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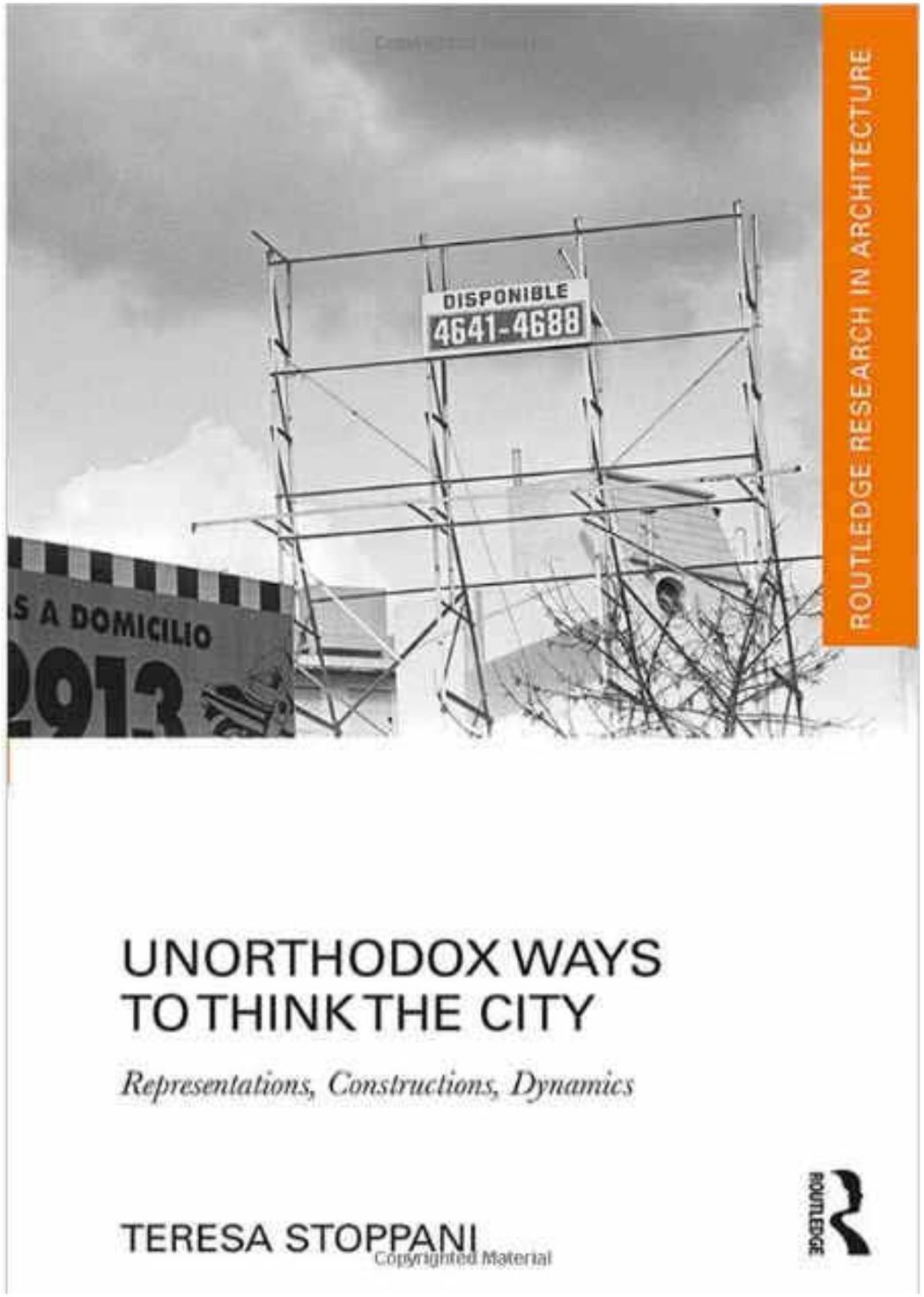

5 Model

From object to process

> The model could hold multiple associations and also remain unknowable. It could just be a very particular form that is impossible to describe, or a piece of material that stands in, or acts as a foil to something else. The model is both evasive and ridiculously precise.
>
> Ian Kiaer[1]

The model has a fundamentally ambiguous relationship with the ideation, the representation, the construction and the object of architecture. It is this ambiguity that enables the model to engage in different ways with the multiple relations that affect the definition of architecture as an edifice as well as a discipline. As a prototype, a template or a guide for the production of the edifice of architecture, the model both proclaims and obfuscates the point of origin of the project, triggering a multiplicity of variations that render the discipline and the practice of architecture possible. As an object, the model offers a presentation, a description, and, more significantly, an anticipation of the architectural object – it is both *transient* and *translative*. As it engages in the making of architecture a plurality of agents beyond the historical figure of the *artifex* architect, the model challenges also the single authorship of architecture. The model's *oscillations* between object and concept, and object again, engage the production of the architectural project in a dynamic system of relations – references, tensions and variations that continue to involve its viewer/actor/inhabitant. It is when the model loses the dynamics of transition and translation and presents itself as a resolved object that it no longer is 'model' and loses its 'model-ness'. The model's oscillations between object and concept, between what the model is and what the model does, and its implications in architecture are better explored through a series of crucial episodes

which in different ways perform an intellectual and physical explosion of the architectural model. Thus exposed, the model can no longer be taken for granted as a given architectural tool – a set of instructions, a finite object, a form of representation – but becomes a critical provocation in the performance of architecture's ambiguities.

The space of oscillation

> I want the work to be able to hold specific aspirations and relationships to ideas. [...] The work always comes out of certain frustration and conversations, and to demand that the artwork represents these is actually unreasonable. [...] I would prefer to claim the space of oscillation.
>
> Ian Kiaer[2]

Writing about the installations of British artist Ian Kiaer, Fabrice Hergott observes that Kiaer's works evoke 'the space between things' but also, and more significantly, 'the space between the meaning of things'.[3] In conversation with the artist, Sarah Jones observes the same in-between-ness when she asks of Kiaer's work two simultaneous questions: '"What am I looking at?" and "What am I imagining?"'[4] It is this space of oscillation, or rather the space of the oscillations between things and meanings, that one needs to occupy in order to discuss the model as a concept *and* as an object, and to dismiss the idea that the model is only an object. In fact, the *modelness* of the object we often call 'model' does not reside in the object itself. This argument can be sustained only if its unfolding takes a circuitous journey, itself producing a series of oscillations around and between different occurrences, uses and meanings of what we call *model*.

The model is suspended between conception and realisation – both its own realisation and the realisation of the work which it informs or refers to. Transitory, provisional, aimed to inform the 'building' (that something which the model is not), the architectural model remains suspended in the possibilities of its realisation. Both a model *of* and/or a model *for*, if model is not relational it is not a model (it does not model). In architecture and outside architecture, the model is something (or someone) to imitate, copy, follow in the making of something else; yet, it is not a set of instructions. The model gives itself to us as a *mute object*. What to do with it, how to use it, what to draw from it, that is left to us. This is the first important ambiguity or multi-valency of the

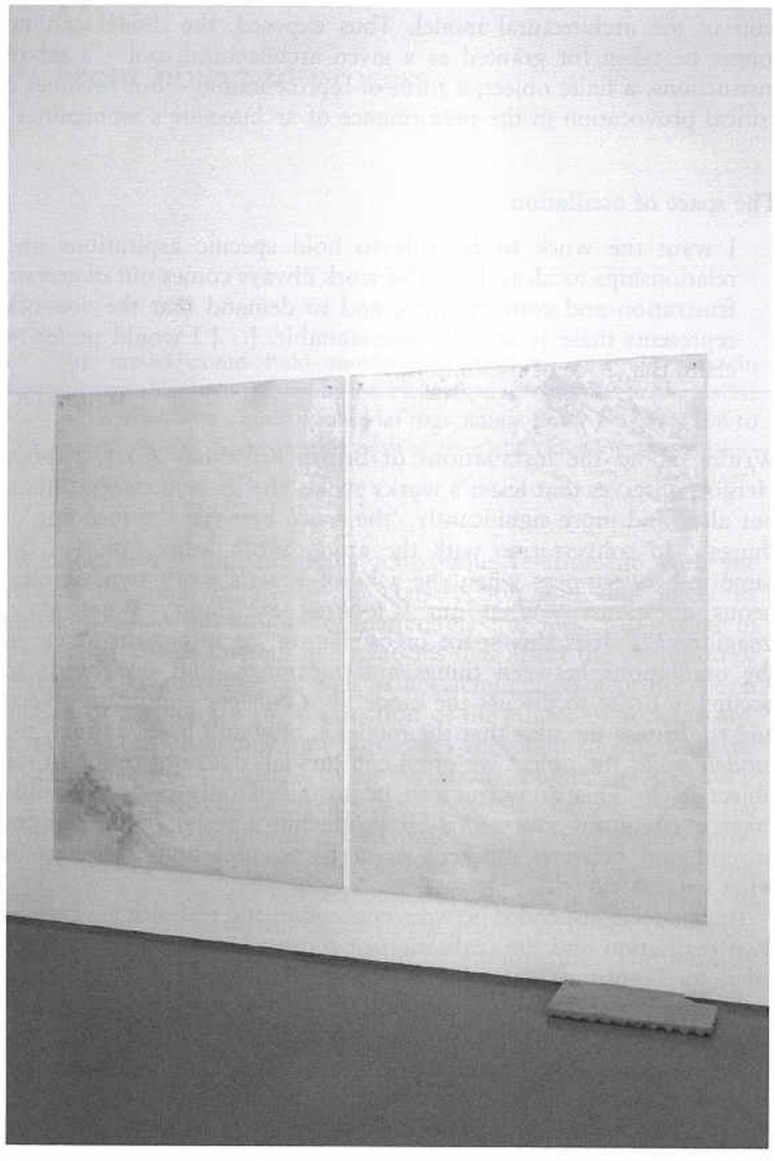

Figure 5.1 Ian Kiaer. *Tooth House: wall.* 2014. Installation at the Henry Moore Institute, Leeds, 2014. Photo by Jerry Hardman-Jones. Courtesy of the artist and the Henry Moore Institute.

model.[5] As an object, the model is a presentation of something that is not necessarily there, in front of us. As a mute object, the model can keep its referentiality hidden or inactive. The model sits, it is there, it is given to us; or we take it (as in 'to take something as a model'). The model, that is, does not act as model until it starts to activate a set of relations which are outside of itself. The object that is a model, then, is a model (becomes a model), only when these relations are activated, unfolded and open.

