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Abstract

How is an architectural model consolidated and re-assembled in conservation to be able to continue to communicate a design concept? How does the work of care and preservation of models reveal knowledge about the often taken-for-granted dynamics of creative processes? To provide answers, this article draws on Etienne Souriau's philosophy of creativity and follows how the 'modes of existence' of creative works are re-enacted in the anaphoric progression of conservation. Basing her findings on ethnography at the Canadian Centre for Architecture, the author examines the epistemic complexity of specific situations of assessing, preserving and assembling large complex scale models. Unpacking the specificity of model conservation, it is argued, allows us to challenge two established beliefs on creativity: the myth of the stable ontology of historically valuable cultural objects and the myth of teleology of creative processes. Conservation-in-action demonstrates the subtle mechanics of crafting historiographic knowledge in the arts.

Keywords

ANT, architectural models, CCA, conservation, creative practices, Etienne Souriau

The life of architectural models

Architectural models are commonly produced on the spur of the moment. Made of materials selected for expediency, they are intended to act in the present, which makes them unprepared for a long-lasting 'social life'. As translations of architectural ideas, models remain closely related to specific design projects and are commonly included in exhibitions alongside other forms of representations. Models began to attract attention as objects to display in the 1970s when model-based shows gained popularity, making a statement for models' great artistic and conceptual power (Frampton and Kolbowski,

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1981). This required specialized work on models. Photographers and film makers developed the art of 'embellishing' scale models to prepare them for the social limelight, helping them make good impressions on clients and audiences. Issues of caretaking and conservation of models gradually gained currency (Schmal and Elser, 2012) as models reaffirmed their significance as a powerful means of communicating architectural concepts rather than simple representations of buildings. The proliferation of architectural museums since the 1970s has reinforced the need to pay close attention to the social trajectory of architectural models and to preserve them as historiographic objects. Major exhibits at leading centres of architectural scholarship like the Architekturmuseum in Munich and the Getty Center in LA, and their concomitant publications, raised awareness of the importance of model preservation. In spite of the increasing scholarly interest in models and specific collections, studies on how models are conserved, assembled and survive in time as valuable objects are virtually non-existent.

Nevertheless, model preservation is still a young discipline in the field of conservation. Issues of model conservation are often brought to the forefront in the community of architectural scholars by curators, specialized art historians and conservators working primarily in museum environments (Wattig, 2013). Referring to Ruskin's (1989) understanding of old buildings as valuable for their historical substance, their 'patina of age', curators draw attention to the idea of the 'patina of models' (Jetson, 2001), thus placing model preservation within the broader context of building conservation studies. Just as the 'traces of age' in buildings are the qualities that, according to historians, would guarantee 'originality', so are the 'traces of age' in models. The shared opinion of conservators is that old models are to be preserved because of their 'architectural quality' and therefore should be restored to a state close to the original.

Conservators often reflect on their own conservation practice and indulge in self-reflexivity. They provide insights into model conservation with a focus on specific treatments (Bamforth, 2004), the importance of producing a detailed description of the model condition, careful material analysis and the development of conservation 'tricks' in the areas of cleaning techniques and re-adhesion of flimsy model pieces (De Wit and Alexander, 2013), also the formulation of protocols of conserving, surveying, storing and exhibiting architecture models in the museum's collection in relation to the architects' own understanding of the visible aging of models (Delidow, 2013), or the specific use of materials in model conservation (De Bovis, 2010). In addition, conservators' accounts often contain stories that can enrich architectural historiography: the recent case of restoring two models in poor condition of Frank Lloyd Wright's 'never-built' projects from the 1930s (for the exhibit *Frank Lloyd Wright and the City: Density vs. Dispersal*, 2014) demonstrates how conservators engage in research on the materials and the working techniques of the architect, experimenting with techniques from the early 21st century in order to be able to repair these models from the early 20th century (Moody, 2015). Restored models re-establish their historical value as they are often the only documentary evidence of 'never-built' projects and tell a story about the design process. Yet, analysis of what it means to perform conservation of architectural models tends to come from the conservators themselves. As a result, the literature emerges from recollections and categorizations of conservation practice (its protocols, its techniques,

its 'tricks') as well as a number of specific technical challenges (i.e. how to clean models with an aged appearance, how to make the best adhesives for paper and how to handle detached pieces) rather than a close empirical examination of the practices of model conservation.

Recent work on the material culture of conservation examined the shifting processes of decay and repair of historical buildings (Edensor, 2011), the practices of building conservation (Eggert, 2009; Jones and Yarrow, 2013; Yaneva, 2008; Yarrow, 2019), of maintenance, record-keeping and installation of artworks in museum settings (Dominguez Rubio, 2016; Kreplak, 2018) by giving due regard to the multiplicity of human and non-human agents (i.e. materials, documents, instruments and protocols). Scrutinizing the volatile and continuous remaking of historic buildings that manifest themselves as increasingly variegated amalgams of different materials, weather conditions, historical layers and other non-humans such as birds and plants (Edensor, 2011), demonstates the assemblage nature of buildings-in-renovation. So do the objects in museums where both traditional and contemporary artworks manifest their thingness and require a special artificial 'object-sustaining environment' to control the unrelenting process of physical degradation. While these studies acknowledged the mutability of objects and built form, they also examined how stabilization (or closure) happens through repair and in a continuous 'dance of maintenance' (Denis and Pontille, 2019) that reconfigures the relations among caretakers and broken things and thus reshuffles related sociomaterial networks. They reinstated the importance of tracing the invisible work behind the long and often never-ending trail of care and maintenance of fragile art objects and historical buildings needed to maintain their integrity over time. They also generated reflections on the nature of conservation, revealing either its social constructivist character (Clavir, 2009) or its composite character as manifested in ethnography (Jones and Yarrow, 2013). Defying essentialist logics, conservation is understood as a practice 'performed' through the collectives of people, documents, materials and representational technologies. Yet, the ethnographic complexity of specific practices of conservation remains relatively poorly understood with a few exceptions of actor-network theory (ANT) inspired studies of historic buildings, focusing on how people articulate the importance of the past (Yarrow, 2019) and the quotidian challenges posed by specific material and spatial agencies (Yaneva, 2008). If the existing ethnographic accounts trace how different forms of expertise and skill coalesce to produce specific material interventions in conservation, little attention is paid to the epistemic complexity of specific conservation moves.

