedures, and the architectural outcomes, and to study the creation and the trajectories of the links between the process of design and the managing of the design. This article contributes also to a better understanding of the relation between procurement process and construction since it shows that the NAM procurements compose a learning path and they contribute to the management of the procedure and of the project.

Finally, this paper remains within the framework of a qualitative analysis. In further research, a quantitative analysis and more structured research methods like surveying and structured observation methods, might give wider field of answers to the relations between procurement, design and projects management. The uniqueness of this study is that it enabled us to compare data between cases. This comparison addresses the procurement processes from the perspective of the 'external' main concerns and how they affect the relation between processes, results and construction. Future research on the NAM cases could address a comparison within the two procurement processes and study the 'internal' relations (Volker and Prins, 2006). Furthermore, future studies could address more specific aspects such as user participation, relationships with the customer, composition of the teams, product and process integration.

Notes

1. The Regulation N.716/77 refers to register of [qualified] professionals [experts] and contract and implementation of the studies: it determines the conditions of contracting and implementation of studies by private professional or firms on the behalf of the State, public entities, local authorities, public enterprises and other agencies of public interest.
2. We omitted emphasis on style since we understand competitions as a process and an institution of the building sector (Lipstadt, 1989). This makes our study interesting from many other fields and perspectives such as: the issues associated with developing and delivering the NAM project, the emphasis on the political, and social aspects and how these affected the organizational aspects: the

project financing, the project delivery mechanisms, and social impact of project delivery.

3. The original brief as well as the minutes of the jury report of the tender of 2000, although they are public documents, due to the political importance and the problems the NAM project faced until the realization, are not easily accessible by the public. We were allowed to study some of the original material, but not allowed to make photocopies or take photographs from these data. The information that is presented in this article derives from the detailed notes from the study of the original the documents of the second part of the brief.

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