The modelness of the model is not in the object itself but in what it does. Anything can be a model or can be taken as a model. What makes the model is not the object itself, but the actions that both precede it and follow it. The selection and condensation of a series of characters in the model is usually a significant reduction to the essence of that which we want emphasised, transmitted, legible and repeatable. Yet, what is repeatable in the model (and of the model) can be repeated in other forms, scales, times, or spaces: the model is *translative*. The modelness of the model is not in the object-model, but in the characters that it transmits and transfers. The process of the model (the model in process, or modelling) is the setting in motion of potentialities: 'do this', 'make this', 'achieve this'. But what the model gives us is potentially endless, as endless variations can be produced from it.

The model is also temporary and ephemeral – *transitory*. Informative, it stands for and informs the making of another object, but once its purpose is fulfilled, the object-model no longer needs to be there. If it is there, we could argue that it is no longer a model, as it is deactivated, loses its modelness and lies dormant. The model is reactivated every time there is a relational engagement with the objects that it has enabled or informed the production of. The ex-post reactivation (re)engages the model in a different way. The form of production that occurs here is an understanding, a process of discovery that engages with the already produced outcome of the model, and produces further knowledge. We can argue that the first set of relations that surround the model engage with an object before it is produced. The model guides its making but does not prescribe the nature and the 'hows' of its making. The model is before the object and informs it. The second set of relations follow the production of the work and enable other agents to engage with the final work in a way that is mediated and perhaps explanatory and informative, at times even didactic. The model is there, it is an object (or a series or a combination of objects), but it is not its physical presence that makes it a model. What makes it a model is the set of relations that it

condenses or triggers, and the very relationship between its before and its after. Translative and transitory, the model is *temporal*. It is therefore possible to argue that the modelness of the model does not need to be in an object. It can be there, but 'it' can be a model even if it is not there, or no longer there, and its characters have been somehow received and incorporated in the work. In painting, the human model that poses for a portrait, or for a life drawing session, does indeed pose *as* a model. The posing, the temporality of the model(ness) is another aspect of the model.

Even more explicitly in architecture, the model is a *transitory* object. Once the building it represents is built, the model loses its informational value and becomes informative only (descriptive). The shift from the *in*-formational (the potentiality to produce a form) to the orientational reveals the transitory presence of the model, as it is destined to disappear, to go away: it is there only to inform the production of an 'object', of something else. Then the model does go away. In the case of a painting or a sculpture, the model literally goes away, having posed it leaves, and what remains is the portrait. With a building, the model *in*-forms the construction of the building, and once the building is built the model becomes redundant. But does it? And when and how does the model lose its modelness? Liberated from the one-to-one relation with the object that it has enabled or informed, the model can then reengage in relations that play on scale and repetition. Still charged with the potentiality of producing otherness, the model can be never-finished and remains active also when it appears complete. What are its possible 'other' operations then, or, its operations that produce otherness?

The model can play with disembodied *scales*: inside and around models we can fly, crawl, defy gravity, place ourselves in impossible positions, and we could do it even before three-dimensional or four-dimensional digital animations and simulations became possible. The adjustments, the reductions, the unsettling performed by the model, and the possible games of scalarity in relation to a fictionalised body – of the observer, inhabitant, designer, builder – instigate a process that works, rather, with the mind, possibly and ultimately even a disembodied one, if the purpose becomes to engage with models of the impossible, or models of physical impossibilities.

The model, as I have defined it so far, is more than a medium of representation that enables the architect to prefigure and control the space and the form of the project. But was it ever? Relational, translative and transitory, the model is also *indexical*, as its role and meaning vary in relation to its context, use and purpose. How can

we then reconsider and understand the highly detailed, painted and decorated architectural models that Leon Battista Alberti had warned architects against, that other Renaissance architects had used to lure patrons, and that in the 1980s were rediscovered by post-modern architects who widely (and wildly) used and displayed them? In the mid-1980s Piera Scuri had observed that

> the model is perhaps the most ambiguous and most deceptive medium of representation, precisely because it is an object. And how can the model perform this function of object that represents a space? Indeed, by showing its representation function, that is, by keeping, even in its form, that unfinishedness that characterises it.[6]

If the model is characterised by unfinishedness, then how to explain the highly detailed and colourful presentation models reintroduced by post-modern architecture? Scuri is uncompromisingly clear about this, observing that

> [t]he fundamental difference ... between an architectural model and a miniature lies in the relationship with reality. While the model, representing reality, brings us closer to it, the miniature replaces reality with a dimension cleaned of the frightening features of reality.[7]

The model then becomes a *miniature*, not because it is a representation reduced in size of an original (the idea, the project) to inform another original (the building, the product), but because it becomes an object in its own right. Its relationship with architecture is therefore, in some way, broken, as it no longer refers to something else, but fulfils its own meaning with its very presence. Such a model is no longer a model, and it becomes a miniature, that is, an object which instead of representing an architectural space replaces it. Here the model loses its relationality (indexicality). Closed, the miniature does not refer to an architecture, but offers only a partial and insufficient representation of it. Far from being defined by scale, as an object reduced in size that represents another and larger object, the miniature is an object that offers only a partial and insufficient representation. Defined by its loss of referentiality, autonomous and closed, the miniature does not relate, and it only partially represents.

In order to redefine the model, in architecture and outside architecture, it is necessary to examine its nature beyond the object and beyond its representational role. Ian Kiaer's installations are relevant to this

argument not because they use numerous and explicit architectural references and models, but because they explore in many different and subtle ways the relations that are at work within and around the spaces of architecture, and these include architecture's discursive space. Kiaer's 'models', as he occasionally but reluctantly refers to his spatial installations, both evoke and inhabit architectures, with one advantage over the prescriptive model: they are not pre-figurations, they do not anticipate, they do not inform. Spatial critiques, they critically extend the architectures they address, in a way reactivating them. Rarefied, they explode the completeness and literally expand the compactness of both the project (unbuilt) and the building, as well as of the text as a form of written architecture. While conventional models of architecture – usually section models or open models – show how architecture is constructed and the relations of its structures, spaces and skins, Kiaer's models show how architectural ideas, texts and buildings can be deconstructed, that is, taken apart by a form of inhabitation that is both physical and intellectual. Kiaer's installations occasionally include partial renditions of works of architecture, with models of projects by, for instance, Bruno Taut, Paul Scheerbart, Frederick Kiesler. Yet, his installations are not models because they include architectural models. Reusing and repurposing discarded materials, they model and redefine spaces through the suggestions of their materiality and the poignancy of their titles. The fragile and yet potent relationship between their cultural and architectural references, the appropriated and resignified materials – discarded objects, architectural references, debris and repurposed fragments – and their precarious occupation of space, enables them to be *models*. They model something that remains always open and incomplete, awaiting forms of intellectual as well as very bodily occupation. Neither close self-referential miniatures, nor unfinished[8] models suspended in the tension between an ex-ante idea and an ex-post finished object, Kiaer's works intentionally evoke, lay out and perform the incomplete. Complete in being incomplete, they occupy the dynamic and precarious relation established between idea, object and word. It is in holding these together in tensioned states, and in engaging the presence of the embedded observer, that they 'model'.

The fleeting model: from drawing to model

In 'Translations from Drawing to Building' (1986),[9] his seminal investigation of the nature of the limitations and possibilities of the architectural drawing in relation to the building of architecture, Robin Evans uses the

famous passage from Pliny the Elder's *Natural History*[10] on the origin of painting to interrogate the origin of architecture. Pliny's account traces the origin of drawing in the production of the portrait of the beloved subject before his disappearance (the warrior leaving for battle). Kora of Sicyon, daughter of the potter Boutades, draws her lover's profile by tracing the outline of his shadow cast on a flat surface. He leaves and the drawing will remain as both a memento of his presence and a record of his absence. He is the fleeting model, doubled by the equally fleeting presence of the cast shadow. He poses. As he poses, and only while he does, he is the model. His modelness is temporal and temporary. He is the fleeting moment, and so is his momentary shadow, which the contour line of the tracing attempts to fix. Yet, it too is temporary and transitory. For Evans, architects are 'never working directly with the object of their thought, always working at it through some intervening medium, almost always the drawing',[11] and there is a crucial difference 'between the object of drawing as practised in architecture and drawing as practised traditionally in Western art'.[12] Evans discusses two different painterly interpretations of Pliny's passage in relation to the origins of architecture and to architectural representation, to expose the duality of drawing in the production of architecture.[13] For Evans, architecture 'is brought into existence through drawing. The subject-matter (the building or space) will exist *after* the drawing, not before it'.[14] He calls this the 'principle of *reversed directionality* in drawing' which he explains as follows:

> Drawing in architecture is not done after nature, but prior to construction; it is not so much produced by reflection on the reality outside the drawing, as *productive of a reality* that will end up outside the drawing.[15]

Evans is concerned with 'the gap between drawing and building'.[16] Opening up this crucial space, he claims for representation a crucial role of critical investigation and reinvention, and suggests a possible rewriting of architectural history 'that would have little to do with either style or signification, concentrating instead on the manner of working'. He explains that in it

> the drawing would be considered not so much a work of art or a truck for pushing ideas from place to place, but as the locale of subterfuges and evasions that one way or another get round the enormous weight of convention that has always been architecture's greatest security and at the same time its greatest liability.[17]

The question that remains unaddressed here is how the model might be rethought within this context, what space it occupies and how it works. A shift of attention from Evans's argument on drawing to the role of the model in the making of the building, produces a further pause in the narrative, and further problematises the relationship that interests Evans. If the model too occupies the translation of which Evans writes, the model is, and needs to be, by definition, dynamic – transitory, translative, translational, trans-scalar. The model of Pliny's account and Evans's interest, that is, the sitter for the shadow drawing, is only a momentary presence. Not really a sitter, in fact, the lover's profile is modelled because his is a fleeting presence: he disappears, while the tracing of his shadow remains, present and imperfect – in the sense that it is both approximate and bi-dimensional. Disappearing or self-destroying, the model does not need to be present for the production of the final work, and the tracing of the cast shadow is only a preparatory medium. What is the final work then, and how is it produced? Pliny's original narrative in fact is not about the origin of drawing, but about the origin of 'modelling',[18] and then addresses a series of other media – representations, or translations as Evans would have it – that never aim to substitute an original. In Pliny's account the girl who traces the contour of the shadow is the daughter of the potter Boutades, and her bi-dimensional tracing is instrumental to inform the production of a three-dimensional portrait, a clay model to be produced by her father. The two-dimensional tracing is returned to the third dimension to produce a mould, which will then produce a cast, as the final object to be displayed in the Nymphaeum at Corinth for its impressive likeness with the original subject. '[F]rom this invention modellers first had their name of "*plastæ*"',[19] Pliny explains. What his passage reveals is the mediation role of the model, and the model itself as a multiple and shifty object that oscillates around and between its different phases and meanings, from sitter to shadow, to tracing, mould, and cast, in a process that significantly moves from the three-dimensional to return, in time, to the three-dimensional – trans-formed.