Model conservation in action

In 2015, I found myself in the Canadian Centre for Architecture in Montreal (CCA), an institution that holds one of the world's foremost international collections of architectural objects and individual archives of many significant architects, such as Peter Eisenman, Aldo Rossi, Cedric Price, James Stirling, among others. In addition, the CCA also hosts various exhibits open to the general public. Engaging in an ANT-inspired ethnographic study of the practices of *archiving*, I discovered a mysterious place – the conservation lab – hidden behind heavy doors on the ground floor. It is where

conservators inspect the condition of objects, decide on specific interventions and carry out treatments (Yaneva, 2020), and where archival objects undergo 'an exercise in beautification and cleaning', according to CCA conservator David. Drawing on interviews and ethnographic observation of that lab, in this article, I shift the focus to the granularity of conservation practices and account for mundane operations of conserving and assembling models as valuable archival objects that 'talk' on behalf of buildings and architectural concepts.

Two huge complex models, witnesses for design projects that were never built, sparked my curiosity from the start. The first is the model for the Universal Studios HQ project of OMA (Office for Metropolitan Architecture) (1996), part of the recent CCA show entitled, 'The Other Architect'; and the second is Cedric Price's (1961) well-known model for the Fun Palace. Why these particular models? Giant scale models tell stories of conservation in the most eloquent way as it is where the difficulty of assessing the material intricacy, assembling and installing the models anew takes extreme dimensions. Decay is particularly problematic for models as it threatens their architectural integrity expressed in scale, proportions and dimensions. Confronting the complexity of these two 'giants' in the lab, their scale, sophistication and estrangement from mainstream historiography, my ethnography will reveal episodes of the hidden 'lab life' of these models that were hitherto unknown. Both of them need special inspection, condition-reporting, maintenance and care, as well as particular instructions for assembly, custom-made crates for transportation, etc. Their technical intricacy echoes the conceptual sophistication of ideas and ambitions that greatly surpass their makers. To survive as objects of value, the collective effort of conservators, curators, historians, museum technicians, archivists and architects is needed – an effort that transpires in situations of model conservation. Far from being a straightforward procedural response to the model's inherent historic qualities, model conservation is understood here as an interpretative practice shared by all these professionals acting in relation to materials and scripts, regulations and technologies, in a symmetrical way (Latour, 1991) without prioritizing any privileged point of view.

Unlike the renovation of buildings, guided by different understandings of history, authenticity and originality, the ontology of model conservation triggers a set of questions guided by the intrinsic logic of design process: How is a model consolidated in conservation and its specific architectural features of scale, proportions and materiality preserved in order to be able to communicate the same design concept? How does the work of care and repair of models reveal the invisible and often taken-for-granted dynamics of creative processes? How does a model *relate* to a building, an architectural idea? What kind of accountability of the ordering and relationality of design does model conservation enact? To provide answers, I will trace the 'troubled social life' of these two models and follow the slow and hesitant rhythm of conservation-in-action by focusing on the routine moves of producing instructions for assembling a model and preparing condition reports. I will explore in particular how the epistemic paradoxes of fixing and assembling models that are not meant to last or be assembled are dealt with. Unpacking the specificity of model conservation will shed light on the subtle mechanics of crafting historiographic knowledge in the arts.



Figure 1. The exhibition 'Content', OMA, Berlin. © Photograph: Albena Yaneva.

Steps on the grey water

The Universal Studios HQ is a 'gigantic OMA model', explains Giovanna Borasi, chief curator of the CCA. In the custodial history at the CCA, it is mentioned that the project was transferred to Montreal in nine instalments between 1997 and 2005. The records include a 1:50 scale model of a design for the Universal Headquarters Building which was presented in the exhibition 'Content' at the Neue Nationalgalerie, Berlin, from 15 November 2003 to 18 January 2004 (Figure 1). The exhibition was also shown at the Kunsthal in Rotterdam from 27 March to 31 May 2004 and then travelled to other venues in Europe, the United States and Asia in 2004 and 2005. Although the model entered the CCA in 2005, the OMA Universal Studios project records were only processed and described by the cataloguer Mary Gordon in 2017. It is also the first time that the model has been displayed after its series of travels between 2003 and 2005. Therefore, its first assembly at the CCA for the show 'The Other Architect' in 2017 came after a gap of 12 years during which the model had remained in the storage space.

The model initially arrived in Montreal in 17 crates along with photo guidance of how to put the pieces together (Figure 2). It is a 'model that is ca. 4 meters long and as tall as a person (ca. 2 meters)', Giovanna says, emphasizing its size. If most of the professional accounts of model conservators, as seen above, reveal problems with specific techniques, materials or procedures, in this case, it is the size of the model that triggers difficulties. Its unusual, human scale makes the assembly challenging. Assembling this 'giant' proved to be difficult, specifically because, while the pieces are divided into crates, the crates do

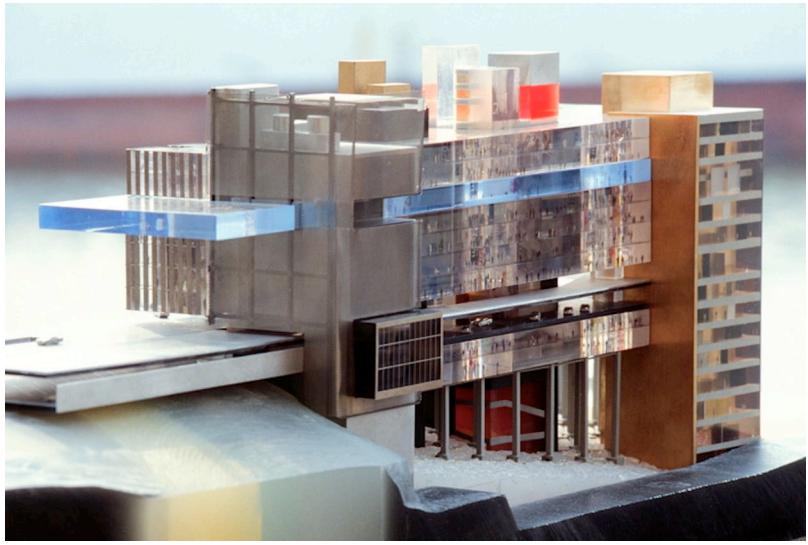

Figure 2. The Universal Studios HQ Model, OMA. © CCA.

not correspond to the different slices of the model and the assembly instructions are missing. To overcome this, CCA conservators and technicians spent seven weeks attempting to understand, interpret and rebuild the model.

