POBOX2

THE RESEARCH ZINE OF PROJECT ORANGE ARCHITECTS

2014

Representation

2	FOREWORD	JANE TANKARD
6	DRAWING INSPIRATION	JAMES SOANE
	COUNTERPOINTS	
12	NARRATIVE BY DESIGN	BILLY SINCLAIR
16	RULES OF REPRESENTATION	EMMA ELSTON
	WORKING REPRESENTATION	
24	DRAWING THE INTERNAL CONVERSATION	GUIDO VERICAT
28	WORKING MODELS	BARRY STIRLAND
32	CUT & PASTE	ALESIA SIROKINA
	REFLECTIVE REPRESENTATION	
38	SECTIONAL FRUSTRATION	JAMIE HUGHES
42	TELL TALE DETAILS	IAN RITSON
46	WHAT INFORMATION IS BEAUTIFUL?	RUTH SILVER
52	REPRESENTING COMPOSITION	CHRISTOPHER ASH
58	SEDUCING WITH SHADOWS	HOLLY REES
	FUTURE REPRESENTATION	
66	BUILDING TO DRAW	OWAIN WILLIAMS
70	SIMULATING THE FUTURE	THOMAS PARTRIDGE
78	CREDITS	

Foreword

JANE TANKARD

The relationship between academia and practice can often be tenuous and remains a hotly debated subject. The question of whether the school of architecture is training an architect or reinventing and transforming practice is, to some degree, determined by the objectives and preoccupations of the individual. “What are schools of architecture teaching them these days?” is a question I often hear, but of course what we are teaching ‘them’ is what the same practitioner was taught just a short time before: that design is a process that enables architecture to manifest itself as a transformative and evolutionary mechanism in contemporary and future social contexts.

The small practice making challenging interventions in the city is central to the evolution of culture and society. These most innovative of practices, often initiated by student architects and fully immersed in academic discourse, use the academic forum as a site of experimentation and innovation, but often struggle to gain any kind of financial stability. However, the real impact on the urban fabric happens when medium to large scale practices engage in this cultural debate which then has a direct influence on how the city evolves. Both ends of the spectrum are symbiotic. The large practice, you could argue, with its high overheads and complex managerial structures, relies intellectually on the small practice’s innovation and risk taking, fuelled by the latter’s embedded relationship with academia enabling them to survive financially and maintain a ‘commercial’ presence.

Somewhere in the middle are practices that manage to straddle the threshold between the academic and the commercial; the resultant architecture is often thoughtful, exciting and challenging. Project Orange is a practice that is vibrant and forward thinking; a team who are prepared to take a fresh, even naive view of the industry. The two Directors - James Soane and Christopher Ash - provide the experience and structure to allow young, recently qualified and Part 2 student architects to cut their teeth and continue to experiment and challenge within a commercial context. James Soane’s active engagement with academia, both as an external examiner and through his work with RIBA Education helps cement this creative and innovative context enabling a critical threshold between practice and academia, something that many other practices struggle to achieve.

This second edition of PO Box uses the energy of the young practitioners the practice employs to examine contemporary issues of representation in the context of the work of the practice, helping create a forum to discuss issues that concern emerging architects today. This focus on the relationship between theory and practice through a series of short essays is a useful and timely reminder of the necessity for the profession to consider and act upon these contexts. In the highly competitive, commercially driven society that contemporary architectural practice finds itself operating within, architects must continue to examine and re-examine how we feed and sustain architectural innovation and creativity at every level.

ELEVATION: MOSCOW SUMMER HOUSE

Drawing Inspiration

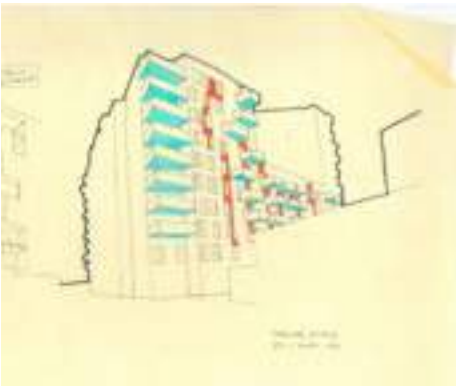
JAMES SOANE

Representation is different to re-presentation, although what I like about the hyphenated version is that it suggests iteration. A drawing, a collage, a sketch, or a blueprint is the product of expressing a spatial thought, notion or idea.

As a sometime tutor in architecture I have always been interested by the dichotomy not only of how to teach people to learn to draw, but to unlearn what they think constitutes a drawing. To begin with it is not always the representation of a design, but rather of an idea. I also do not believe that architecture always begets architecture. In other words a range of critical strategies can be appropriated in order to realise a new idea. Thus, a typical student project often suggests a process such as mapping, collaging or model making in order to create an alternative starting point. In truth this methodology is problematic when not balanced with more conventional design education. However in practice the kind of insights and serendipity that occur when simply designing to a brief and where form and function still reign supreme, are lost.

While the range of work undertaken by our studio is diverse, our design processes can be quite similar. For some offices this validates the kind of practice they are, or wish to become. For us it becomes formulaic. So it was to this end that we have undertaken a number of unconventional approaches to a number of projects, where we use the drawing as a tool for research and discovery. While the outcome may not be revolutionary, I can say that a different end point would have been reached had we played safer.