The mediating model: 'measured and proportioned to the finished building'

The practice of modelling in architecture is revealing. The model exposes the invisibles of the building, those structural, functional, material, circulatory inner relations that then become invisible in the finished building. The workings of the structure and the technological innards are exposed, and so are spaces, lighting, proportions. Yet, the model

reveals also other invisibles: those relations of power, influence and competence that are articulated in the making of architecture, as well as the complex and often ambiguous relations of authorship in architecture. The systematic production of detailed architectural models in wood was well established in the Renaissance. The Renaissance model is a miniature building, a selling and marketing device that both engages and entices its patron. It looks like the building in advance of its making, and it needs to be as realistic and detailed and as impressive as possible, to attract the approval and the admiration, and indeed the funding, from the client/patron. In a way, what the model anticipates is not only the building but also its lure and lustre. Around the production of this transitional object the complex relationship between architect and patron develops and unfolds as a hybrid and collaborative authorship. This is the time in the history of western architecture when the figure of the architect as an independent intellectual is still new, and indeed in the making. It is a time when the architect is not necessarily or not only a specialist, but also a humanist, a multi-talented and poly-engaged figure of intellectual, who designs, draws, writes, theorises and instructs, but, as Leon Battista Alberti remarked, does not build. In the multiplicity of this complex role, a space opens up for the patron, as both a client and an intellectual, to intervene in the design process not only as an enabler, a sponsor and a judge, but as a direct and very active participant in the design process. The model becomes the site of mediation of these encounters and collaborations. Usually large and richly crafted in wood, the Renaissance model is employed at a time when the representation of architecture is being redefined in drawing – with the codification of perspective, as well as in writing – with the proliferation of treatises that follow the rediscovery, publication, illustration and translation of Vitruvius's *De Architectura*.[20] What is being systematised at that time is also the definition of the role of the architect as the intellectual who produces the project, rather than the fabricator of the building. Here, too, the use of model becomes the most explicit transitional object, as it enables the engagement, no longer only financial and programmatic, but also spatial and stylistic, of the client.

Henry A. Millon has observed that

> Brunelleschi, possibly in order to maintain control of the work, and Alberti, in order to guarantee that the eye would not be seduced by colours and by decorative details, had both affirmed that models ought to be bare and show only the layout of the main elements.[21]

Filippo Brunelleschi's models are 'incomplete' and without decoration, as their key purpose is to illustrate the relationships between elements. They represent the building, simulate its functioning and inform the builders, but do not reveal everything. They keep the secret, they do not explain everything. Instead '[f]or Alberti the architectural model was not a means to present an idea to a client, but a tool for the study and the realisation of the idea'.[22] For Leon Battista Alberti the making of and working through the model is fully integrated in the design process, and it is only through the model that the idea or '*disegno*' can be realised. The process from idea to building as expression of the idea moves through drawings and models, and models should not have decorations, but should show their parts in a clear and simple manner.[23] Neither the simple representation of an idea already fully developed in the mind, nor the guide for the construction of the building as it had been for Brunelleschi, for Alberti the model must perform both these tasks, and more. The model is used to gain support from the patron and to serve as a guide for the building, but for Alberti its crucial role is to be 'part of the design process, connected to the various steps of the design development drawings, rather than a component of the making of a building'.[24] As such, for Alberti the architectural model needs to remain incomplete and indeterminate, because, unlike a sculpture or a painting, it finds its completion in another object, the building. The architect thinks, draws, informs the modelling and the construction of the building, but he does not build: the architect is the designer. Transitory, transitional and translative, the architectural model is for Alberti both a design tool and a mediation device. The Renaissance model is both a presentation model and a study model. A testing device, the working model is often adjusted as the construction of the building progresses; it remains in the making, as it is never the intended final product of the project of architecture. The event of the presentation of the model to the patron then becomes a performance in which the model is not an object to display and celebrate, but a device to involve the client in the design process. Architectural authorship is complicated and articulated in and around the model. The shift in conception from Brunelleschi to Alberti is a move from the idea of the model as an object that the architect produces to convey information (to the client or to the builder), to the notion of the model as a process and as a site of negotiation that is part of the design process. The model thus conceived is part of the design process rather than of the building of architecture. This move is a coherent and integral part of Alberti's strategy to 'intellectualise' architecture, which will crucially inform later architectural production, to the present of digital modelling.[25] It is in this

intellectual sense, as part of a *disegno* of architecture that is not drawing nor design but the whole project, that Alberti defends the clean and plain model without ornamentation and colour.

In Francesco di Giorgio Martini's *Trattato di architettura civile e militare*, the male human body is the model that regulates not only architectural proportions, as in the Vitruvian man and its Renaissance interpretations, but also the layout and organisation of the city. While some of Francesco di Giorgio's drawings propose the geometry of the male human body as a modular system for the organisation of the plan of the building, when it comes to the analogy with the city, the figure of the body is used to organise the whole city: defensive walls and barbicans outline the body from elbows to feet, with the main tower turned into a voluminous headpiece; the main square is centred on the navel and spans across the abdomen, while the main temple, adjacent to it, sits on the man's chest. The body here is not a model for forms and proportions, but for distributions, connections and functioning at urban scale, and the resemblance shifts from how the body and the buildings look, to how the body and the city (the body of the city) work. The shift of the analogy of body-architecture-city from the formal to the functional and the performative is pushed even further and more explicitly articulated by Antonio Averlino, il Filarete (ca. 1400–1465), in his *Trattato d'architettura* (1460–1465). Like other of his contemporary treatise writers,

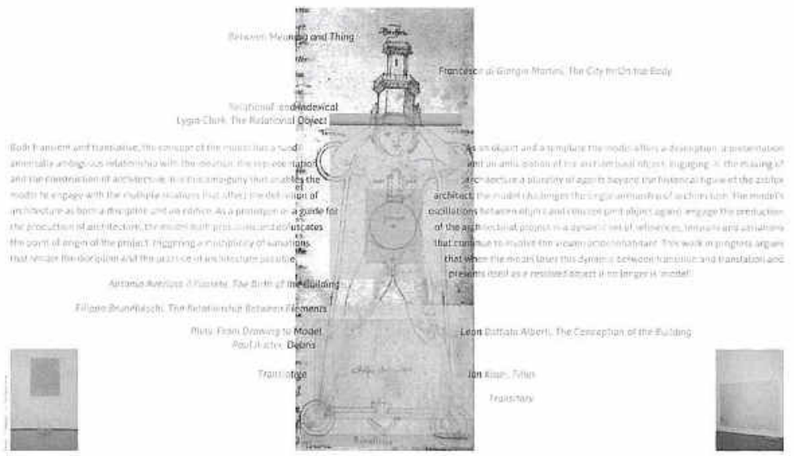

Figure 5.2 Teresa Stoppani and George Themistokleous. *Teresa Stoppani. The Model: Material and Critical* (detail), 2015. Poster design. Courtesy of the authors.

Filarete supports the role of accurate to-scale wooden models as offerings to the patron in order to gain approval for the project. He emphasises the importance of the model in the design process, attributing to it a significant role of mediation and encounter, with the architect and the client becoming, together, the parents of the building. In his description, the design process is a gestation that sees the active participation of the client in the role of the father of the building. The model is not used to represent the process to the patron, but to involve him in the process of translation from the design – conception – to the model – defined as the birth of the building – to its construction – as nursing and weaning – of the building.

> [T]he building is similar to man ... it needs to be conceived and then born. [...] The mother delivers her child at the term of nine months or sometimes seven; by care and in good order she makes him grow. [...] Since no one can conceive himself without a woman, by another simile, the building cannot be conceived by one man alone. As it cannot be done without a woman, so he who wishes to build needs an architect. He conceives it with him and then the architect carries it. When the architect has given birth he becomes the mother of the building. Before the architect gives birth, he should dream about his conception, think about it, and turn it over in his mind in many ways for seven to nine months. [...] When he has pondered and considered and thought in many ways, he ought to choose (according to his own desires), what seems most suitable and most beautiful to him according to the terms of the patron. When this birth is accomplished, that is, when he has made, in wood, a small relief design of its final form, measured and proportioned to the finished building, then he shows it to the father.[26]

Diana Agrest has critically analysed Filarete's passage in her study of gendered relationships in architecture,[27] observing how the co-involvement of the architect and the patron in the production of the building can be resolved only with the transgender transformation of the architect, who needs to become woman, mother and nurse in the design process. 'If the building is a living man, someone must give birth to it – and here the architect appears in the role of the mother. The figure of the architect becomes feminised in the act of procreation'.[28] What the architect gives birth to after the gestation period of the design process is not the building, but a model of the building, and the completion of the building is then enabled by the collaboration of architect and client. The series of twists and gender

shifts in Filarete's account are important, as they articulate and extend Alberti's argument in favour of a specialisation of the role of the architect (here mother and then nurse). Between the project and the building, and between the architect and the patron, is the model, as a post-embryonic site of potentiality in which architecture is still *in fieri*, and still needs the architect, now reinterpreted in his nursing role. Between genetics and cultural environment, the building comes to completion only through the authorial collaboration of architect and patron. The role of the model in the process shows that architecture is relational not only in the form of the finished building, but also in the very process of production before the building.