The model was put together by OMA to present the idea for the Universal Studios building in Hollywood, a commissioned study by Seagram in 1996. In the design process, the building was treated as a device to communicate urban complexity and 'to create a degree of wholeness from a permanently changing cluster of ingredients and latencies' (Koolhaas, 2004: 119). For the first presentation of the project, architect Dan Wood recollects that, 'the industrial designer Vincent De Rijk and OMA had created an illuminated 1:100 model designed to come apart, showing each tower, a generic floor, the Universal floor, the lobby, and the landscape' (Wood, 2004: 124). The model was presented fully lit, glowing in complete darkness, and was a great success. However, financial difficulties resulted in the project being put on hold for a while and thus design development (DD) was only resumed after a pause in the project: 'The final DD presentation included a 1:50 model of the building, as tall as a person and 14' (4.3 meters) long' (p. 125). This is the model that reached the CCA.

When the model was initially and mechanically put together to accompany Rem Koolhaas to a presentation in Los Angeles, it was produced with one thought in mind – to convince the client. There was little concern about the aesthetic quality of the model, the use of materials, the heavy structures – and, likewise, little thought about its 'social life' as a potential exhibition object. This partly explains the missing assembly instructions and the lack of concern that its assembly might 'put people and model at risk'. However, while the model was in the design firm, it was submitted to various tests and trials. Visiting the CCA, Dan Wood recalls, 'I remember perfectly we were pushing these metal parts.' While the model in design is an experimentation object, when it enters the CCA,

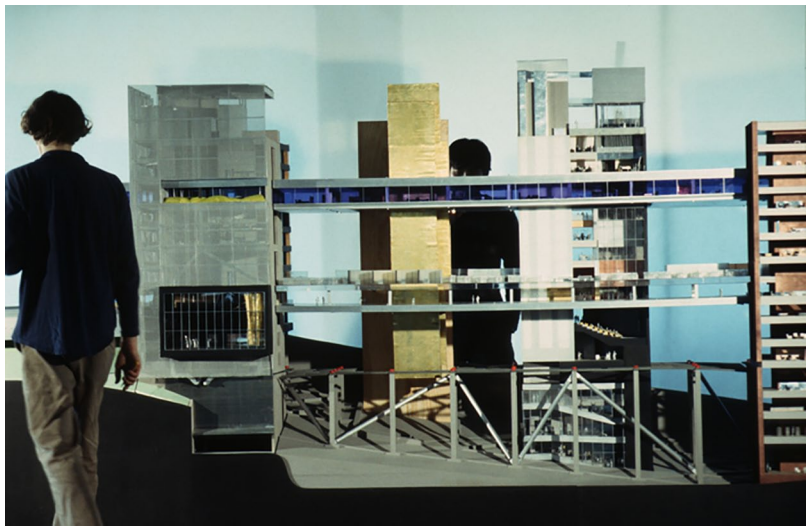

Figure 3. Process of assembling the model, CCA. © CCA.

every intervention is limited, controlled, measured. Conservators cannot force the model by 'pushing metal', 'cutting cardboard' or 'sticking things' together as it has now acquired museum status.

Archivists from AMO (the thinktank of OMA) provided a document with some guidance (written descriptions, illustrations and photos taken while the model was put together in practice); the pictures showcase some of the process of assembling and illustrate how the OMA 'actually built it'. This documentation demonstrates some degree of designers' awareness of the complexity of that 'giant' in their attempt to foresee its possible travels. However, detailed assembly instructions were missing. Thus, in spite of the photo guidance, as the model is very complex, made of different structures, all filled with people, furniture, and even dinosaurs, in the process of assembling it, conservators often wondered: 'where do I put this or that piece?' Sometimes they had 'no idea if that is supposed to be office space or a lounge, or something else'. The photos of the completed model often provided answers and guided conservators to deduce backwards from there. Yet, at a certain point, this guidance ceased to be useful. The assembly of the model posed many new challenges because, as the conservator, David, explains:

> Several of the pieces were large and some were very heavy. It was simply too complex, and a centimeter or even a few millimeters in one direction or another could make the difference as to how everything lined up, or even fit at all. Moving pieces into and through tight spaces felt risky at times, but there was no alternative.

The challenge to assemble a 'giant' bigger and heavier than humans emerged (Figure 3). The model imposed itself in the CCA space and started directing a new choreography of human actors around it.

In the absence of precise assembly instructions to put the major pieces together, the conservators struggle and express concern about the baffling complexity of the model and its overwhelming scale:

> It is very confusing, actually, to know *how to put it together*. Some of the pieces are really heavy and really awkward to work with. By heavy, I mean it takes five or six strong people to lift it. When you're assembling this thing with that kind of weight and that kind of awkwardness, you're actually putting the model at risk. There are moments when, while we are putting it together it feels like it is all going to go wrong, and stuff is going to break. It's important that in an extreme example like that, I would say, that you take the guesswork out of it, because it really *puts the model at risk and the people at risk*. [David's comments, emphases added]

Preoccupied as they are with how to assemble and display the person-like model of the Universal Studios HQ, conservators and curators at the CCA perform a careful reading of its texture to interpret its materiality. As the conservator Karen notes, 'the guidance is best used in conjunction with our ability to observe the model for ourselves and work out the basic logic of how everything fits together.' Scrutinizing the materiality of the 'giant', conservators did a lot of assessment and a fair amount of 'trial and error'. Yet, some of their observations can cause confusion. For instance, the grey surface underneath the model at the entrance of the building is interpreted as water 'running along the side' by Giovanna. However, the conservator Steven, not sharing her interpretation, adds some plastic figurines in the grey area. Dan, surprised to see people standing on the grey surface, exclaims: 'oh, it's funny that you put the people in the water.' Indeed, Steven had no idea that there is a long swimming pool running along the side. The grey colour fails to communicate this successfully to conservators and curators. There is evidently some ambiguity; yet, there are also clues to be read. If the OMA decision, explains Dan, was to place people in the water, they would have cut the figurines in half to give an idea of the depth. So, despite the photo documentation guiding the assembly of the model, the conservators' interpretations still create 'funny episodes like this'.