The first example is our entry to the Living Architecture 'Room for London' competition. The brief called for a single, self contained hotel room on the roof of the Queen Elizabeth Hall. Having designed so many hotel rooms soon became a disadvantage as all the customary rules came to the fore. So we took another journey, and speculated on



SKETCH: RATHBONE MARKET

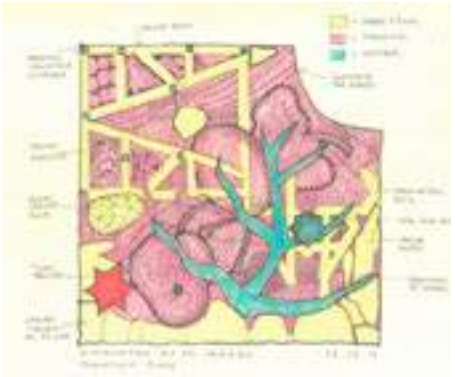
what could be the best experience you could have staying on such a vantage point, and concluded it would be the ability to have a 360 degree view. We took the mechanical workings of a traditional watch and mapped them onto the site, creating an elegant glass pavilion inhabited by quirky quasi-mechanical furnishings. Teams were encouraged to collaborate, so engineers Fluid came up with an ingenious ball bearing surface that would mean the whole building could easily rotate, while artist Lotah Goetz divided the room into 12 hours using coloured strips of fabric that could be drawn as curtains at the flick of a switch. We called our entry Watch London. We didn't win, but that's not the point. However the drawings were exhibited at the RA Summer Exhibition, interestingly hung in the artists' section rather than the architecture room.

Recently we have developed a design for a garden at the RHS Chelsea Flower Show in conjunction with landscape gardener Janey Auchincloss. An early conversation began a critical overview of recent exhibition gardens that revealed them to be a repetitive homage to the English Garden. Not that there is anything intrinsically wrong with this,

<

COLLAGE: CHELSEA FLOWER SHOW

only that there must be other stories to tell. We fantasized about a garden that was a collage of plants and textures, a colourful tapestry that would demand attention. There was also an idea about celebrating the fact that so many of our household plants come from the other side of the world. The only problem was that when we began to draw the garden, it was familiar, linear and frankly boring. So we made a collage, collecting all the themes we had discussed, with a view to making a new kind of blueprint. Once completed we started to scale the shapes, interpret the elements and extrapolate the forms into a landscape. There was a certain thrill seeing each sketch and iteration beginning to look like the vision we had first mooted. From sketches and planting plans the drawings developed into axonometrics and the final design for the Himalayan Rock Garden.

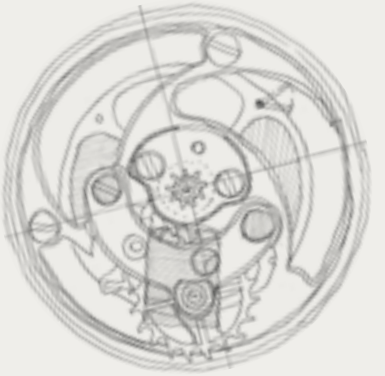


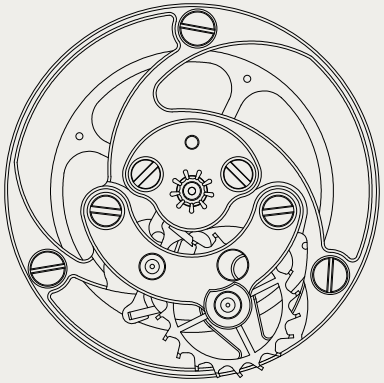
SKETCHES - HIMALAYAN ROCK GARDEN

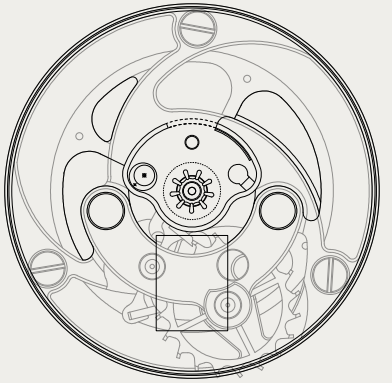
At a much larger and necessarily complex scale is our 216 apartment scheme in Canning Town. Here the master plan more or less dictated the scale and massing of the building, but the design of the buildings, their materiality and expression required careful design. We reject the derogatory term for façades as 'wallpaper', firstly because wallpaper can be more that just a meaningless pattern and more significantly the architecture of many buildings happens within the depth of a facade. We therefore undertook a series of exhaustive and iterative versions of wall, window and detail drawings. Aware also that this process itself can become rarefied and celebrated through the beauty of a fragment or model, we worked on tracing paper then computer and back to trace. The whole team were involved and there were many conversations trying to weigh up the value of each version. The result is a wilful composition that has a logic but is not logical. It is particular and peculiar, in a bid to create a sense of place not easily found elsewhere.