The invisible model: from model to type

In the Renaissance the model can become, also, invisible. The model's role in the transmission of information about existing buildings, as well as instructions for the construction or replication of buildings, is regularly complemented by the written word and by its numerical counterpart. Mario Carpo has pointed out the importance of written descriptions and instructions in the transmission of artistic models in the Middle Ages and through the Renaissance, arguing that words and numerical measurements enabled accurate information to travel for the remote imitation and reproduction of a building, while hand drawn images remained approximate and inaccurate, difficult to reproduce and easily subject to alterations: 'as everyone knew at the time, drawings could not, and should not be relied upon. ... Visual forms were to be described by words, not by pictures'.[29] Carpo observes that medieval models

> were neither visual nor visualized. Instead, they were verbal, and oralized. Medieval artisans, builders, and even painters, were almost always working from models that they had never seen. They imitated models that they knew only through hearsay. [...] The written word was much more easily transmissible than pictures: a safer, cheaper, more reliable medium to convey, transmit, disseminate and, so to speak, broad-cast information in space and time. [...] The advantages of the alphabet over other competing media were staggering, and unquestionable.[30]

It is because of the lack of accuracy in the replication of hand drawings that Alberti had never wanted to illustrate his architectural treatise, and

therefore his 'architectural theories were to travel in space and time encapsulated in a digital file: *verbis solis*'.[31] Carpo's argument remains concerned with verbal, numerical and bi-dimensional representations of three-dimensional architecture, and does not address the role of the model as an architectural medium. The question remains here of what the model is and what role it plays in the translation from script to building, as well as from original building to be imitated, to script, to building that imitates. Produced on the basis of written descriptions and measurements, the model is constructed (or misconstrued) as a 'replica' of a remote or unknown 'original'. As the intermediary (medium), the model translates the information received from the text about a three-dimensional object (building), to another three-dimensional object (building). Two models are at play here: the model *building* and the model *object* that conveys (but also selects and interprets) the information received from the script. In this transfer process the transitory nature of the model invests both the original building (taken as model) and its reproduction (model object). This opens up the potentiality of the project. Alexander Nagel and Christopher Wood have called this the process of substitution.[32] In *Anachronic Renaissance* they do not discuss the miniaturised *maquette* or mock-up of a building, but explore instead the idea that 'a real, nonminiature building can also model an idea about how buildings are made'.[33] The replica – even and especially the replica that has never witnessed the original, and is not its direct copy – both multiplies and dismisses the original. Sometimes the replica remains connected to the (mythical) original through its location, which it occupies or marks; other times it becomes a movable resignifier of place that carries its symbolic connotation to a new location, thus investing it with a new (old) meaning. The 'substitutable object' can thus be replaced by repairs, restorations and reconstructions. Still, it carries the idea of architectural continuity, acting sometimes as a stabiliser of architectural forms and of their materiality. What is ultimately and significantly retained is the identity of the original building. The model object both is and is not the original object. Crucially, it retains the building's 'identity through all the additions, improvements, repairs, and even devastations that it was imagined to have experienced'.[34] In particular, Nagel and Wood discuss the problem of the replication of the rotunda and edicule of the Holy Sepulchre across Europe, observing that

> [w]ithout the skills or technology to fix the authentic form in analogue depictions, travellers measured. In effect, they digitized the edicule so they could carry it home as a list of numbers. The numbers that preserved the dimensions of the tomb and the edicule were used as the basis for replicas in true scale or in true proportions.[35]

We have here the case of an ex post model that reproduces the supposed original on the basis of a set of received numerical instructions.[36] The script-informed three-dimensional replica reinvents the original thanks to its measurements. It is essentially a retroactive and translatable model that both produces and invites further inventions. This is the unstable model. For Nagel and Wood, 'The Holy Sepulchre models and the practices surrounding them opened up a whole gamut of possible relationships between original and replica'.[37] Therefore, 'the architectural model was not just a representation of a particular building, or even an ideal building type, but rather a representation of the substitutional theory itself, a theory that adjusted the real history of building'.[38] Identity and measurements both frame and justify the space of invention. This is the oscillating model. The fact that its 'original' is almost always inaccessible makes it much closer to the idea of Type as it will be defined in the Enlightenment.

That the modelness of the model does not reside in the object-model becomes evident and is codified in the architectural discourse after the Enlightenment. With the crisis of the classical languages, the discourse on imitation in architecture moves towards a redefinition of the 'model' in relation to the idea of 'type'. It is by introducing a clear distinction between 'model' and 'type' that Antoine-Chrysostome Quatremère de Quincy is able to address the ambiguity and the complexity of the role of the model in architecture. Quatremère is interested in the metaphysical – the essence of architecture – and in the theoretical – the principles of architecture. By distributing the meaning of 'model' across two different terms, and thanks to their articulation, he is able to unfold the idea of model in architecture, and through this to address the issue of the origin and imitation in architecture. In his *Dictionary of Architecture* for the *Encyclopedie Methodique* (1825), in the entry on 'Type', he explains the difference between Type and Model: 'Type comes from the Greek word *typos* . . . which expresses . . . what one means by model, matrix, mould, figure in relief or in bas relief.' Originally and etymologically the meanings of Type and the Model overlap and coincide. Quatremère crucially introduces their differentiation in architecture:

> The word Type presents less the image of a thing to copy or imitate completely than the idea of an element which ought itself to serve as a rule for the model. [. . .] The Model, as understood

> in the practical execution of the art, is an object that should be repeated as it is; the Type, on the contrary, is an object after which each [artist] can conceive works of art with no resemblance one to another at all. All is precise and given in the Model; all is more or less vague in the Type.[39]

For Quatremère de Quincy 'the art of regular building is born of a pre-existing source. Everything must have an antecedent. Nothing, in any genre, comes from nothing, and this must apply to all the inventions of man'.[40] Architecture 'copies' Architecture, that is, it is not a copy of nature, but it performs an internalised process in which architecture imitates architecture. The model becomes the object and the type is the idea, and while the model enables the production of pedantic repetitions and remains essentially a static object of imitation, the type as idea instigates impossible imitations and the invention of the new. Without a prescribed and prescripted object to imitate, architecture can 'conceive works' (plural), that is, it can intrinsically generate variation. Thanks to the vagueness of the type, 'conception' (echoing Filarete's story) is possible. But Quatremère de Quincy goes further, identifying Type as an 'elementary principle' and as 'a sort of nucleus about which are collected, and to which are co-ordinated in time, the developments and variations of forms to which the object is susceptible'.[41] The Type, therefore, is not a Platonic idea, fixed and imitable, but an always already produced one. A locus of tensions and accumulation that, because it attracts change and variation, is itself in a continuous mode of change, Type is dynamic, it both triggers and is made of multiple and changing relations. Static, the model allows only for a binary relation of imitation, in which change is not possible. This distinction has two fundamental effects on the design process and on design as a process. Architecture thus redefined in dynamic terms is a process of invention and as such it enables and produces change, i.e., the languages of architecture can change. Furthermore, not only architecture can change, but architecture is change. With the distinction between Model and Type, Quatremère de Quincy de facto dissolves, in one move, the myth of the primitive hut and of the origin of the discipline, and the primacy of imitation in architecture, the legitimacy and exclusivity of classical languages and styles. More importantly, he dissolves the univocality of the origin of architecture, as it is reconceived here as always already multiple. Quatremère stresses that the type is not the primitive hut, the tent or the cave: those were models.

The type was in them – 'in the case of timber construction that kind of combination to which the use of wood is susceptible, once adopted in each country'. The type is therefore the 'process modified by circumstance'.[42] While 'Model, the complete thing, which is bound to a formal resemblance' is the 'material idea' and a 'positive model', the Type is 'the original reason of the thing, which can neither command nor furnish the motif or the means of an exact likeness', it is the 'imaginative model'. Quatremère can thus argue that architecture does not copy nature but it is always already imitated nature. Georges Teyssot has observed that the double nature of architecture is expressed in the very relationship between 'module' and 'model'.

> The module remains internal to architecture, to which it imposes its rule. In such sense the building is *autonomous*. Yet, proportions analogically refer to the model, which imposes its rule from the *outside*. Therefore, the building is also *isonomous*. Theoretical difficulties have always been related to the excess that the model adds to the module.[43]

> That surplus, which refers to the origin, that is, to the originariness of the model, constitutes the double nature of architecture: autonomy and isonomy. Autonomy is funded only on excess, that is, with an external reference and an outward projection toward the locus of the model and of its origin. The model can be intended in a wider sense as a referent: Nature, Antiquity. This is a double mimesis, and it is already present in Alberti, according to whom, while on the one hand, the building must be postulated as an *analogon* of Nature, Nature can also be said to be the *analogon* of the architectural project, thus establishing a reciprocal relationship between the world and architecture.[44]

For Teyssot, Quatremère de Quincy breaks the established closed loop of the imitation of Nature through the mediation of the Ancients. 'What can break that circle is the emergence of a dynamic sense of history within the concept of the origin'.[45] If Nature can be imitated only by imitating Antiquity, the model is imitated only because the model has already been built. But how was the model built? It is the introduction of the idea of Type as dynamic and formless model that opens up the loop. The split of the model into 'object-model' and 'idea-model' – Quatremère de Quincy's Type – as a sort of genetic code that informs the project, opens the possibility

for vagueness within a system of relations, and gives architecture a mediated relationship with Nature. This is a claim for intellectual independence and autonomy of the discipline.

The conceptual model: from model to modelling

Modernist architectural models range from small scale rough *maquettes* to one-to-one mock-ups of detailed parts of structures and their technical solutions. There are some exceptions though, where the model becomes modelling, a never-ending process rather than an object, as the model is shaped or accreted from the inside, growing around its maker and bringing the thing and its model to coincide. Such is the case of Frederick Kiesler's never ending shaping and moulding of the model of his *Endless House* (from 1922 onwards), and, in different situations and contexts, of Kurt Schwitter's constructions of the *Merzbau* as a parasitical structure to a conventional architecture (the first one in the artist's home in Hanover, 1923–1933). In these cases, projects that look like models are also at the same time the object itself, both space and object, as well as projects in the making. The ambiguity they display undoes the objectness of the model and exposes its dynamic nature once and for all. Later, the 1980s presentation models and mock-ups of postmodernist architecture will congeal projects and processes in 'miniatures', self-referential objects evocative of the image of architecture but not of its workings, and representing only themselves. Yet, in the 1970s Peter Eisenman's House projects had returned the model to the architectural debate as a critical tool, as a site of both design invention and architectural critique. As Eisenman's work questioned the integrity of the architectural object, the model became a three-dimensional diagram of its process. In a retrospective study of Eisenman's projects, Anthony Vidler asks, 'What is a diagram anyway?',[46] and the same rhetorical question could be asked of his models. What are Eisenman's models anyway? In the evolution of his work toward the diagrammatic, a critical use of models contributes to the dismissal of the figurative role of architectural representation. Like the drawing becoming diagram – the beginning of which is present in Eisenman's early analytical works, from Piranesi's *Campo Marzio* to Andrea Palladio's churches and palaces, from Luigi Moretti's *Casa del Girasole* to Giuseppe Terragni's *Casa del Fascio*, to the decomposition of Venetian façades[47] – the use of the model in Eisenman's House projects aims to shift the representation from the form to the performance of architecture. The

drawing of architecture that Eisenman uses for his analyses of architectures as well as for the design of his houses is the axonometric 'view'; this is often a see-through view that allows for the reading of both exact dimensions and axial and spatial relations. Yet, when the models of Eisenman's 1970s House projects model not the object, but its representation, things become more complex and engaging – and literally so: the models engage the observer in an active process of deconstruction and reconstruction of the project, not as a viewer but as the intellectual inhabitant of the spaces.