At the same time, while scrutinizing the model, conservators noticed small problems which led to basic conservation treatments, such as re-adhesion of detached or partially detached elements. Thus, while struggling with the heavy and cumbersome body of the model, its fragility emerged as an issue and conservators had to minimize the amount of handling and carefully premeditate the actions of assembly. As David and Karen explain, 'we only undertook assembly after we were quite certain of how it went together.' For them, the misunderstandings in terms of the materiality happen 'when the models are read by non-architects', to whom models speak about a certain external reality. To architects, however, models tell a conceptual story, about 'the architectural process thinking', and less about a reality 'out there', a building. The mechanical or structural equivalence is not present either. Taking the conceptual mind of the model *for the reality* can cause confusion as a reciprocal connection between model and building materials cannot be assumed: transparent film or plexy materials used in a model do not necessarily indicate glass, brown surface does not always mean wood, or a silver one, steel. The material of the model is not a literal translation of the reality. Instead, the conceptual model offers an autonomous anaphoric way of generating reality through reference to various design visuals. As conservators perform a reading of all the material signs of the model, the

power of heterogeneous series is reaffirmed as what stays on the surface, diluting the binary of model and building, reality and fiction. Model and architectural concepts exist synoptically. The model is not made to talk about a world 'out there', but is rather a witness of *that* particular moment when the building-to-be imposes itself, as one possible mode of its existence. It manifests itself as an incomplete object in need of accomplishment, rather than a final product of design.

Models also reveal details of the working dynamics of architects and other participants in design. Compared to small experimental models generated in the heat of creative moments at OMA (Yaneva, 2009), a large and bulky presentational model takes time and collective effort to put together. Once assembled at the CCA, the model performs its show function and then returns to the crates. As a result of the struggles, the CCA created their own instructions for assembly with photographs of the process and written instructions in the event of future reassembly. Giovanna explains: 'Now we have documented all of the putting together more thoroughly and all of the dismantling in order to build new crates that are more intelligent.'

The document is now attached to the object record in the collections database. Each 'trip' of the Universal Studios HQ model to exhibition venues generates more scripts, that is, new documents that describe the processes of disassembling and re-assembling the model. When it has to be put together again on the occasion of another show, the model will have a freshly produced set of instructions on how to be assembled the 'right way' to avoid mistakes and misinterpretations. The 'social life' of the model continues. Yet, what will continue to travel is not just the sole conceptual model on its own, but the model, *plus* the OMA photo-documentation of an initial montage, *plus* the CCA instructions on how to assemble and disassemble it, *plus* the new 'intelligent' crates. The beings multiply; yet, always anaphorically and in relation to the model. Thus, the knowledge of how to re-do the model will *add* to and enhance the 'factual' knowledge about the architectural project and this epistemic multiplicity will enable the model to sustain its coherence as a historiographic artefact.

This 'social life' can be encountered in these instructions produced by the CCA. The written assembly instructions are listed in a specific document titled: 'How to assemble Universal HQ Model (CCA)', by David Stevenson, 17.02.2016, a 10-page document. It is accompanied by images. The model is divided into 18 different numbered parts. The order of assembly is presented in steps, as follows: 1) #13 + #14 + #16 2) #6 + #2 + #11/#18 + #8.

Some specific and precise notes on assembling the different elements are included. For example, on page 2 of the document:

> The panels shown above should be removed before trying to slide the levels #1 and #10 over top. The fit of #1 and #10 is incredibly tight, which means that all unnecessary or removable pieces should be removed to allow for as much space as possible when levelling and lowering #1 and #10 to prevent possible skimming of the *fragile surfaces*.

In addition, notes are made to stress the difficulty of assembling some parts, and even point to 'who' can accomplish it and how: 'Both #1 and #10 are *very heavy*, requiring 5 or more people to level and carefully lower onto its place on the model.' [emphases

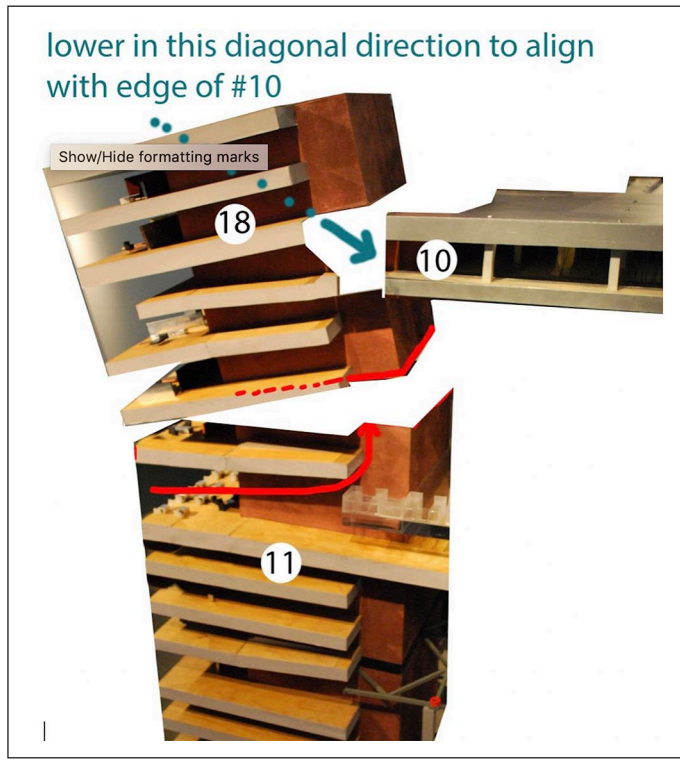

Figure 4. Diagram from the assembly instructions produced by the CCA. © CCA.

added] Both fragile surfaces and fragile humans are equally accounted for in the assembly instructions. There are also precise details on how the installation should be done: 'Note on Installing the Tower #11/18 with level #10' outlines that 'The diagram below should indicate *just how to accomplish this*. It is basically about resting the edge of #18 onto #11, and then lowering it into place diagonally. It is a *tricky* endeavor and should be undertaken with great caution.' [emphases added] A diagram is also provided to facilitate the process (Figure 4). In addition, instructions on where things should be placed are offered, such as, for instance, where to place the little human figures and how to attach them with Quake Wax. An image illustrates it again (Figure 5).