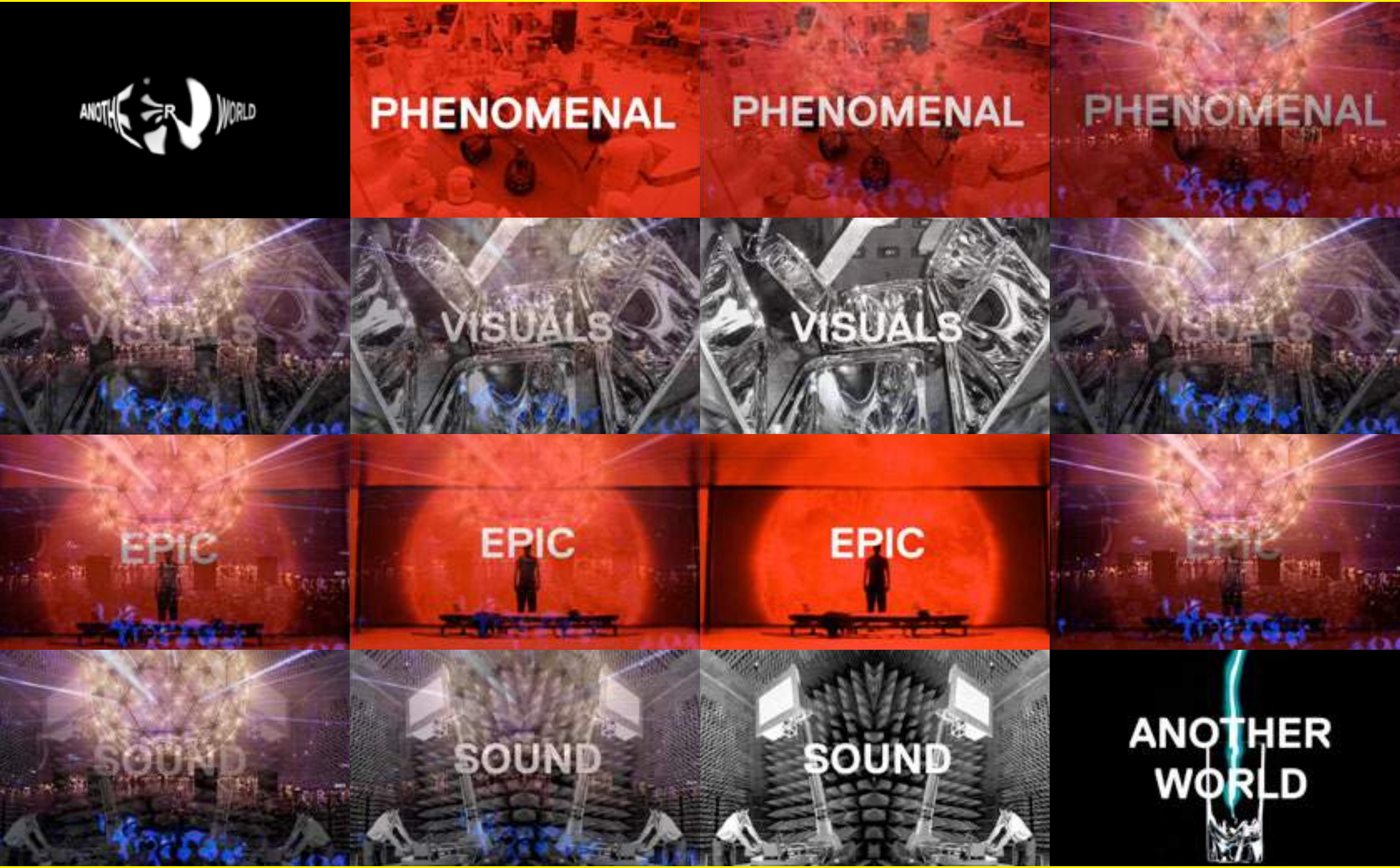
If anything these processes and experiments have taught us to be bolder and to believe in our own intuition. I was at a conference recently in Antwerp presenting our own practice research agenda and came across the phrase *"designerly ways of knowing."* It became something of a touchstone in the proceedings suggesting that scholarly and attained knowledge need not always be dissected and interrogated to obtain validity. In fact the opposite can often be true, that the act of over-analysis and grounding loses something in translation. We therefore continue to nudge, uncover and reveal different ways of thinking and designing as architects. We draw because that is what we have been taught to do, but we do it in ways that surprise us. We are open to suggestion.

>









STILLS FROM 'ANOTHER WORLD' NIGHTCLUB CONCEPT VIDEO

Narrative by Design

BILLY SINCLAIR

"I'm up early, long before my wife and kids. And I like to have a space, a comfortable space that is separated from the rest of the house, where I can read the paper and watch the TV. I don't want to wake anybody. At the moment, in Cheyne Place, you can hear everything happening, above and below you.
...

It's a noisy road so the windows will need to be shut and the air quality is not nice here so we will need to think about that.
...

I will need to have a space for my laptop when I'm sitting down and a light for reading. Can we get sofas with higher backs? We need comfort first and foremost"