Quatremère de Quincy suggested that 'the arts of *disegno*, of which architecture is one, should be considered as languages, [as in them] the ambit of the figure is connected to the word'. On this point Georges Teyssot clarifies that 'architecture is *supported* by language. Yet, this does not mean that architecture *is* a language.'[48] Peter Eisenman's oeuvre seems to fully embrace this position. His houses experiment with the possible (dis)articulations of the 3x3 square of Palladian memory and with the 3x3x3 cube. Together with axonometric drawings and diagrams, models are used as tools to both represent and enable variations: fractured, the cube is eroded and differently decomposed in volumes and voids. With *Fin d'Ou T Hou S* (1983), the project that closes the House series, Eisenman claims for his designs 'the status of writing'.[49] But this writing is not descriptive or prescriptive of the object; narratives instead are superimposed on and interfere with the object. Robin Evans is critical of Eisenman's claimed reference to language, and points out that Eisenman's 'printed word, while seeming to provide an entrance to the hermetic objects he creates, works in quite the reverse direction: it is the words that make the objects they describe hermetic'.[50] For Evans, Eisenman uses writing as 'the smokescreen, the bluff, the dodge',[51] to protect his projects and 'to establish the credibility of his work'.[52] Yet, the relation between the project and writing is a generative one, and Evans must acknowledge that Eisenman's linguistic claims produce an architecture that 'borrow[s] the most astounding characteristic of writing: the ability to bring into being a world outside of itself in terms of a restricted set of relations entirely within itself'.[53] Evans remains critical of Eisenman's pseudo-linguistic operations,[54] but his observation about them allows for further considerations, as the generative relation to writing is not restricted to design, but it invests also forms of architectural representation, and in particular the diagram and the model. In Eisenman's work, diagram and model are not limited to representing architecture or the process of its

making, but become the visual and material expression of a critique of architecture that is paralleled by Eisenman's writings, but is fully developed only through his projects. Here the model, from a representational and analytic tool, becomes both conceptual and critical.

Eisenman's *House X* (1975) unlocks this way of thinking and making the model in architecture, marking with it the beginning of the end of the House series. The series of models produced for House X range from conventional scale models matching the building's orthogonal projection drawings (used as a set of instructions), to experimental models that address the very language of architecture. The configurations of House X derive from variations on the juxtaposition of four squares/cubes, variously articulated in a cube to define an inner void at its core. 'In House X, the center is nothing', Eisenman writes. 'In an attempt to produce a conceptual distance between man and object, House X is nonvertebrate; to this extent, it is nonmimetic'.[55] One of the early models for the house includes information on the site, and the scale is

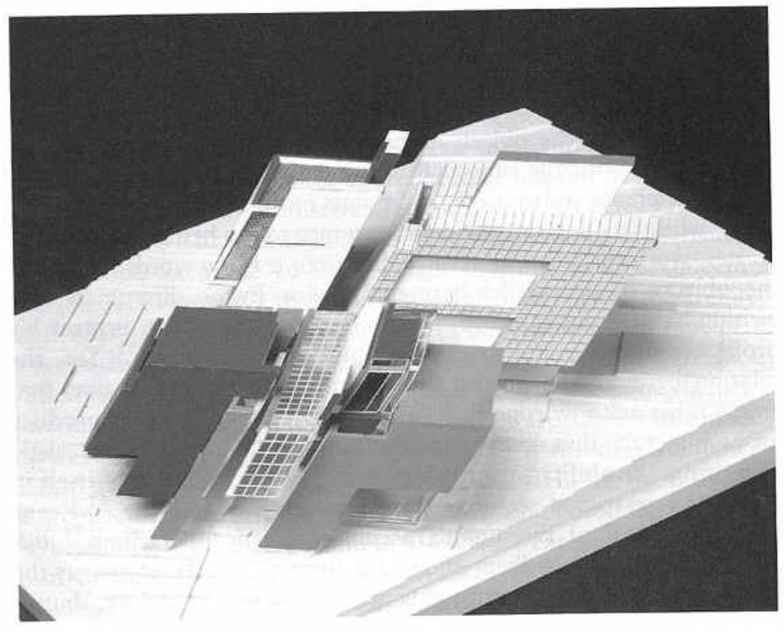

Figure 5.3 Peter Eisenman. *House X*, Bloomfield Hills, Michigan (unbuilt), 1975. Axonometric model. Courtesy of the architect.

provided by the inclusion of human figures and model cars. After eight iterations of the design, the client walks away from the scheme and the commission. Orphaned, the project is no longer a house for a client, but the house for an experiment in architecture. Freed, the model changes its role and changes itself too: it no longer is a model of architecture, or the model of a building, but a model of a project for architecture and its drawings. At some point the model models the axonometric drawing of the house, thus returning the three-dimensional to the bi-dimensional.[56] A provocation, the axonometric model unsettles the viewer because it uses modelling not to refer to something else, which it informs, but to inform itself. It is the model of a discourse on architecture done within architecture and through architecture.

What is this model that is not part of the design process, and yet is not a representation? It lacks the capacity to allude and impress, or even to produce legibility for a non-specialist eye; it lacks the agility of a final model that can be handled and interpreted. It is not an imitation – it does not 'look like' the final object it stands for. Indeed, it is a different object. Is it a simulacrum, or still a tool of architecture? Robin Evans has argued that the transformation performed by this axonometric model is not a true transformation, as a true transformation would affect a given, something that is already 'complete in all its parts'.[57] Indeed the axonometric model of House X does not change the design. What it does change though are the relationships between the drawing and the model and between the model and the building, and ultimately the status and the role of the model itself. This object that is not part of the design process and is not a representation of the building-to-be for a client or an audience, is for Evans a conflation with (rather than a transformation of) a given design.[58] But what is the status of this object? The model of the three-dimensional axonometric drawing returns the object to the bi-dimensionality of the drawing; it flattens it onto the surface where architecture is drawn and 'communicated'. Far from liberated from architecture, not a self-referential object that takes life as something other than a representative-instructive-prescriptive-suggestive model, this object is the ultimate act of reappropriation of the building to the discipline of architecture as a conceptual act of design. It also strips the axonometric view of the pervasive commensurability that conventionally makes it an instrumental form of representation. Instead of closing the architectural object, constructing the discontinuity that allows architecture to become architecture, the axonometric model, the object-model in a circularity of the architectural process, never lets go of its transformation. With its diagrammatic

operations, of a drawing that does not represent and a model that is not an object, the project of House X anticipates Eisenman's later use of the diagram in architecture in the sense of its generative potentiality (rather than its representational role). In his critique of Eisenman's works, Evans posits Eisenman's writings as 'other' to his designs, and yet acknowledges a generative relation between the two.[59] While dismissive of Eisenman's claim that his projects are a form of architectural writing, Evans acknowledges the productive relation triggered by House X's axonometric model, as it paradoxically produces a '*decreased* physical presence of the work'.[60] Architecture modelled on writing borrows from writing 'the ability to bring into being a world outside of itself in terms of a restricted set of relations entirely within itself'.[61] The project of architecture is thus intrinsic to the model, which becomes the site for an interrogation of the discipline. Far from mimesis and analogy, the project is liberated from both the imitation of the model body and from the production of the object-model, and the model itself becomes a generative space for architecture. The pre-digital 'modelling' that it performs is an attempt to occupy such non-mimetic non-representational space and attain in it an autonomy of experimentation in architecture that can be *pro*-jected into the future.[62]

Is the axonometric model a relational and non-representational model? As such, can it be a diagram of architecture, even if it 'looks' like a model? In *Diagram Diaries*, borrowing from Gilles Deleuze's definition, Eisenman observes that the diagram is different from structure.

> The classical architectural idea of a diagram exhibits a belief in structure as something that is hierarchical, static, and has a point of origin. Deleuze says that a diagram is a supple set of relationships between forces. It forms unstable physical systems that are in perpetual disequilibrium.[63]

The 'perpetual disequilibrium' that Eisenman aims to achieve is activated by divesting the drawing and the model of their representational qualities, and by suspending them in their oscillation: the drawing informs the model and the model returns information to the drawing, but that does not inform the building. By enforcing limitations to the relationality of the model, Eisenman manages to expose and express its non-figurative nature. To the failure of House X to get built corresponds the crucial development of architecture's self-criticality, in the relationship of both drawing and model to the building. The process of the project triggers variations that could be reactivated by actions of what Eisenman would

call architecture's 'interiority' and 'exteriority'. The unbuilt project remains active, that is, available to be reactivated. Eisenman explains that 'The diagrams of House X (1975–1978) [...] led back not to an origin but to a diffuse condition in space and time which was no longer holistic, hierarchical, or stable, but constantly fluctuating'.[64] House X is a watershed project, an attack on representation[65] with which Eisenman intends to reveal the arbitrary, non-natural mechanism of design, its anti-humanist, anti-classical bias. His work then moves on to further diagrammatic experimentations with the projects of *House 11a* (1978)[66] and *El Even Odd House* (1980) and *Fin d'Ou T Hou S* (1983), which will conclude the series of these experiments. House 11a is used to extend the exploration of the diagrammatic nature of models from the single object to the field, when Eisenman scales, repeats and multiplies it to incorporate it in his *Cannaregio Ovest* project for Venice (1978).[67] An erosion of the cube articulated in interlocking three-dimensional L volumes, half sunken into the ground and half emerged, House 11a questions the ground as well as the 'housness' of the volume, which is accessible and inhabitable only in its buried part. In the Cannaregio Ovest project the house is repeated and distributed across the site according to the grid used by Le Corbusier for his Venice Hospital project on the adjacent area. The 'L' volume of the house is manipulated in different ways: solid or reduced to a space frame, emerged, partly sunk or completely submerged in the shifting ground of an artificial and composite land that both belongs to Venice and remains alien to it.[68] The house is also repeated at three different scales which 'made it impossible to say which was the appropriate, or real, scale. It was also impossible to name the objects and thus relate form to function'.[69] At its normal scale, miniaturised or enlarged, the house occupies the site as an architectural object liberated from a direct connection with human scale and use, and becomes a marker of the ground that addresses the external dimension of its historical, architectural and urban context. The oscillations of modelling affect both the architectural object – the incomplete house-model in its scalar and rotational variations – and the site – interpreted and redesigned as a supple topological surface that combines the physical site of Cannaregio with the footprint of Le Corbusier's project. The ground is an urban and architectural palimpsest bearing traces of the ground making in the lagoon, of the city's historical fabric, and of the grid of Le Corbusier's unbuilt hospital; it is also literally (physically) modelled and plied, adjusted and distorted. It eventually finds its apt representation in a site model where the ground is represented by a gold leaf surface of unfathomable depth, which Eisenman claims to be inspired by alchemic and biographical references to

Giordano Bruno's idea of motion and infinite space and time. Having destabilised the architectural object and the interiority of architecture, in the Cannaregio project Eisenman questions the very stability of the ground, proposing that its 'assumed architectural datum [could] also be questioned',[70] and the surface of the ground could be 'conceptualised as artificial, no longer a Euclidean datum but rather as a topological surface. In this context, any geometric form, whether Euclidean or topological, was seen to be artificial – that is, without any original value'.[71]

The Cannaregio project is a turning point in Eisenman's work, shifting his architecture from the self-referential disciplinary experimentation of the Houses – what he had called the 'interiority' of architecture – to its opening up to relationships with the 'exteriority' of architecture, both real and fictional. Here Eisenman combines the decomposition of the architectural object performed in his Houses with an engagement with the urban context and dimension.[72] The 'non-mimetic', 'non-narrative', and 'non-vertebrate'[73] model of House 11a, the 'intransitive object' that questions and challenges traditional representation, must find correspondence with a site model that is no plane of representation, offers no coordinates, has no fixed viewpoints, offers no sequence of views, and creates 'a condition in which man wanders, inside and in-between, from place to place, conquering an alternative sense of space'.[74] In the Venice project the urban context is reduced to the 'void' of the liquid element that makes the city's ground. Vastly unbuilt, this ground is a deep and dense relational space that plays a crucial role in the definition of a space 'where ground and figure fluctuate between one another'.[75] Later projects by Eisenman Architects will fully develop this approach into a digital modelling of the building with/as site, where the model is not a fixed architectural form but the simulation of a series of variations.