Re-assembling the model makes us witness again *that* particular creative moment when the building-to-be imposes itself and confers roles to a variety of humans: architects, technicians, conservators. Yet, the building emerges along with the ever-present risk to fail: the fragility, the cautiousness, the possible harm. An ontological symmetry is instituted here between fragile surfaces and fragile bodies. It is the symmetric transaction between these actors that makes the model possible, and must be re-done, repeated. To reassemble the model, all actors recreate the design process of anaphoric reiterations, again and again. They do not follow a plan; they rather select, throw and abandon moves that do not work; they mobilize all possible materials, tactics and tools. What

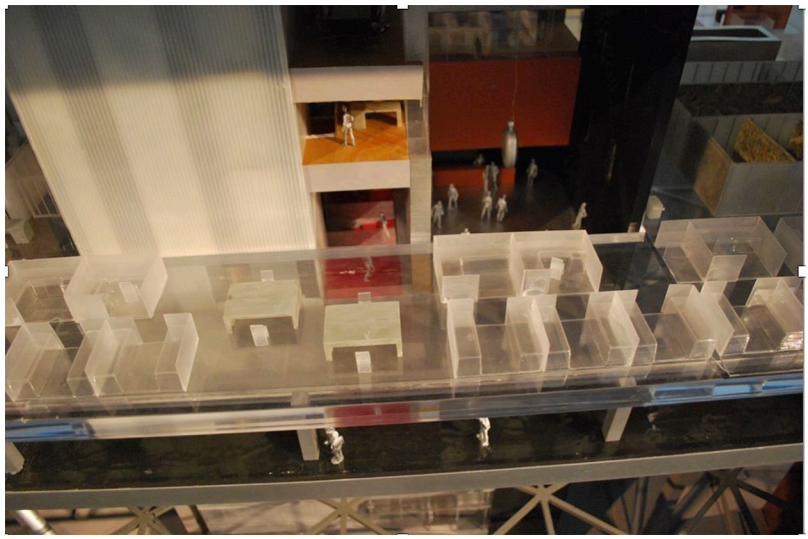

Figure 5. Little figurines in the Fun Palace model, assembly instructions CCA. © CCA.

synchronizes the moves is not a powerful unifying creator. Instead, the very need to assemble the model acts as such (*l'œuvre à faire*, the work to be completed). That is, not a model *of* . . ., but rather 'a model *to* assemble'; the 'to' refers to a synaptic, branching movement. In this process of completion, all knowing subjects (conservators, architects, curators, technicians) are confronted with a pluri-modal reality *à faire* – this complex 'giant' that they can get to know only by adjusting surfaces, lifting heavy pieces, gluing figures with Quake Wax and being cautious not to harm themselves. Thus, the model stands right at the beginning of an anaphoric sequence of re-assembling moves, where the very practice of its re-building becomes epistemically significant for the understanding of the architectural idea. In the assembly process, new unknowns emerge and new ways of getting to know the building are found. Re-building that 'giant' is what makes the OMA concept for the Universal HQ sustain its existence. Conservation intensifies the realm of reiterations that gradually refute the dichotomy of model and original idea as a distinction that only operates in the world of representation.

On the road

A second 'giant' at the CCA, the Fun Palace of Cedric Price (Figure 6), is captured in the conservation lab as David is preparing it for its travel to Germany to be part of the exhibit at the Kunstmuseum in Wolfsburg entitled 'This Was Tomorrow, Pop Art in Great Britain' (30 October 2016 to 19 February 2017). This first major project of Cedric Price, the Fun Palace (1961), is designed as a 'laboratory for fun' (Littlewood, 1964) where architecture will have the capacity to respond and react formally or mechanically to a given stimulus (Mathews, 2005). Praising Price's pursuit of responsiveness, the 1980 *RIBA Journal*

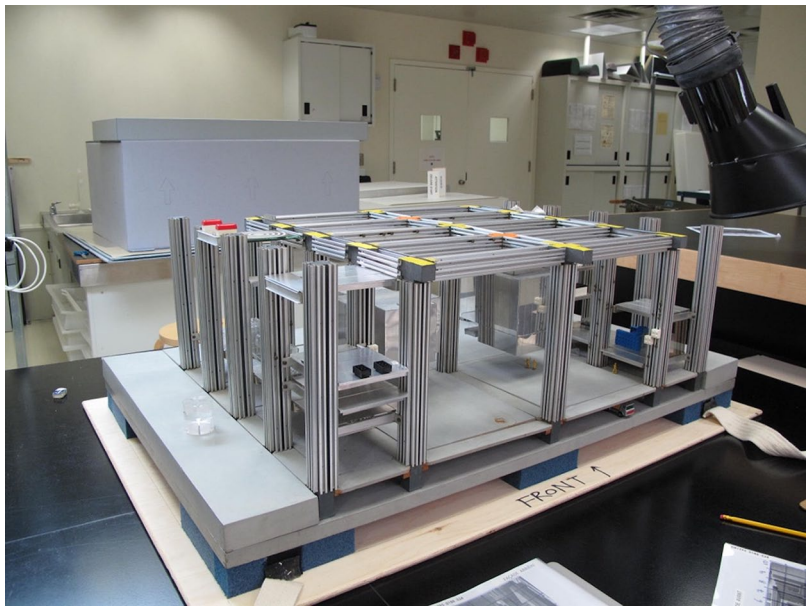

Figure 6. The model of the Fun Palace, conservation lab, CCA. Photograph: Albena Yaneva.

(1980: 63) had termed it the 'World's First Intelligent Building'). Guided by the idea of radical engineering, its design acknowledges the inevitability of change, chance and indeterminacy, and the readiness to allow the public to determine the building's form makes its model a challenging endeavour.

Familiar with the work of Price, I immediately recognize the project, but it is the first time I see the model, a full-blown work of architecture. David explains that it is a fairly significant model historically.

> *It's going to be travelling* to Germany in the fall. It has travelled in the past as well. Two years ago, *it went* to the Venice Biennale. Then, *it came back*. We did a very thorough condition report before and after it went to Venice. Since it is going out again in the fall, we are now looking at it, we are assembling it, making note of any particular issues it might have before we send it. We are also doing a condition report now.