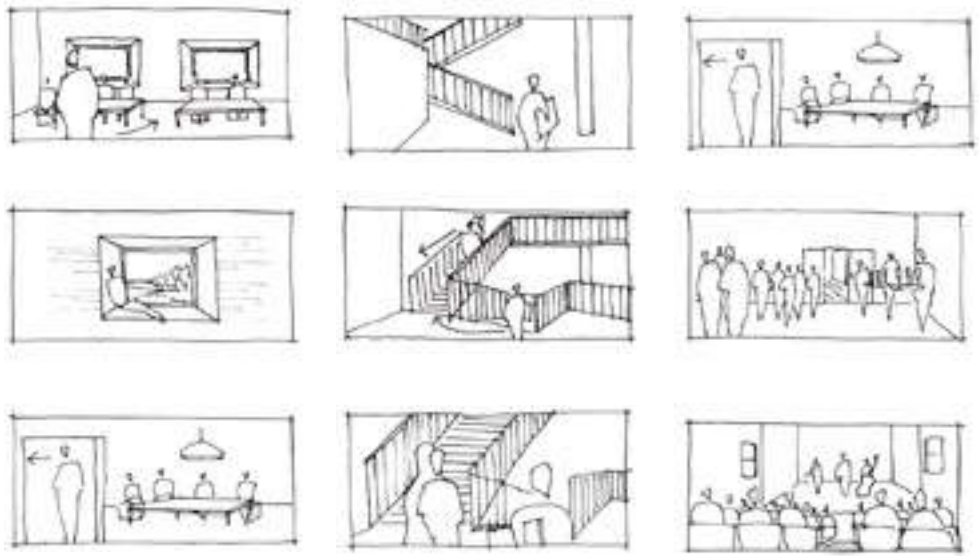
Our client spoke openly about his morning routine during a Wednesday afternoon design meeting about his family house in Belgravia. It wasn't a conversation about architecture nor the processes of interior design, but simply a personal script outlined through the client's experience. As Project Orange are acting as both architect and interior designer there is simply no need to distinguish between the two. This allows for a flowing conversation that can just as easily be focused around the brass detail on a side table, the installation of an air conditioning system or the demolition of one hundred square metres of basement. Therefore the scale of the project is in a state of constant flux. There is no way of pragmatically focusing in or designing a space before drawing internal details and so the representation of the proposal needs to be flexible.

The project is constructed room by room through a three dimensional composition generated within a computer program. The process is fluid, assessing layouts while moving through, orbiting round, and looking down on the room, to instil in the designer a holistic feel for the space. Objects in turn are placed, moved round, sat at, looked down on; a narrative process used to test spatial and temporal relationships. After furniture is organised and details designed, a process of framing the space takes place. The three dimensional space is transformed into a two dimensional projection – a freeze frame. A fixed photographic composition that can be re-rendered over and over with different materials, textures and lighting qualities, whilst maintaining its organisational structure. The photorealistic world generated within these frames provides the client with a clear understanding of what the completed house could feel like, and how it could be eventually used. However, the spaces created through this process are still only garments and at this time cannot be considered more than a catalogue of potential spaces for the client to choose from. The

VIEW OF BASEMENT SPA

frames therefore need to be re-rendered in order to encapsulate aspects of the client's daily life, such as where he likes to sit, when and who with. These are the nuggets of information that allow the designer to develop the catalogue into a story board personalised to the client.

A book is placed within a frame on the coffee table, an object that then identifies the client's morning routine and starts to organise space and objects round it. A light tilted, the sofa replaced, a side table added, developing the frames away from the lifeless catalogue of images. The traditional architectural drawings also change. Floor build ups are altered or a ventilation system added. The original pragmatic architectural narrative is now developed into an emotive narrative tailored to the client's life script. This process can also generate new frames, ones that are less to do with the whole space and more to do with a particular aspect of that space. These could be of a certain piece of furniture, a relationship between objects, or even a split second moment in time. Therefore this can mean the creation of several frames per space, which look to define various aspects of that space. The final aim of this process is the creation of a crystal image; a representation of the project as a whole. The idea of the crystal image, the conceived world that is born out of these frames, is very important. It means the client doesn't need to see each room to understand what it will eventually look like, but instead can imagine it through looking at the cross section of spaces that have already been rendered. The client can instead trust that the designer will be able to generate a narrative quality as captured in the rendered frames.



FRAME + INTERVAL: DEVELOPING AN EXPERIENCE THROUGH SPACE AND TIME

A useful comparison might be the 'establishing shot' in film making – a taster of what is to follow without the need for the whole film. The crystal image is the 'design trailer' for the whole project.

This process does not look to design architecture nor interiors but instead to provide truthful spaces that are conceived through, rather than for, the client's life.

"Never begin to construct your shot starting from purely spatial-composition considerations. From the start, seek a natural appearance of the human being, and then see how to shoot it."
Sergei Eisenstein, 1933

Rules of Representation

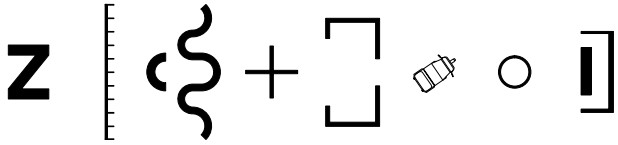
EMMA ELSTON

The medium of drawing, perhaps more than any other form of expression, is constrained between a series of tightly regulated boundaries, both in terms of construction and content. Add colour and it becomes a picture; add technical information and it is a diagram. Within architecture, drawings are strictly categorised as either sketch, plan, section, axonometric or detail. Allowing elements from one category into another is to dilute the coherence of the drawing; its purity and moral order. From the earliest Vitruvian ideals we have the concept of architecture as the medium with which to impose order, making the unruly coherent and the chaotic regulated. To achieve this, each element of drawing is considered in isolation. *"Architecture,"* Vitruvius writes, *"depends on ordination, the proper relation of parts of a work taken separately."*

Within each category the hierarchy of editing, cropping and curating is such that the drawing produced is often far more restricted than most architects care to admit. Even the sketch is carefully curated to display only the most easily digestible elements of a space edited down to an idealised and conceptual series of icons.

