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The Model, Objet à Réaction Poétique Maristella Casciato and Emily Pugh 'In every age someone, looking at Fedora as it was, imagined a way of making it the ideal city, but while he constructed his miniature model, Fedora was already no longer the same as before, and what had been until yesterday a possible future became only a toy in a glass globe.'

- Italo Calvino, Invisible Cities

The architectural model has become an increasingly significant part of architects' practices over the last two hundred or so years, functioning as a means of testing the quality and soundness of a project's design as well as communicating ideas about architecture to its audience. The advent of computer-aided architectural production has diminished neither the literal nor the conceptual weight of the model in the design process. The practice of Frank Gehry, for example, is grounded in the fabrication of both digital and physical models, and by both manual and virtual modelling. For Gehry, the first step in creating a design is to make a model, followed by sketches and then more models - 'sketches and models and sketches and models', as he put it in an interview with Beatriz Colomina, in 2003, in a kind of pas de deux.1 Gehry's office and warehouse are filled with models of all kinds and sizes, with the latter serving almost as a cathedral to the object. Gehry's models range from rough three-dimensional sketches to highly finished artifacts; in some cases, the final model bears little resemblance to those that preceded it.

While the model has often been regarded primarily as a surrogate for the built structures it represents – a translation into three dimensions of two-dimensional plans and drawings – this narrow view does not take into account the variety of forms and functions the model can take. While models can operate as faithful mimics of built structures, they are also semi-fictional accounts of architecture. They convey information not only about the building that is to be constructed but also about the practice of creating and shaping space – of modelling itself.

This notion is reflected in the comments of architectural historian Richard Pommer, in an essay written for the catalogue of the 1976 exhibition *The Idea as Model*: 'Previously the model was used as a representation of an idea which had been clearly defined before the model was started. Now both the model and the idea develop simultaneously. The models are as precise as before, but more experimental; no longer cases in glass, the potential of the model is greater.'²

Pommer is alluding to both the multivariate nature of the model and the inherent tension in the model as a form of representation. How and what the model represents is always complicated by its relationship to a built structure. There are models of buildings that have already been built, models of buildings that may someday be built, and models of buildings that will never be built, or were never intended to be built. However, the model is simultaneously a singular object with its own three-dimensional materiality, and one of many components in the architect's design process.

Accounting for models in all their complexity requires a consideration of their relationship both to architecture and to other genres of artistic expression. As Pommer also notes in the Idea as Model catalogue, 'artists have stolen much of the ground from architects'.3 In particular, sculptors such as Donald Judd or Robert Smithson created sculpture that is, in the words of Rosalind Krauss, at once 'not-landscape' and 'not-architecture'; the same labels could easily be applied to the architectural model.4 Moreover, as both sculpture and architecture have continued to intersect with one another, fracturing and expanding as genres of practice, the relationships between the model and what and how it represents have been further complicated. Architectural historian Stanislaus von Moos, writing about the Swiss artists Peter Fischli and David Weiss, has commented on the movement in their work from 'architectural project' to 'sculpture', noting that Haus (1987), for example, exists in 'the "no-man's-land" between architecture, urban planning, and sculpture'.5

But the starting point for this evolution – the ur-object of this rich and complicated set of relations between structure, model, object and representation – is not the sculpture of the 1960s and 1970s, but El Lissitzky's *Prouns*. It is the *Proun* that has the status of both-and-simultaneity: it is sculpture and architecture but also image – at once spatial and visual. According to architect and writer Christian Hubert, '[*Prouns*] announce a new relationship between painting, sculpture, and architecture, in which works of art are no longer contained within exhibition spaces but continuous with them.'6 It is in the *Proun* that one sees very clearly the role of construction and of image that is inherent to the architectural model.

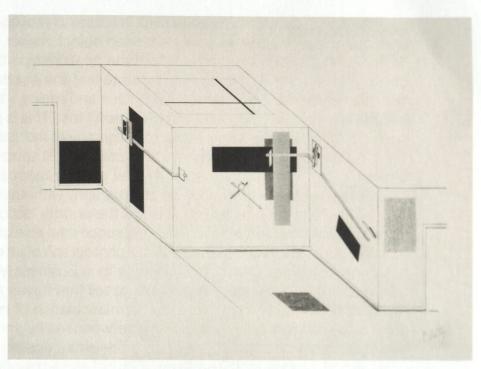
As Italo Calvino's description of Fedora suggests, the model is characterised by its power to reference a physical construction and also to create a poetic image of ideality, almost a dream or memory. Models embody memories and eventually they become autobiographies. Aldo Rossi modelled the *Teatrino Scientifico* (1978), also producing a set of drawings and sketches of it, in between the design of two significant projects – the housing block in Gallaratese (1969–73) and the Cemetery of San Cataldo in Modena (1971–76) – and the

publication of his most poetic book, *A Scientific Autobiography* (1981). Despite the references to 'scientific' knowledge, the model and the book were generated by an emotional, personal impulse and are furthermore works of poetic imagination. Rossi claims, 'the word *teatrino* doesn't stand for size, rather it characterises privacy, singularity, repetitiveness...'⁷ According to architect Diogo Seixas Lopes, *Teatrino Scientifico* evinces a 'dreamlike quality' that transforms the fragments of Rossi's buildings which it incorporates – the housing block in the foreground, the cemetery in the backdrop – into an assortment of notions and emotions.⁸ Rossi 'continuously presents and represents. His analogical enterprise, like Surrealism, juxtaposes the "real" and the imaginary, allowing for a continual interplay, a constant substitution.⁹