Listening to David's description of the 'travels' of the Fun Palace, we picture a quasi-autonomous actor that 'goes out' and 'comes back' to the CCA many times, always accompanied by the condition reports. A condition report typically contains a description of the model, photographs of its different segments, of cracks and folds, and the conservators' notes on interventions and repair. In this case, there was no documentation on how and when the model was generated by the practice of Price as 'typically, architects don't document their own production in that sense', confirms Karen. The OMA photo guidance of model installation appears to be an exception. The first condition report of Price's model was done by a CCA conservator in 1996 and was fairly brief. It was

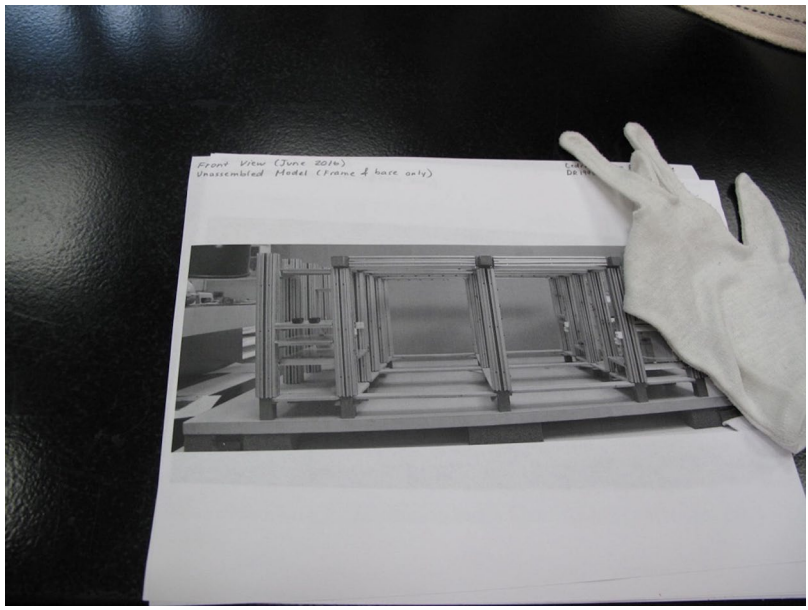

Figure 7. Picture of the model, to be included in the condition report. © Photograph: Albena Yaneva.

produced as a part of a report documenting the condition of a group of models from this firm. It included condition summaries of each of those models, general conservation treatment recommendations and estimates of the expected time it would take. A more detailed condition report for the Fun Palace model was prepared in 1998 when it was sent for a first loan and, when it came back, the first post treatment was performed. In the following years, the model came to the lab on numerous occasions to be conditioned reported, treated and prepared for new travels.

Assisted by the technicians Anne and Emily, conservators spent time carefully examining the object individually. This is the stage of 'diagnosis', of scrutinizing the symptoms, discerning and detecting the flaws: imperfections, tears, scratches, folds, insect damage, or stains. A condition report for a model is longer than the one for the paper collection as models are more complex in terms of construction. In addition, different types of materials are used and each material is described. The complexity of the report also depends on the model condition. If all is good, the report can be short. As Karen explains, 'Whatever object it is, we look at it methodically and thoroughly.' Follow her for a moment in that afternoon of June 2016: she first produces a photocopy of the different parts of the model, then carefully inspects the original using a checklist form as a reminder of the many different condition problems she should pay attention to (Figure 7). A seemingly static object, when examined by Karen, suddenly multiplies. A closer look at the condition report shows that the object is decomposed into 40 different features: surface, dirt, discolouration and cracks, to name a few. Scrutinizing the model carefully, she identifies and measures the specific features, then inscribes the traces of that inspection back on the

photocopy by colour-coding and numbering each condition problem on the copy while also indicating its presence on her checklist. Depending on the complexity of the object, the condition report can range from a few photographs and the checklist to a multipage binder with extensive descriptions; the Fun Palace report is a binder. Prepared in this meticulous way, it provides an in-depth view of the ontological granularity of the model and indicates whether it is 'safe to exhibit' or 'needs special consideration'. This examination does not aim to identify and value the object's exceptional intrinsic properties, but rather to engage in practical work on its materiality and effects, and to help determine treatments.

Thus, the complexity of the Fun Palace model poses a problem of a different nature from the Universal HQ model: the central preoccupation of the conservators is 'how do we condition report it [the model] since it's super complex?' In their attempts to prepare the model for its travel to Germany, conservators look at all the instances when the condition of the model has been reported in great detail, especially the fairly recent condition reports. It is not just time that matters but the events that the model has 'lived through'. Everything that the model has 'experienced' is documented; travels leave traces reminiscent to wrinkles on a human face, every minute scratch matters; these marks are thoroughly recorded and, in return, allow traceability. If nothing has happened to it since it has come back to the CCA and its condition has been documented, the conservators will rely on old condition reports. Here again the 'life' of the model is taken seriously and its different phases traced by the series of condition reports.

In addition, the conservators inspect the model again and again, in terms of due diligence, to verify that nothing has changed since the last condition report. The assumption is that models 'continue to live', age and wrinkle even when they rest in the CCA storage space. They also age during exhibits: the polymer wavers, the wood is affected by oxidation, etc. They can constantly alter: both the travel and rest are states of infinitesimal mutations of the model texture. The Fun Palace model is condition-reported now – prior to its travel – then, upon its arrival in Germany, the conservators examine it again to make sure that nothing has changed on its journey. Subsequently, at the end of its stay in Germany, before it leaves the country to come back to Canada, it will be condition-reported again; afterwards, as soon as it arrives in Montreal, it will be placed back on that very same table of the CCA conservation lab to be condition-reported again (Figures 8 and 9). Every step the model makes is watched, every stretch of its 'travels' is followed, in every stage of its life, the model's condition is carefully inspected and documented. As David explains:

> There is tons of condition reporting going on. With something like this, *it's multi-dimensional, there are so many different types of materials. There are aspects of it that are already sort of aged and sort of slightly damaged*. So, it becomes a question of how much time do you invest in observing and annotating the damaged parts and how do you describe them and how do you make note of that as it [the model] travels and goes to various places.