Testing the categorisation of architectural drawing might allow us to re-formulate the boundaries of our understanding. What we currently think of as legitimate in terms of the medium has remained surprisingly constant for the last several hundred years. Does this fairly static frame of reference have the potential to undermine the validity of architectural expression? Jeremy Till has questioned the unthinking quest for perfection in which beauty, cleanliness and order are placed above any other, and *"alien objects, dirt, the low, the supposed immoral are cast aside in the pursuit of purity."*

Architectural design perpetuates design narratives that highlight what is deemed to be more culturally, aesthetically and socially aspirational. This is supposed to uplift us, and even accelerate our social evolution: *"Arguments are made that a morally sound, rational aesthetics of architecture will lead to a morally sound and rationally constituted occupation of architecture by a reformed society - or obversely that a degenerate aesthetics goes hand-in-hand with a degenerate society."* Jeremy Till

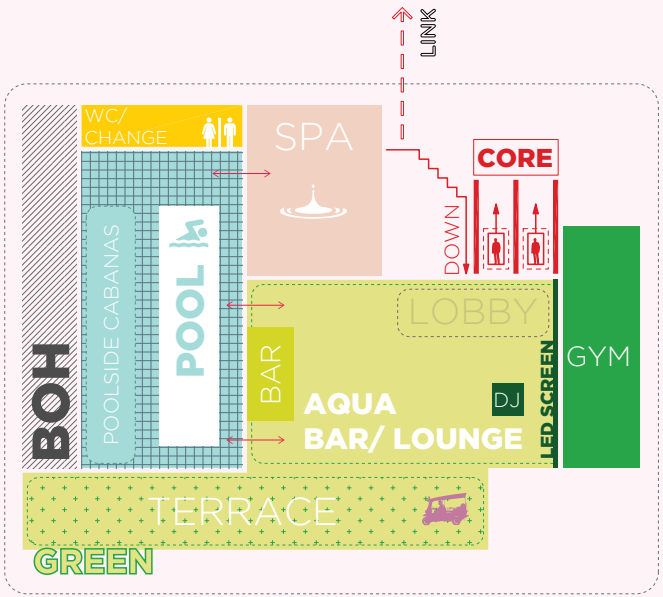


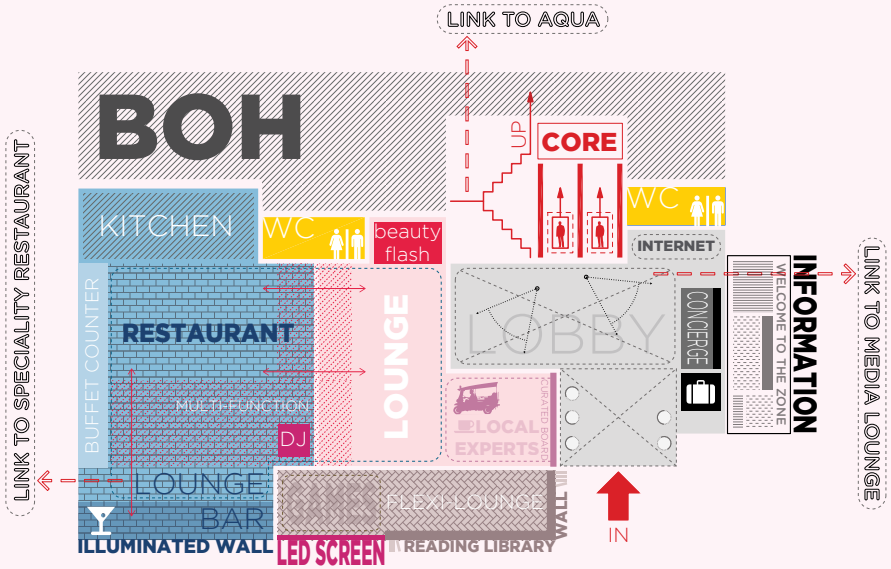
But can this prove to be a hindrance for a profession tasked with improving social space? If we edit the asymmetric and unpalatable elements from our drawings, are we only concealing issues behind a visually attractive façade, rather than looking to provide a solution to them? Jeremy Till notes in 'Architecture and Contingency' that *"Ideas developed away from the world may achieve a semblance of purity — of truth and reason — but this purity will always be tormented by the fact that the knowledge has arisen from within the world and eventually will have to return to the world."* Architecture then, in its quest for purity and order, has distanced itself from reality. Nowhere is this more evident than in the world of the abstracted drawing, the purest form of 'form'.

At Project Orange, there is a period of extreme adjustment as each new employee realises that every project is handled with a unique approach. This is a claim often made by architects, who then

^ CONCEPT DIAGRAM: ZONE HOTELS, INDIA

< EARLY COLLAGE STUDY: ZONE HOTELS, INDIA





SKETCH: 'BAZAAR' WALL TO RESTAURANT

swiftly draw up rules within which each project resides (residential, commercial, private, public space, high-end) and create templates accordingly. Each project slots neatly into the formulaic approach based on the last most similar scheme. Here in the studio, the blank canvas approach means that hybrid projects appear which are handled in sometimes quite startling ways. What this means for the drawing is that the rules are reinvented and conventional drawing types often ignored in favour of the composite approach, where the content and composition of each drawing is based entirely on the requirements of the specific project. At Project Orange the intention is to pursue a policy of realism rather than idealism, and presentations tend to be peppered with collaged diagrams, rendered sketches and inhabited working details as well as polished renders and photos.