The relational model: debris, titles, words

> The relational object (*objecto relacional*) has no specific nature in itself. . . . [I]t is in the relationship established with the fantasy of the subject that it is defined. The same object may express different meanings for different subjects at different moments. It is the object of the aggressive and passionate affective charge of the subject, in the sense that the subject lends meaning to it; it loses the condition of a simple object in order to be impregnated, a being lived as a living part of the subject. The bodily sensation propitiated by the object is the starting point for phantasmatic production. The relational object has physical specificities. Formally it has no analogy with the body (it is not illustrative), but it creates relationships with it by means of the texture, weight, size, temperature, sound and movement.
>
> Lygia Clark[76]

Brazilian artist and therapist Lygia Clark thus defines the *Relational Object*. In her work the relational object – a mattress, a pillow, a plastic bag filled with air – is very tactile. In a therapeutic context the relational object works (is worked) directly on the body; it is manipulated, touched, rubbed, squeezed, massaged, yet its effects are not only physical. Its physical effects are temporary, but its affects are psychological. Clark's definition of the *Relational Object* can be appropriated to better understand the model as an object and its effect, as well as the relational dynamic affect of modelling as a process. Clark further explains that the relational object 'unstitches (de-compensates) and stitches (compensate). The process goes from the psychological nucleus to the periphery, creating a membrane'.[77] Is it therefore possible to think of the model as an object that acts as such a membrane? Clark's relational objects work directly on the body, but what is important is the delayed affect that their relentless actions on the body produce, the invisible traces that they leave, beyond the body.

Figure 5.4 Ian Kiaer. *Erdrindenbau project: inflatable*, 2006. Installation at the Henry Moore Institute, Leeds, 2014. Photo by Jerry Hardman-Jones. Courtesy of the artist and the Henry Moore Institute.

> I pass the plastic bags filled with water over the body, then the plastic bags filled with air, then blowing hot air through a tube over the whole surface of the body. I place the light pillows around the head, I press the mattress around the body in order to shape it, I also place the 'heavy pillows' around the waist, between the legs, suppressing all the emptinesses of the body. … I cover the body with a woollen blanket … I place my hand like a shell on the person's face …[78]

The manipulations of the body by and with the *Relational Object* expose a form of relationality that is never only visual and representational, nor only tactile, but always already transformative in the way it affects the individual. It is in this way that Ian Kiaer's installations and environments are relational models: not because they massage our bodies or because they are produced to visualise something, but because they immerse us in the web of relationships that the object – the ex-ante object (conventional model) or ex-post object (building) – produce when they are not taken separately and in isolation, but in relation to each other. Kiaer's installations are models because they model the relationships that the presence and placing of the object trigger.

In 2014, *Sensing Spaces. Architecture Reimagined*,[79] an exhibition at the Royal Academy of Arts in London, presented a selection of full-scale fragments of recent architectures. The mock-ups, full-scale 'citations' of architectures – by Diébédo Francis Kéré, Eduardo Souto de Moura, Li Xiaodong, Pezo von Ellrichshausen, Grafton Architects, Kengo Kuma and Álvaro Siza – became free-standing displays. While Ian Kiaer's relational models engage our attention in a myriad of possible/impossible reconstructions – through their incompleteness, dislocation, relocation and critical as well as physical repositioning – *Sensing Spaces* aimed to massage our bodies while numbing our minds. The selected 'pieces' of architecture it displayed were not amnesiac fragments that invite questioning and understanding, but capsules of predefined memories and intentionality, which divested the museum display even of a possible contextual understanding. The objects of the *Sensing Space* exhibition 'looked like' a part of a building, but, extrapolated from it, became autonomous and self-referential objects, display pieces that no longer referred to a building or to a possible other. Symptomatically, after the exhibition the displays were sold at auction, destined to be featured in private collections as stand-alone pieces. There are precedents to this attitude toward architectural models and their display that reduces even the largest of mock-ups to a miniature, no matter its size. In 1980, the first Venice Biennale of Architecture, directed by Paolo Portoghesi, featured

the *Strada Novissima*,[80] in which some of the stars of architectural postmodernism – Frank O. Gehry, Rem Koolhaas, Arata Isozaki, Robert Venturi, Franco Purini, Ricardo Bofil and Christian de Portzamparc – presented large pieces of their iconic architectures. Reducing the references to pure images, as partial facades lined up along the fictional postmodern 'very new street', Portoghesi's architectural parade formally hinted at buildings but neither informed nor represented them. Even the use of the fragment as ironic reference to the history of the discipline that architectural postmodernism had promoted was lacking there. In its partial restaging in 2011 within the *Postmodernism* exhibition at the Victoria and Albert Museum in London, even the *Strada Novissima* was taken apart. Totally dissolved here was also the architectural pun on its history that the 1980 Biennale might had attempted.

Ian Kiaer's installations do not look like buildings, or parts of buildings, or models of buildings. Using broken objects and re-engaging them in a new regime of relationality, they 'model' with them, rather than recompose them into a defined object. His models are 'modellings' made with repurposed debris; their incompleteness reinforces their potentiality as relational objects. Amnesiac fragments that have lost the memory of themselves, but still bear traces of it, or have a weak association with their past, they are available to be reconfigured in a new web of relations. Debris and discarded materials have no added value as objects, and the erasure of their identity removes them from conventional architectural associations. Now valueless and purposeless, set free from the commodity system, these materials allow for the possibility of reinvention. Difficult if not impossible to photograph, Kiaer's works revolve around us without moving, entangling us in 'invisible nervous thread[s]'[81] that connect the viewer's gaze and body. Rather than volumes we look at and move around, they are environments that we intellectually enter and question, projecting onto them possible future inhabitations. These installations are not immersive; they remain open. Flimsy, scattered, delicate, they do not close a fixed form. Incomplete, they only suggest relations, which the visitor (more than a viewer) must detect, pick up, reconnect, connect with and intellectually recompose. Crucial to the possible interpretation of these pieces are their titles. Sometimes these are names of architectural projects, sometimes even actual models of them are included in the work (part of the model, or model of a part of the building?). But it is the titles that place buildings in intellectual or narrative contexts that remain to be both discovered and invented by the observer. From *Bruegel project/Casa Malaparte* (1999) to *Wittgenstein project/palm house* (2002), *Wittgenstein project/Skjolden* (2003), to *Erdrindenbau project/inflatable* (2006),

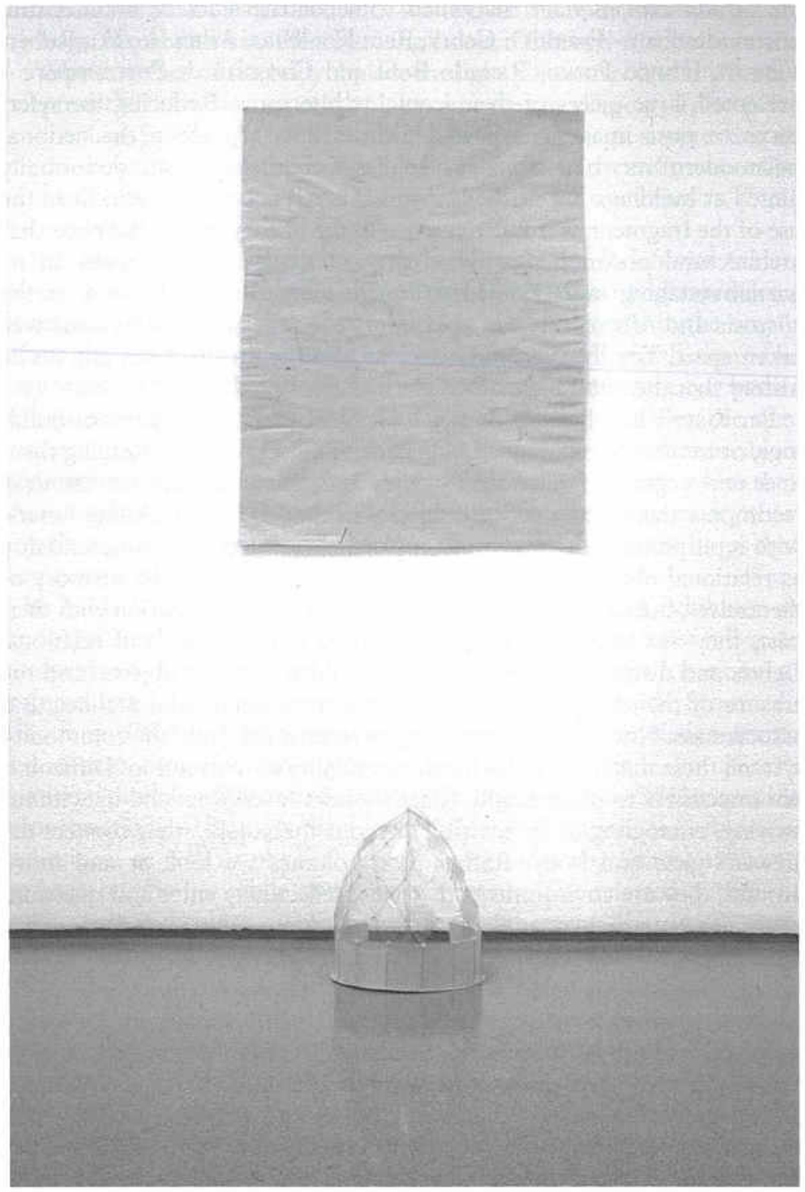

Figure 5.5 Ian Kiaer. *Grey Cloth project: Glashaus*, 2005. Installation at the Henry Moore Institute, Leeds, 2014. Photo by Jerry Hardman-Jones. Courtesy of the artist and the Henry Moore Institute.