The watchfulness of the conservators is pushed to extremes when they deal with a multi-dimensional and complex object such as the Fun Palace model – the various types of materials mature differently and require different degrees of conservational attention

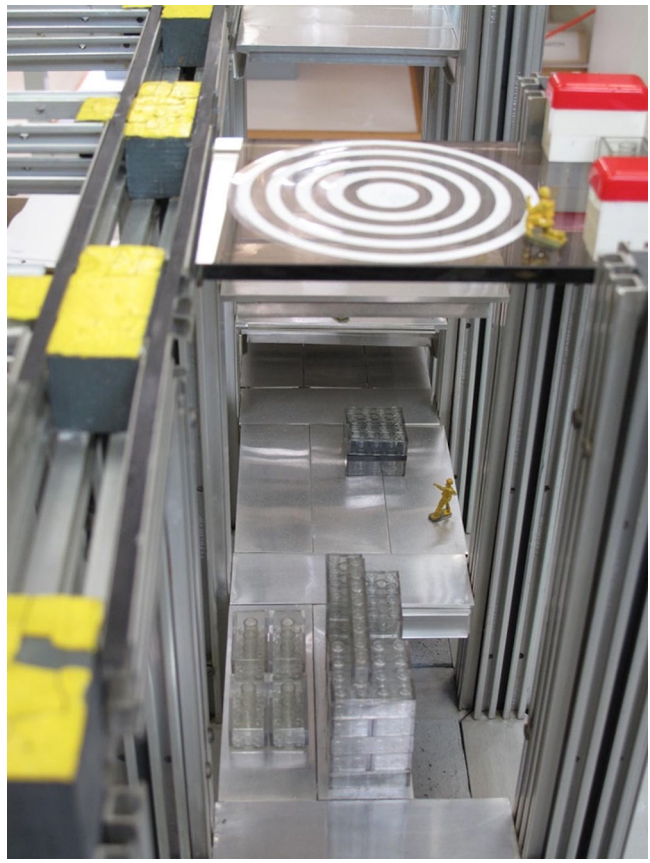

Figure 8. A crack on the roof of the Fun Palace model. © Photograph: Albena Yaneva.

and care. Going back and forth between the actual model on the table and the written reports, David notes all the infinitesimal changes to ensure that the model's life can continue to be traced. Other materials require different degrees of attention. Compared to that complex creature that rests on the table, drawings are easy to condition report as they are flat and may only have a few scratches. While a drawing can be condition-reported by alert observation, to account for some of the details in huge models, like the little yellow figurines, conservators rely also on photographs to help guide their eyes. Despite the meticulous nature of their observation and note taking, subtle discretion is also used. David does not spend time describing each little figurine in detail: it is only if one of them goes missing, is misplaced, or falls off that he notes it in his report.

The condition report travels with the model, depending on the loan and the specific agreement. In this particular case, David also accompanies the Fun Palace to Germany with the condition report to annotate eventual changes; the amazing trio of model–report–conservator tours the world. Yet, David cannot accompany each model; only a 'giant' like this one is given a courier as 'it is complicated and has so many areas that

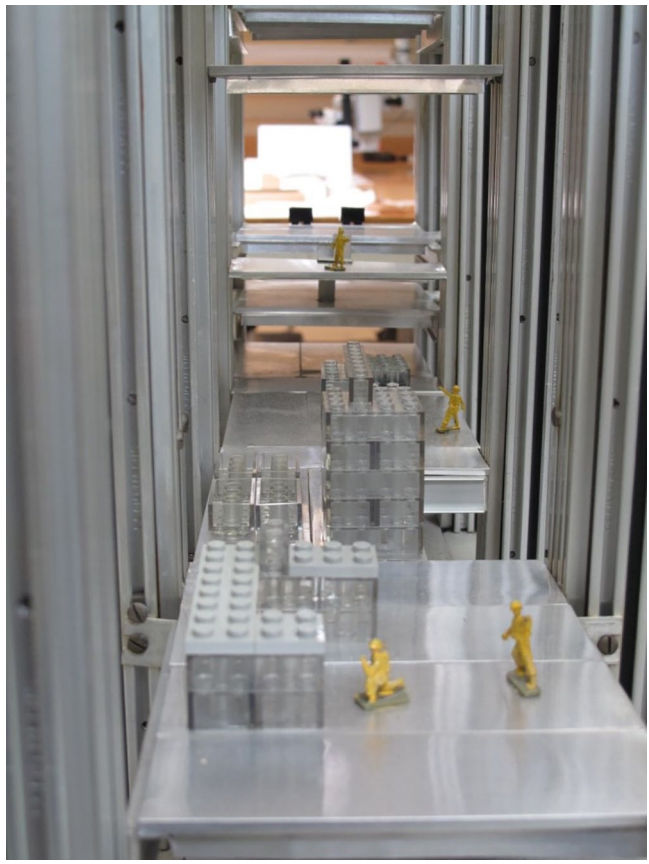

Figure 9. Damaged parts of the Fun Palace model. © Photograph: Albena Yaneva.

could have some risk'. In other cases, the model goes on its own and a conservator on the receiving end reads and interprets the report, inspects the model and compares it with the report, notes any changes and eventually produces another condition report to be signed. Often the conservators on the receiving end can spot a discrepancy on the object and, without the report, it is difficult to establish if the object had indeed changed, or if the change was simply not registered earlier. Therefore, careful conservation is important as 'there is an aspect of it that has to do with liability', as David points out. The duo model–condition report ignites discussions among conservators from different institutions involved in loans. The report *adds* an epistemic layer to the model, extending and explicating its materiality; it multiplies its modes of existence and reshuffles the choreography of human actors around. While small and simple models travel light, the huge and complex Fun Palace always travels with a pile of instructions, condition reports and human couriers. Its concept is reinstated as the tired material body of the model connects to various scripts and caretakers in an anaphoric dance.

Condition-reporting the model takes us back again to that particular creative moment when the building-to-be imposes itself with a set of material choices and technical decisions, and confers roles to a variety of humans (conservators from different institutions, museum technicians, security guards). It is the transaction between all these human actors, the forms they sign, the reports they prepare, the careful inspections they engage in and the environment they secure that make the model possible; and that is to be done, again and again, repeated, each time the model makes a move. Conditioning a giant model brings us back again to key moments in the design process. The architectural concept becomes present in the minute operations of identifying scratches and displacements on the model, annotating and assembling them in a report. In the series of condition-reporting, the incomplete nature of the model as an epistemic object is to be witnessed again: new knowns and new ways of getting to know the building emerge and *add* to the existing ones. It is the repetitive moves of condition-reporting, travelling, examining and reporting again that allow the Fun Palace concept to sustain its existence. Each travel sets in motion another sequence of repetitions, where each act of re-examining the model strengthens its integrity and ultimately generates a better understanding of the architectural concept.

Reporting the detailed materiality of the model for the purposes of conducting the right treatment, conservators need to know 'what we [they] are dealing with'. Karen explains:

> What's really important to understand is *how things could change and how things could interact together*. For instance, the places where the paint over the years has been shrinking and drying out, we can see that that's an area of vulnerability. And in fact, when it [the model] came back from Venice, we hired an object conservator, who came and did some consolidation.