We get sketches that are really collages, inhabited working drawings, sections with axonometric details: a mixed bag within which the rules are recalibrated to suit the reality of the project. Working on hybrid projects, which exist somewhere between the standard types of contractual arrangement, gives the opportunity to explore representation at the edge of what is acceptable. To my mind, this can only make the project more powerful and pertinent. Some of the strongest images, both historically and more recently, have worked at the edge of 'legitimate' drawing forms. If we are only using accepted assumptions and stylised images in our architectural drawings, can we claim to be relevant to the constructed environment? Too often the images that appear in magazines and publications are glossy brochure-style renders, inhabited with impossible plants and perpetual leisure. To sell our schemes, we have curated our architectural spaces to the point where they become almost unrecognisable from a workable reality. In the age of digital editing and the overzealous "CTRL-Z" have we become too visually prohibitive?

The idea of 'cleansing and purifying', and all the associated connotations, are not in force at Project Orange. There is an emphasis on looking for the tangible and for inhabiting the everyday. Rather than ignoring the inconspicuous elements

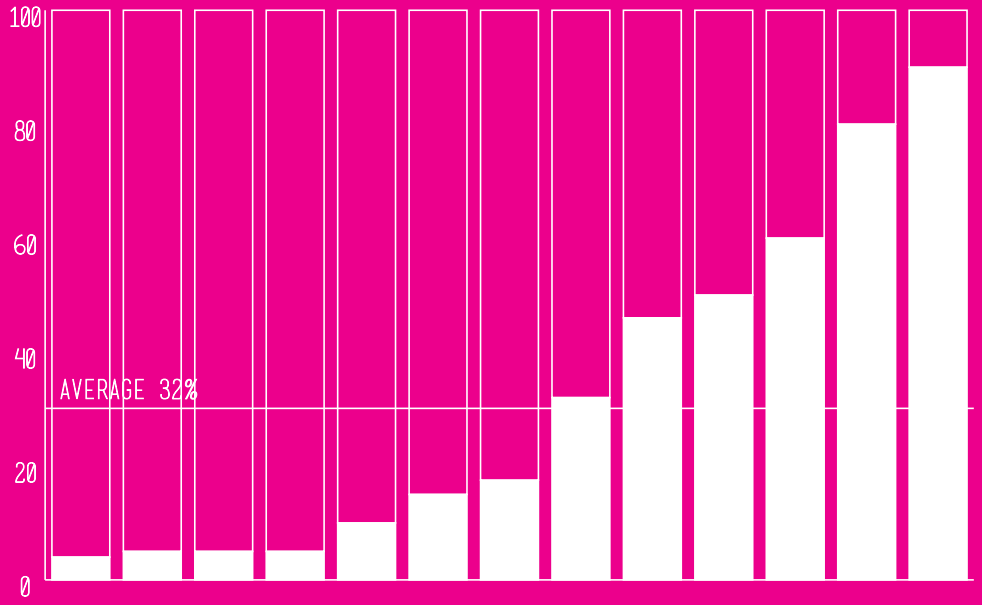
< OUTLINE ARRANGEMENT DIAGRAMS

COLOURED WORKING DRAWING

of design in favour of the traditional hierarchy of form and order, Project Orange looks to create a unique amalgamation: an 'haute couture' of the ordinary. But do we really go far enough in bending and testing the rules of representation? These tests are by necessity physical and practical (being acted out in practice and therefore bound tightly to the economic rules which govern most projects) and must tread carefully on the narrow boundary between the experimental and the legible. In effect this can only make the approach more relevant, as Jeremy Till describes: *"Architecture never exists in isolation, it is never experienced as remote object, but is inherently bound up with the action and events of the quotidian world. As soon as architecture removes itself from this world, it will be unravelled by it."* In reforming the constraints governing representation there may still be a way to go, but at least we have begun to resist these rules that have contributed to a marginalised and irrelevant modern architecture.