The *Teatro Domestico* (1986), produced for the XVII Triennale in Milan, marks a change in size and scale, yet not in intention. Both projects are variations on the same oneiric theme. The 'domestic theatre' is a creation of furniture and domestic artifacts, in accordance with the wider focus of the exhibition, entitled 'Progetto Domestico' [Domestic Project]. The *Teatro Domestico*, a massive, whimsical, scenographic model, was built to fill up the intermediate landing of the grand staircase of the Palazzo dell'Arte, where the Triennale was held. The model's three floors of rooms lack any inhabitants. Moreover, during the Triennale, the emptiness and disuse of these rooms was heightened by the image of crowds of visitors milling beneath it, forced to navigate the forest of wooden pillars on which the model rested in order to move between the flights of stairs.

The space, conceived to represent the section of an ordinary apartment block, evokes George Perec's novel *Life: A User's Manual* (1978), in that it presents a private interior as an open stage. A set of huge coffee pots, designed by Rossi for Alessi, sit incongruously on the middle level. As in the *Teatrino Scientifico*, with its clock suspended at the five o'clock hour marker, time in this space is frozen. The model functions as a site wherein domesticity is staged, presented as a memory. Much as with Calvino's Fedora, ideality and time exist in tension, maintaining only a tentative equilibrium within the model.

In the case of both Rossi and Calvino, the model exists as a three-dimensional, static, dreamlike image that is ruptured at the moment it is engaged with, touched or manipulated as an object. Yet their models are also miniatures, quasi-doll's houses, or toys. This suggests that manipulation, while it may interrupt the model's status as an image, is also an important aspect of its function. Models are tools. They are the means by which architects design, by which they experiment with space, adding to the model, taking away, cutting, shaping, ripping, gluing. Models are a means of testing the feasibility of a design and of guiding its construction, at times with the designer in absentia. Models also present architectural ideas to their publics.



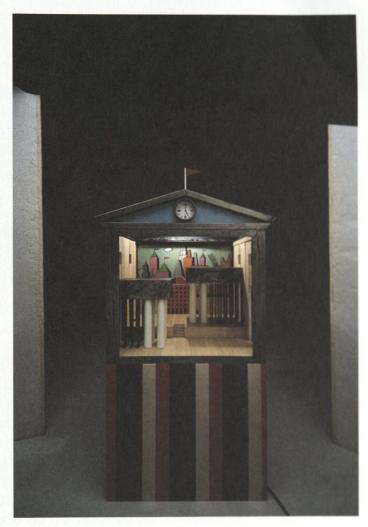
El Lissitzky, Axonometric Projection of the Proun Room installed at the Greater Berlin Art Exhibition, 1923

Like the architectural model, the *Proun* is a form of representation born out of a shift in the relations between object, maker, and audience. El Lissitzky sought to explore the relationships between object and referent, between the concrete and the abstract, and between his viewers' perceptions of illusion and reality – to which end the architectural model can prove a useful tool. This is perhaps nowhere more apparent than in the photography of models.

Many architectural models are, of course, built specifically to be photographed. The goal of such a model, as Jane Jacobs wrote in 1958, is to be able to 'stand close-up photography without shrieking "model".13 Thirty years later this was still the priority, according to American Craft magazine, which deemed successful an example by model-maker Dale Flick because, 'From a photograph of an office interior he recently completed for the International Business Machines Corporation, it was virtually impossible to tell that it was a model, much less one made from paper.¹¹⁴ The manipulation of materials plays a key role in models' negotiation between reality and illusion and in the creation of photographs of models that appear at once not fake and not real. In 1958, the availability of acrylic plastics made the difference for model-maker Theodore Conrad, who worked this and other materials using a 'range of milling machines, lathes, saws, grinders, polishers, and paint sprayers'. 15 By 1988, acrylic plastic, specifically Plexiglass, was a standard model-making material, along with plywood, paper, and foam core (the latter two used predominantly for photographed models). At this time the computerised laser-cutter and milling machine were beginning to make their presence felt as well.16

Photographed in the right ways, these models' materials can appear to be anything. Paper can look like stone; plastic can become glass. The verisimilitude of such photos is aided by the fact that scale is rendered essentially meaningless. Two inches can be two feet or two-hundred feet. Or rather, it is not that scale is meaningless in such images, so much as it is fungible; any scale, vis-à-vis the world outside the photo, is as good as any other. All that matters is internal scale, the reference points inside the image. Thus, the photo's edge. its frame, is as important as materiality in governing the transformation from real to fake, and back again. The power of the frame, and of the photograph, to transform the model in this way may explain why, as van Moos notes, 'in twentieth- and twenty-first-century film and architectural photography the fascination with models has almost become an obsession.' Stanley Kubrick, for example, famously knitted together shots of an actual garden maze with images of its model, using the resulting confusion of scale to create a sense of dread in The Shining (1980).