Endless house project/Ulchiro endnote/pink (2008), to *Offset/black tulip* (2009), and *Tooth House/shadow* (2014), the titles offer a thread of Ariadne that can be used for a deconstruction and reconstruction of understanding. What they invite to unfold is not the understanding of the building (or space, environment, architecture), but the understanding of our understanding of it, as mediated by the artist and by the stories with which he invests these reinvented objects. In this sense, Kiaer's installations are 'placings': they model embodied conceptual relations. Their titles offer the key to references, elements and cultural identifiers that the projects use to reinvent connections of the available, amnesiac, salvaged materials within a wider system of cultural, historical and architectural references.

> The model [. . .] is relevant to the idea of emergence and naming. The model could hold multiple associations and also remain unknowable. It could just be a very particular form that is impossible to describe, or a piece of material that stands in, or acts as a foil to something else. The model is both evasive and ridiculously precise.
>
> Ian Kiaer[82]

What emerges from these considerations on the different uses and interpretations of the model is the importance of its relationship with words and with language. Architecture may not be a language – as Georges Teyssot (writing about Quatremère de Quincy) and Robin Evans (writing about Eisenman) maintain – but the pre-syntactical ambiguity of the word 'model', already contains in itself the relational nature of the model. Always already present in the word 'model' is a convolution of signified and signified, in a set of relations that can be understood, translated, as well as misinterpreted. When the word 'model' combines with the object (model), that is, when the model 'models' the word, all these possibilities are unfolded and multiplied. The model of a word triggers a series of relations and interpretations, and translations (to borrow Evan's' term) that remain open. What is produced here is an open field of interpretations. The model then is not an object, or an object in relation to another object or to many objects – the building or the buildings, in a serial repetition thereof – but a relational system that is full of potentiality and is activated through a form of production that can be practical (the building of architecture, the artwork), or critical, or both. The model is model only if we engage (and disengage) with it, and if the closed circularity of the relation between object and object is broken open by it.

Notes

1 Lisa Le Feuvre, *Ian Kiaer: Tooth House* (Leeds: The Henry Moore Foundation, 2014), 15.
2 Ian Kiaer, 'Tainting and Evasion: A Discussion with Ian Kiaer', in *Ian Kiaer: Tooth House*, ed. Le Feuvre, 16.
3 Fabrice Hergott, 'The Sculpture to Come', in *Ian Kiaer: Tooth House*, ed. Le Feuvre, 8–9.
4 Sarah Jones, 'Tainting and Evasion: A Discussion with Ian Kiaer', in *Ian Kiaer: Tooth House*, ed. Le Feuvre, 17.
5 'Valency' is to be intended here in terms of its combinatorial potential, both linguistic and chemical, as in the combining power attributed to a word in a sentence or an element in a substance.
6 Piera Scuri, 'Miniature d'architettura', *Gran Bazaar*, 'La serie e l'evento' (Oct–Nov 1985), 118.
7 Piera Scuri, 'Miniature d'architettura', 119.
8 For Scuri the architectural model is and must be unfinished, as it is involved in a linear process that aims – always unsuccessfully – at a finished something. Different from this unfinishedness is the incompleteness of Kiaer's works, which intentionally evoke, lay out, and perform the incomplete.
9 Robin Evans, 'Translations from Drawing to Building' (1986), in *Translations from Drawing to Building and Other Essays*, ed. Robin Evans (London: Architectural Association, 1997), 153–194.
10 Pliny the Elder, 'The Inventors of the Art of Modelling', in Pliny the Elder, *The Natural History*, ed. John Bostock (London: Taylor & Francis, 1855), book 35, chapter 43, 12. www.perseus.tufts.edu. Accessed 6 February 2018.
11 Evans, 'Translations from Drawing to Building', 156.
12 Evans, 'Translations from Drawing to Building', 163.
13 Evans compares David Allan's *The Origin of Painting* of 1773, which 'shows the couple in an interior, the dressed stone wall of which provides a plane surface upon which Diboutades ['s daughter] traces the shadow made by an oil lamp', with Karl F. Schinkel's 1830 'unusual variation on this theme' which presents 'a pastoral scene with shepherds and shepherdesses. In place of the worked surface of stone, a naturally exposed face of rock. In place of the lamp, the light of the sun.' Evans, 'Translations from Drawing to Building', 163. In Allan's painting the scene takes place in an interior, the shadow is cast on a wall by the light of a lamp, and its contour is traced by Kora herself: architecture pre-dates drawing, the shadow is cast by divergent light rays and its tracing is therefore a (flattened) perspective, and the author of the drawing is Kore. In the Schinkel's version, the scene takes place outdoor, the shadow is cast by the sun on a rock, and its contour is traced by a shepherd as instructed by Kora: drawing pre-dates architecture, the shadow is cast by parallel light rays and its tracing is therefore a (flattened) axonometric, and the authorship of the drawing is articulated between its designer and its draftsman. Evans argues that Schinkel, the architect, 'show[s] the first drawing in a pre-architectural setting, because without drawing there could be no architecture, at least no classical architecture constructed on the lines of geometrical definition. In Schinkel's work, drawing is, from the beginning, a divided activity, resolvable into a prior act of thought and a consequent manual undertaking which the arrival of architecture would duplicate, on a much larger scale, as the difference between design and construction. Evans, 'Translations from Drawing to Building', 163–164.
14 Evans, 'Translations from Drawing to Building', 165.
15 Evans continues: 'The logic of classical realism is stood on its head, and it is through this inversion that architectural drawing has obtained an enormous and largely unacknowledged generative power: by stealth. For, when I say unacknowledged, I mean unacknowledged in principles and theory. Drawing's hegemony over the architectural object has never really been challenged.' Evans, 'Translations from Drawing to Building', 165.
16 Evans, 'Translations from Drawing to Building', 185.
17 Evans, 'Translations from Drawing to Building', 185–186.
18 Pliny, *The Natural History*. Book 35 is entitled 'An Account of Paintings and Colours', and chapter 43, 12 to which Evans refers is devoted to 'The Inventors of the Art of Modelling'.
19 Pliny, *The Natural History*, book 35, chapter 43, 12. In Italian an architectural model is still called *plastico*.
20 Marcus Vitruvius Pollio, *De Architectura* (ca. 25 BC). *The Ten Books on Architecture*, trans. Morris Hicky Morgan (New York: Dover, 1960) (orig. 1914).
21 Henry A. Millon, 'I modelli architettonici nel Rinascimento', in *Rinascimento da Brunelleschi a Michelangelo. La rappresentazione dell'architettura*, eds. Henry Millon and Vittorio Magnago Lampugnani (Milan: Bompiani 1994), 66. Author's translation.
22 Millon, 'I modelli architettonici nel Rinascimento', 24. Author's translation.
23 '[T]he presentation of models that have been colored and lewdly dressed with the allurement of painting is the mark of no architect intent on conveying the facts; rather it is that of a conceited one, striving to attract and seduce the eye of the beholder, and to divert his attention from a proper examination of the parts to be considered, toward admiration of himself. Better then that the models are not accurately finished, refined and highly decorated, but plain and simple, so that they demonstrate the ingenuity of him who conceived the idea, and not the skill of the one who fabricated the model.' Leon Battista Alberti, *On the Art of Building in Ten Books*, trans. Joseph Rykwert, Neil Leach, Robert Tavernor (Cambridge MA: MIT Press, 1988), book II, 34.

24 Millon, 'I modelli architettonici nel Rinascimento', 24. Author's translation.
25 We could argue that a further shift has occurred, from digital design and modelling to direct digital fabrication. The architect returns to be a maker. On this see Mario Carpo, *The Alphabet and the Algorithm* (Cambridge MA: MIT Press, 2011) and Mario Carpo, *The Second Digital Turn. Design Beyond Intelligence* (Cambridge MA: MIT Press, 2017).
26 Diana I. Agrest, 'Architecture from Without: Body, Logic, and Sex', *Assemblage* 7 (Oct 1988), 34.
27 Agrest, 'Architecture from Without: Body, Logic, and Sex', 28–41.
28 Agrest, 'Architecture from Without: Body, Logic, and Sex', 34.
29 Mario Carpo, 'How Do You Imitate a Building That You Have Never Seen? Printed Images, Ancient Models, and Handmade Drawings in Renaissance Architectural Theory', *Zeitschrift für Kunstgeschichte* 64 (2001), 223.
30 Carpo, 'How Do You Imitate a Building That You Have Never Seen?', 223–224.
31 Carpo, 'How Do You Imitate a Building That You Have Never Seen?', 225.
32 Alexander Nagel and Christopher Wood, 'Architectural Models', in *Anachronic Renaissance*, eds. Alexander Nagel and Christopher Wood (New York: Zone Books, 2010), 51–61.
33 Nagel and Wood, *Anachronic Renaissance*, 51.
34 Nagel and Wood, *Anachronic Renaissance*, 53.
35 Nagel and Wood, *Anachronic Renaissance*, 59.
36 Mario Carpo has discussed the problem of transmission of artistic models in the Middle Ages and through the Renaissance, pointing out the importance of written descriptions and instructions, together with numerical measurements, to enable the reproduction of a building, while images and bi-dimensional representations in general remained difficult to reproduce, approximate and inaccurate: 'as everyone knew at the time, drawings could not, and should not be relied upon. . . . Visual forms were to be described by words, not by pictures'. Carpo, 'How Do You Imitate a Building That You Have Never Seen?', 223. Carpo observes that medieval models 'were neither visual nor visualized. Instead, they were verbal, and oralized. Medieval artisans, builders, and even painters, were almost always working from models that they had never seen. They imitated models that they knew only through hearsay'. (223)

> The written word was much more easily transmissible than pictures: a safer, cheaper, more reliable medium to convey, transmit, disseminate and, so to speak, broad-cast information in space and time. [. . .] The advantages of the alphabet over other competing media were staggering, and unquestionable. The alphabet is a machine for the digital recording of spoken words. . . . Today we would say that the transmission of alphabetical text is digital, the manual copy of images is analogical.
>
> (p. 224)