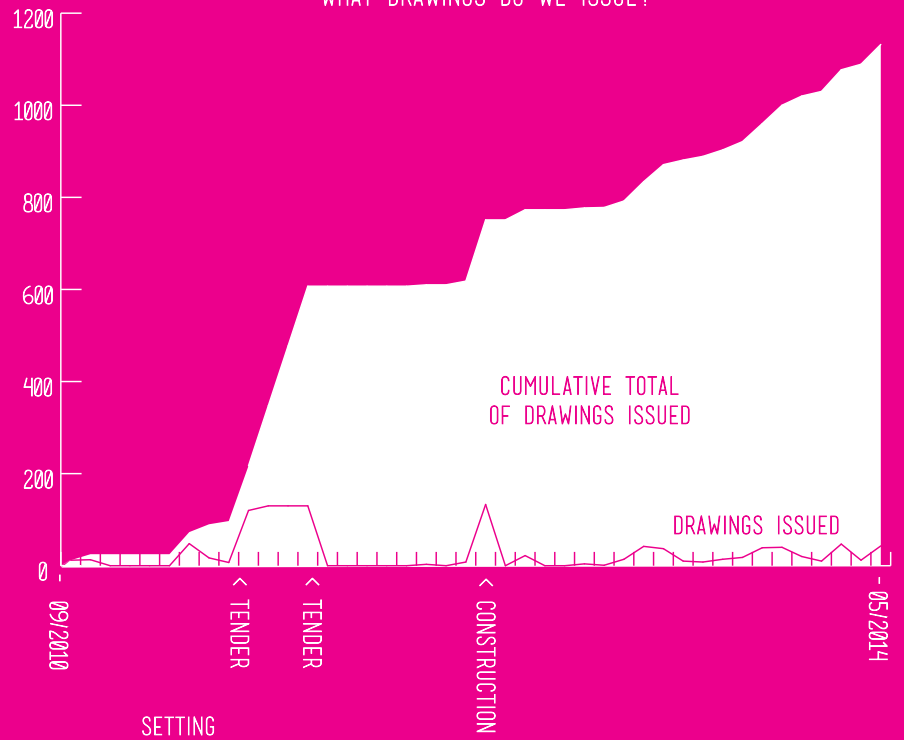
PO:Drawing

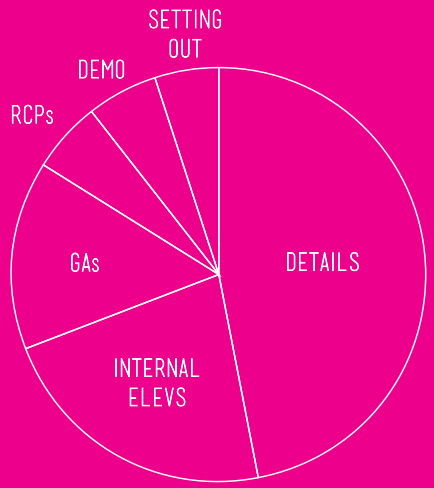
HOW MUCH DO WE SKETCH?



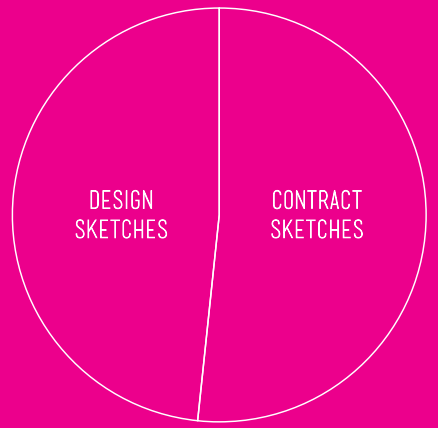
PERCENTAGE OF NOTEBOOK USED FOR SKETCHING, BY EMPLOYEE

WHAT DRAWINGS DO WE ISSUE?





CONTRACT DRAWINGS ISSUED



SKETCHES ISSUED

BASED ON THE GEORGE STREET PROJECT

Drawing the Internal Conversation

GUIDO VERICAT

Sketching is a way of thinking about architecture and space making. It is a medium by which one can 'annotate' one's thoughts, track the internal conversation and make it visible to be refined, shared and further interrogated. Sketching is three dimensional shorthand, not necessarily very legible or pretty, but a way of capturing our internal imaginings in order to explain to someone, firstly to oneself, what a form might look like. Once the first sketch is laid down in the most basic markings, another will follow, and then another. These iterations are equivalent to the way discussions build up, testing the weaker points of an earlier argument, laying down new thoughts and focusing on the strength, or weakness, of the central idea, suggesting new alternatives on re-reading.

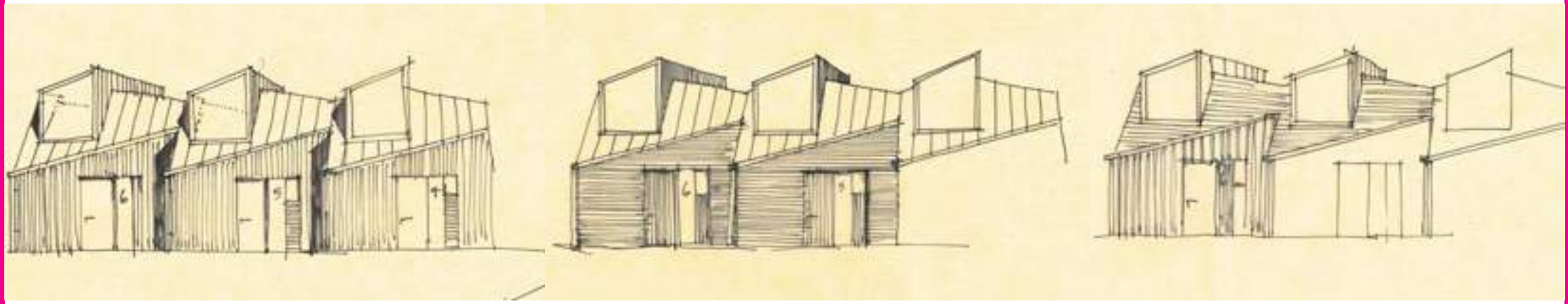
Sketching is in itself qualitatively neutral. The above description could refer to the design of a pull handle or to the massing of a new cathedral. The strength of sketching is in its focus of field. Independent from what is being explored, the immediacy and speed of the process forces concentration on a specific area of action; be it a particular view, the building's massing, or the junction between two elements. If the process of design is to explore alternatives that may lead to our preferred 'solution', narrowing the scope is a very useful way of achieving our goal.

The marks that go down on paper form the tentative exploration of three dimensional form making with the mind. Unless one is an accomplished draftsman, these markings tend to be rough and 'inaccurate'. However, in the case of sketching, this inaccuracy can be an advantage. Verisimilitude is not what is being pursued in this context. To sketch is to test; we test what we think with what we put on paper and when it makes it onto the page then it is 'seen' again; it is evaluated and ultimately dismissed or built upon.