The knowledge of conservators is processual, accounting for how things change and interact. It is not enough to identify the paint, but to follow, and if possible, to predict, its mutations: how it shrinks, dries over the years, or what the vulnerable areas are. It is the paint in motion that conservators trace so as to be able to prevent the model from disintegrating and not just its 'static' materiality. A tiny move of the paint can cause bigger changes. At the same time, explains David: 'it's difficult in many cases to determine how much change has happened.' For instance, the panels on the model 'are kind of changing shape a bit. They don't fit perfectly. They are also not perfectly flat. They're kind of warping a bit. You can mark that in the condition report like "possible fingerprints".' In addition, minor changes are difficult to notice and describe. David and Karen inspect the model carefully, then compare it with original photographs, return to the most recent condition report, analyse if the change is caused by an exposure to oxygen and how conservators could have prevented this from happening. In their daily work at the lab, conservators attempt to find a way to trace and measure the infinitesimal model variations (i.e. the warping of a panel, the moving cracks, the changing colour of the surface of the wood) and consolidate it without big time investments which are just as scrutinized as its materiality. In addition, they are cautious not to add more changes and they wear gloves to prevent chemical variations in the event they touch the surface. Far from being an ideal embodiment of a novel architectural concept, the model is a living, aging, object

on-the-move, accumulating oily fingerprints, cracking, disintegrating – and numerous environmental factors affect these moves.

To prepare for the bigger moves of the model, for the 'travels', conservators do a lot of work on the packaging: special storage boxes, custom-made crates with isolation to prevent jarring or shaking that may upset the model, etc. Thinking carefully about what can go wrong, they prepare written instructions to prevent this from happening. The 'Assembly instructions for Fun Palace Model – Cedric Price' is a 2-page long document issued by the CCA. On the first page, the installation order is explained in 11 steps; the second page contains images illustrating that order. The instructions show the model is much simpler than the OMA 'giant'. Yet, they contain meticulous details on 'how to place the model in the case', what the 'correct orientation' of the sides are, how to understand 'what the front of the model is', how 'to install the hanging theatres', how 'to install the glass heliport' using soft microcrystalline wax and how 'to remove it using a spatula after the exhibition'. Learning from the process of condition reporting and assembling the model, conservators update and fine-tune these instructions, which are tested by different people, translated and slightly tweaked each time the Fun Palace model travels. The more the model is shown, the more it travels, the more it changes, and new condition reports are produced to tour with it, and the thicker that complex aggregate becomes: model, *plus* crates, *plus* instructions, *plus* condition reports, *plus* forms, *plus* couriers. This process is to some extent reminiscent to the production of museum documentation of complex artworks, where the 'thickness of the record can and does reflect "trouble"' (Kreplak, 2018: 705). Nothing is static 'out there' to represent an architectural idea: humans and model surfaces, plastic figurines, reports and assembly instructions change with time. This joyful multiplicity is sustained and continues to travel; a multiplicity that is not ordered from above but organized from within.

Conclusions: Anaphoric progression in model conservation

Following conservators, technicians and curators at work, we examined the epistemic intricacy of specific moves of preserving and assembling two complex scale models in the conservation lab of the CCA. Witnessing how models-in-conservation trace fine webs of symmetric relations between human and non-human participants, two established beliefs on creative practices collapsed spectacularly, before our eyes.

First is the belief that historically valuable cultural objects are unified objects of intrinsic value, assuming their stable ontology. Instead, in conservation, models live, travel and deteriorate from their own 'patina of age', face unruly forces and have complex histories of modification. Tracing how conservators inspect the material changes and assemble giant models, interpret and sustain their complex materiality, note and measure minor modifications, and generate scripts to further register their lives, we can argue that conservation practice creates a space in which the multiplicity and instability of design objects are exposed and intensified. Moreover, as models get gradually consolidated, more knowledge of how to re-open, re-do and re-stabilize them adds to the 'factual' knowledge about the architectural ideas they hold. In conservation, valuable objects gain an epistemic thickness they never had before.

Second is the belief that a model is the end product of a creative process and holds a precious original idea, assuming linearity and teleology of design. Investigating the operations of daily repair and assembly of models sheds light on the material ordering and relationality of design, commonly maintained by unnoticed gestures. A model, we can argue, as we follow conservation-in-action, is far from being the final, static, distant end product of an architectural project. Instead, it is one among many beings that emerge in the repetitive intensity of the design venture; each of them has its own sparkle, presence and life. Models do not talk about the existence of an architectural concept 'out there'. Models and buildings emerge together through the anaphoric progression of proliferating instructions for assembling, transporting and conserving scale models. The dance of all these versions generates a positive power which negates the supremacy of an original design idea. It therefore becomes important to explore the modes of existence of all these beings – this multitude – to trace their trajectories as they leave the studio and travel to collections, conservation labs, vaults and galleries. Following Etienne Souriau's (2009: 110) plea to 'differentiate and study the different modes of existence' of artworks without which 'there will be no existence at all', a design/architectural concept (as a work, an oeuvre) can be seen as contained in all its drawings, models and plans. All these intensive variations, all together in their anaphoric progression, constitute a building/a design work.

In fact, it is through these various beings that we gain knowledge about design concepts. A giant model in the lab does not talk directly about Price's grand idea of cybernetics from the 1960s or the OMA's vision of urban complexity from the 1990s. As we follow conservators in action and awkward giants-in-the-process-of assembly, we witness that there is no sublime reality behind or beyond a scale model. Instead, there are things – models, assembly instructions, condition reports, forms, wax, spatulas, plastic figurines – whose circulation in the world gives these concepts a reality. When travelling, being assembled and dis-assembled, curated and shown again to different audiences, the models reinstate and strengthen these ideas: both the Fun Palace and the Universal Studios HQ gain a reality as conceptual beings. Concepts have no other support but these very things that they assemble and recognize. It therefore becomes important to devise new types of anthropological enquiries that scrutinize the specific material and epistemic practices that sustain the existence of these things: that is, organizing and maintaining an archive, conserving drawings, photographs and prints, repairing, assembling and displaying historical models, etc. After all, it is on these sites – archives, museums, galleries, collections – that historical science is marked with epistemological credentials and a new awareness of how objects survive time to become the basis of knowledge is gained. It is not through storing, but rather through recognizing, repairing and re-assembling objects of value that historical knowledge can be truly understood and inherited without breaking its continuity.

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