Carpo further develops this argument in his book *The Alphabet and the Algorithm* (2011). Carpo's argument remains focused on bi-dimensional representations of architecture, and does not address the role of the model as architectural medium. Here I suggest that the model, produced on the basis of written descriptions and measurements, can be interpreted as the intermediary (medium) that *trans*-lates the information from the text to the three-dimensional.
37 'At one end, they were simply memorials, acting as physical reminders of places distant in space and events receding in time [. . .]. At the other end, they shared the identity of the original site. They were treated as if they could reproduce the efficacy of the original site, independent of mind.' Nagel and Wood, *Anachronic Renaissance*, 60–61.
38 Nagel and Wood, *Anachronic Renaissance*, 61.
39 Valeria Farinati and Georges Teyssot, eds. *Quatremère de Quincy. Dizionario storico di architettura. Le voci teoriche* (Venice: Marsilio, 1985), 274. Author's translation. I briefly discuss Quatremère's 'Type' in relation to the work of Aldo Rossi in the chapter on 'Paradigm'.
40 Quatremère de Quincy, 'Type' (1825), in *The Oppositions Reader: Selected Essays 1973–1984*, ed. K. Michael Hays (New York: Princeton Architectural Press, 1998), 617–620. Quote from page 618.
41 *Quatremère de Quincy. Dizionario storico di architettura*, 274. Author's translation.
42 For Quatremère de Quincy the imitation of Type is 'moral imitation, imitation by analogy, by intellectual relationships, by application of principles, by appropriation of manners (styles), combinations, reasons, systems, etc. . . . [it is] metaphorical imitation'. *Quatremère de Quincy. Dizionario storico di architettura*, 275. Author's translation.
43 Georges Teyssot, 'Mimesis dell'architettura', in *Quatremère de Quincy. Dizionario storico di architettura,* 15. Author's translation.
44 Teyssot. 'Mimesis dell'architettura', 15. Author's translation.
45 Teyssot. 'Mimesis dell'architettura', 15. Author's translation.
46 Anthony Vidler, 'What is a Diagram Anyway?', in *Feints*, ed. Peter Eisenman (Milan: Skira, 2006), 19–27.
47 See examples of Eisenman's early analyses in Peter Eisenman, 'Critical Analyses', in *Feints*, ed. Peter Eisenman, 29–79. The decompositional analysis of the façades of Venetian palaces is in Peter Eisenman, 'La futilità degli oggetti. Decomposizione e processi di differenziazione/ The futility of objects: decomposition and processes of differentiation', *Lotus International* 42 (February 1984), 63–75; revised text in 'The Futility of Objects: Decomposition and the Processes of Differentiation', in *Eisenman Inside Out: Selected Writings, 1963–1988*, ed. Peter Eisenman (New Haven CT and London: Yale University Press, 2004), 169–188.
48 Teyssot, 'Mimesis dell'architettura', 7–8. Author's translation.

49 Robin Evans, 'Not to be Used for Wrapping Purposes: A Review of the Exhibition of Peter Eisenman's *Fin d'Ou T Hou S*', in *Translations from Drawing to Building and Other Essays*, 119–152. Quote from page 120.
50 Evans, 'Not to be Used for Wrapping Purposes', 121.
51 Evans, 'Not to be Used for Wrapping Purposes', 122.
52 Evans, 'Not to be Used for Wrapping Purposes', 126.
53 Evans, 'Not to be Used for Wrapping Purposes', 122–123.
54 'He [Eisenman] takes note of the way in which language is being *studied* and attempts to incorporate in his architecture properties derived from *the study of language* in the era of structuralism, not properties derived from language itself. The difference is considerable. Language, written or spoken, is replete with manifest sense; the structuralist account of language is emptied of it. An architecture modelled on structuralism, empty therefore of manifest sense, would not be like language at all. Indeed, an architecture thus construed would probably not be very much like what we normally understand as architecture either.' Evans, 'Not to be Used for Wrapping Purposes', 126.
55 Cynthia Davidson, ed. *Tracing Eisenman. Peter Eisenman Complete Works* (New York: Rizzoli, 2006), 73.
56 On the axonometric model of House X, Evans writes: 'It was not a model of the house as it would have been built, however, but a model which was partially collapsed, all the uprights leaning forty-five degrees in the same direction. So, although a full-bodied model, it borrowed some of the character of an axonometric projection, and appeared to be in a state between drawing (just pushed a little further) and four-square, three-dimensional architecture: an intermediate condition'. On this Evans comments: 'It is also the only true transformation, in the mathematical sense of the word, that he has ever performed in his work. [...] the axonometric model was a thoroughgoing, unified distortion of a complete and finalized House design, and this is why the story about its being made after the project was finished is of more than incidental interest.' Both in Evans, 'Not to be Used for Wrapping Purposes', 131 and 132.
57 'A true transformation of this kind is not exactly design because whatever is subject to the transformation must already be complete in all its parts. In a transformation only relations alter. No new elements can be introduced or removed; bits cannot be added or taken away; nothing can be elaborated'. Evans, 'Not to be Used for Wrapping Purposes', 132.
58 'In House X, drawing and object are more nearly conflated and the transformation operates in three dimensions'. Evans, 'Not to be Used for Wrapping Purposes', 135.
59 'Eisenman's writing is a distinct enterprise referring to the equally distinct enterprise of architectural design. Any interaction that occurs, occurs across the barrier of their difference. This does not preclude a generative relation between them'. Evans, 'Not to be Used for Wrapping Purposes', 141.

60 Evans, 'Not to be Used for Wrapping Purposes', 122–123
61 Evans, 'Not to be Used for Wrapping Purposes', 123.
62 'The specific configurations of House X can be understood initially as the juxtaposition of four squares. This configuration is only an initial analogue, a heuristic device used to approach a more complex sign condition, which in itself is only a possible approximation of the reality it signifies. In fact, the final configuration is a cumulative attempt to dissolve its own seeming connection with any initial analogue. In other words, the final plan is only a series of traces that refer, in a sense, forward to a more complex and incomplete structure rather than backward to a unitary, simple, and stable structure. It thus becomes a kind of pre-distillation of a more complex "future" condition'. *Tracing Eisenman*, 73.
63 Peter Eisenman, 'Diagram: An Original Scene of Writing', in *Diagram Diaries* (New York: Universe, London: Thames & Hudson, 1999), 26–35. Quote from page 29.
64 Peter Eisenman, 'Diagrams of Interiority', in *Diagram Diaries*, 44–93. Quote from page 83, which continues: 'In House X, the idea was that there were two incomplete origins – an el cube and an el point, each missing a quadrant. The el form moved toward both a black cube and a white point. Both of these operations were endpoints of equal validity'.
65 In an interview Eisenman explains how his work also 'attacks the concept of occupation as a given'. Peter Eisenman, 'An *Architectural Design* Interview by Charles Jencks', in *Deconstruction. Omnibus Volume*, eds. Andrea Papadakis, Catherine Cooke and Andrew Benjamin. (London: Academy Editions, 1989), 141–149. Quote from page 142.
66 'Kurt Forster ... described the house he wanted in psychological terms. He said, "I want a house that when I am inside I feel like I am looking at the world from the outside, and when I am outside the house it is as if I am inside the house." This became the program for House 11a. It contained in its largest, most "inside" space an "inaccessible void". It was a room with no doors and no windows and thus no access. Therefore, the most inside part of the house was conceptually the most outside, because it could not be entered.' Peter Eisenman, 'Diagrams of Exteriority', in *Diagram Diaries*, 164–209. Quote from page 175. 'This inside/outside theme then suggested another external text as an initiating diagram for the house, that of the Moebius strip. [...] Diagrammatically, House 11a was conceptualized as a Moebius strip that would be placed half underground and half above ground.' Eisenman, 'Diagrams of Exteriority', 176–177.
67 The design seminar was organized by the Institute of Architecture of the University of Venice (IUAV) in 1978 to 'foster a debate between different cultural positions on a design issue of particular relevance for Venice'. Carlo Aymonino and Valeriano Pastor, 'Presentazione', in *10 immagini per Venezia*, ed. Francesco Dal Co (Rome: Officina, 1980), 7. Author's translation. On that occasion Eisenman, one of the invited participants, applied for the

first time his theory of decomposition to a design project of urban scale, testing it in relation to both the historical city and the modernist project: the project site proposed for the Cannaregio Ovest design seminar was adjacent to the site of Le Corbusier's never built Venice Hospital. Eisenman's project therefore referred to the physical city – its soft ground and modes of aggregation – as well as to its interpretation performed by Le Corbusier's project. I have discussed the context and the purpose of the 'Cannaregio Ovest' International Design Seminar (IUAV, 1978) in 'Topology to Diagram: Peter Eisenman between Venice and Manhattan', in *Paradigm Islands: Manhattan and Venice. Discourses on Architecture and the City*, ed. Teresa Stoppani (Abingdon, Oxford: Routledge, 2010), 160–175.

68 The L-shaped form is 'a fragment of a Euclidean condition, which could either develop to form a square, or dissolve into a point'. In it 'all the conditions of the real building persist as parts of a potential condition, possibly pre-existing in the site', and the houses relate to one another 'like bones without a skeleton, because they do not allude to a connection or to a narrative sequence'. Peter Eisenman, in *10 immagini per Venezia*, ed. Francesco Dal Co (Rome: Officina, 1980), 56. Author's translation.

69 Eisenman, 'Diagrams of Exteriority', *Diagram Diaries*, 164–209. Quote from pages 177.

70 Eisenman, 'Diagrams of Exteriority', 173–174.

71 Eisenman, 'Diagrams of Exteriority', 173–174.

72 For Eisenman a contextual strategy elaborates a given context to reveal its 'latent and pre-existing structure, in order to make it operative and significant'. Eisenman, in *10 immagini per Venezia*, 55. Author's translation.

73 Non-narrative because it does not explain, critique or plan the condition of man on earth; non-mimetic of man's condition because it does not relate to it according to a codified relationship; non-vertebrate because it does not express an intention to look like man.

74 Eisenman, in *10 immagini per Venezia*, 55. Author's translation.

75 Eisenman, *Diagram Diaries*, 30.

76 Lygia Clark, 'The Relational Object' (1980), in *The Object*, ed. Antony Hudek (London: Whitechapel Gallery, Cambridge MA: MIT Press, 2014), 212–215. Quote from page 212. From Lygia Clark, 'Objecto Relacional (1980)', in *Lygia Clark* (Barcelona: Fundació Antoni Tàpies, 1997), 319–322.

77 Clark, 'The Relational Object', 213.

78 Clark, 'The Relational Object', 214.

79 *Sensing Spaces. Architecture Reimagined*, eds. Vicky Wilson and Tom Neville (London: Royal Academy of Arts, 2014). Catalogue of the exhibition at the Royal Academy of Arts, London, 25 January – 6 April 2014.

80 Paolo Portoghesi was the director of the 1st International Architecture Exhibition of the Biennale di Venezia in 1980. The Exhibition, titled 'La presenza del passato' (The Presence of the Past), included Portoghesi's creation *Strada Novissima*, a 'street' made of twenty facades by star postmodern architects. *Strada Novissima* (the very new street) became a symbol of architectural postmodernism.

81 Fabrice Hergott, 'The Sculpture to Come', in *Ian Kiaer: Tooth House*, ed. Le Feuvre, 9.

82 Le Feuvre, *Ian Kiaer: Tooth House*, 15.

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