Model photography is a particularly salient example of the role of models in architectural representation – a form of representation that is characterised (arguably more so than, for example,



Aldo Rossi, Teatrino Scientifico, 1978

painting or sculpture) by the transmutation of two dimensions into three, and vice versa. The model, in fact, is one form of architectural representation that includes sketches, drawings, plans, photographs, and the built structure itself.

Ultimately, the model is neither image nor object, but both. The model moves from image into object and back again. Beginning in the late twentieth century, this aspect of the model became its quite literal characteristic with the age of digital modelling. The physical model becomes a digital image; the digital model becomes a printed image. The relationships between object-image-construction and between maker-object-audience continue to splinter and expand. Even the model itself takes new forms: the spatio-structural model becomes the computer-manipulated statistical model, whereby costs and materials are projected and refined.

The incorporation of digital modelling and 3D imaging fractures the ontological nature of architectural representation even further. Modelling software creates digital 3D models natively and 3D imaging can be used to capture and create digital 3D renderings of physical models. In either case, the digital 3D representation is both image and object, appearing on a flat computer screen but also conveying the 'object-ness' of the model, its spatiality and/or materiality. Moreover, spatial and material qualities are captured as data; the digital images, that is, are not necessarily indexical. A texture, surface or material can be chosen from a materials library - a database, that is, in which is stored precise information as to how light hits and bounces off particular types of metal, wood or glass. In the context of these digital 3D technologies, questions of realness and ideality, and the boundaries between the physical and the virtual, are destabilised. This technology forces us to think of representation in less strict or binary ways.

In his essay for the *Idea as Model* catalogue, titled 'The Ruins of Representation', Christian Hubert writes, 'the model is neither wholly inside nor wholly outside, neither pure representation nor transcendent object. It claims a certain autonomous objecthood, yet this condition is always incomplete. The model is always a model of.'18 We would argue that the contingent state Hubert describes is true not only of the model, but of all and any form of architectural representation. Even the building itself is not a wholly autonomous object, but relies on other forms of representation for its creation, presentation and interpretation. It is this that the model, and in particular the photography of it, makes obvious.



Luigi Ghirri, Aldo Rossi, Teatro Domestico, 1986

- 1 'We make a lot of them. That's part of the process.' ('Gehry from A to Z', in: El Croquis 117, 2003, p. 26.)
- 2 Richard Pommer quoted in Thea Brejrek, Lawrence Wallen, 'The Model as Performance: Staging Space' in *Theatre and Architecture*, London, Bloomsbury, 2017, p. 22. Here reference is to the catalogue *Idea as Model* (New York, Rizzoli, 1981), curated by Kenneth Frampton, Richard Pommer, and Silvia Kolbowski, and accompanying the eponymous exhibition presented at the Institute for Architecture and Urban Studies in 1976.
- 3 Pommer, p. 3.
- 4 Rosalind Krauss, 'Sculpture in the Expanded Field' in: October Vol. 8 (Spring 1979), p. 38.
- Stanislaus von Moos, 'Haus. Notes on Fischli/Weiss, Art, and Industry', in: Peter Fischli, David Weiss: Haus, Walther König, Cologne, 2020, pp. 12–15. See also: 'Models. The Idea, the Representation and the 'Visionary': in OASE 84 (2011); Olivier Elser et al., Das Architekturmodell: Werkzeug, Fetisch, kleine Utopie, Scheidegger & Spiess, Zürich, 2012; Matthew Mindrup, The Architectural Model, Cambridge, MIT Press, 2019.
- 6 Christian Hubert, "The Ruins of Representation" Revisited in: OASE 84 (2011), pp. 14–15.
- 7 Aldo Rossi, '1978 Teatrino scientifico' in: Germano Celant, Aldo Rossi Teatri, Milan, Skira, 2002, p. 38.
- 8 Diogo Seixas Lopes, Melancholy and Architecture. On Aldo Rossi, Zurich, Park Books, 2015.
- 9 Hubert, p. 15.
- 10 Gaston Bachelard, The Poetics of Reverie, Boston, Beacon Press, 1971.
- 11 Francesca Lanz, ed., Letture d'interni, Milan, Franco Angeli, 2013, 86.
- 12 In his essay 'El Lissitzky: Radical Reversibility', Yve-Alain Bois describes the tension members of the Soviet avant-garde felt between making art that was not illusory but which was also intelligible 'to the "masses" they were addressing'. See: Yve-Alain Bois, Art in America Vol. 76 (April 1988), p. 166.
- 13 Jane Jacobs, 'The Miniature Boom' in: Architectural Forum (May 1958), p. 107.
- 14 Jeremy Lebensohn, 'Mighty Miniatures', in: *American Craft* (June/July 1988), p. 38.
- 15 Jacobs, p. 110.
- 16 Lebensohn, pp. 37, 38, 100.
- 17 Von Moos, p. 13.
- 18 Hubert, p. 17.