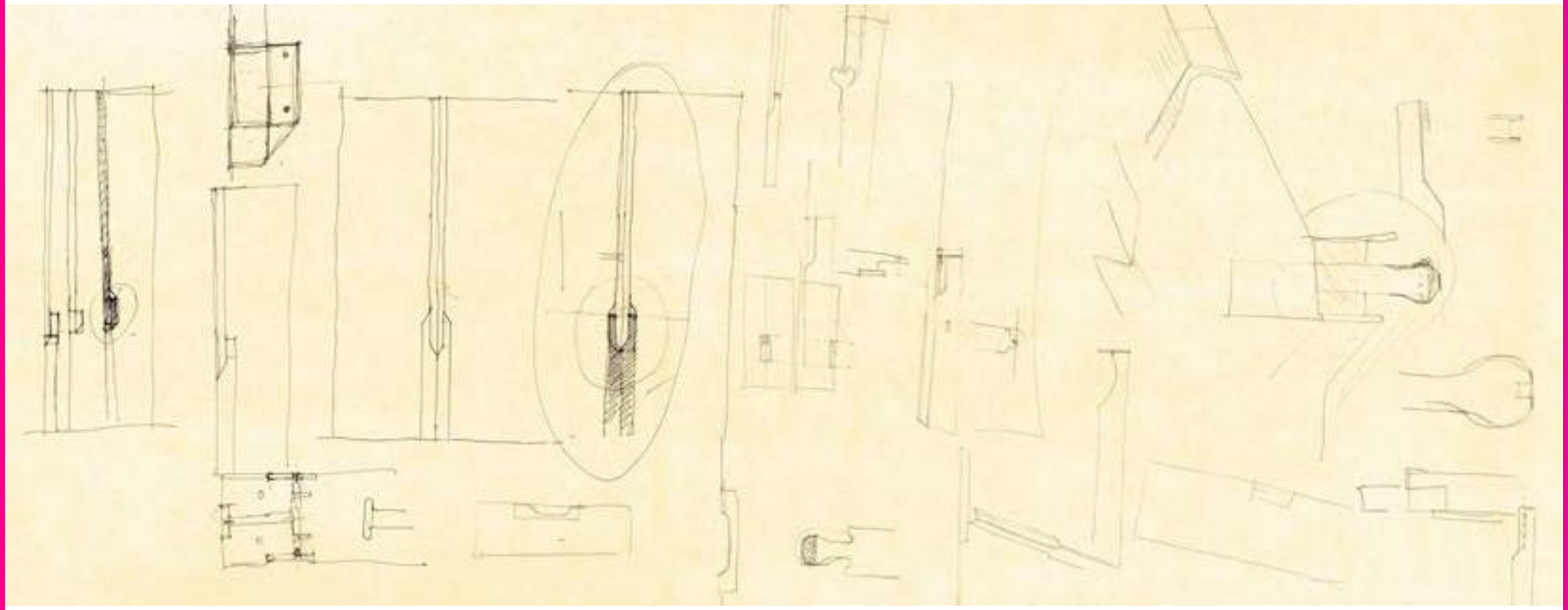
Feeling our way around for something that we don't know visually, each layer of trace provides us with clues that helps the process of approximation. An important element of the 'inaccuracy' of the sketch is the ambiguity to be found in the drawings themselves; this ambiguity allows us to 'fit' several readings onto one set of markings, taking the thought process towards new lines of inquiry not part of the initial focus. This process is not simply a silent monologue; the sketch generates a response offering a new set of alternatives.

This method of the representation of visual thinking works equally well when two (or more) people discuss ideas using sketches. Not only are the drawings a valuable method of conveying accurate formal descriptions, but they also allow ambiguity in the reading by the other, taking the discussion into potentially new directions. Misreading someone else's sketch is just a way of overlaying your own creative thought process on another's mark making. Although it maybe very clear to the author

MASSING STUDIES: CONVERSATION 1



MASSING STUDIES: CONVERSATION 2



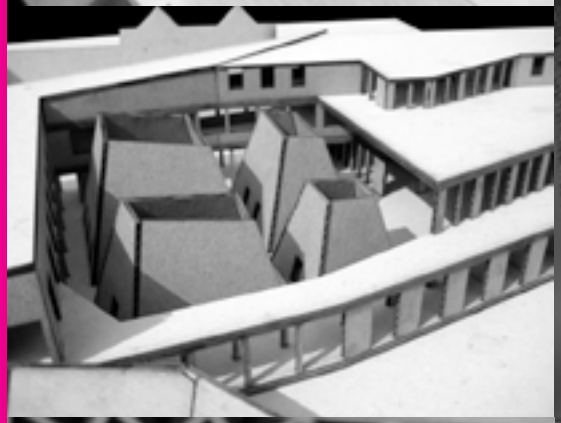
PULL HANDLE DETAIL DESIGN: CONVERSATION 3

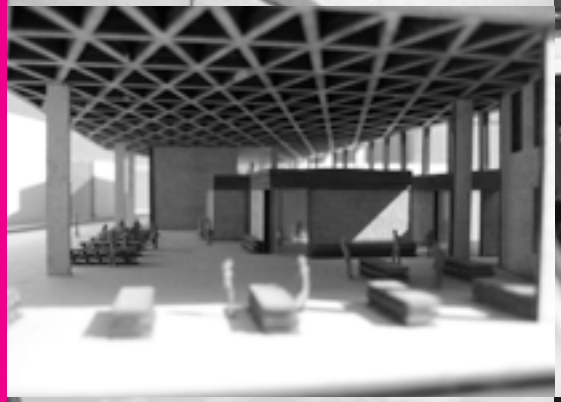
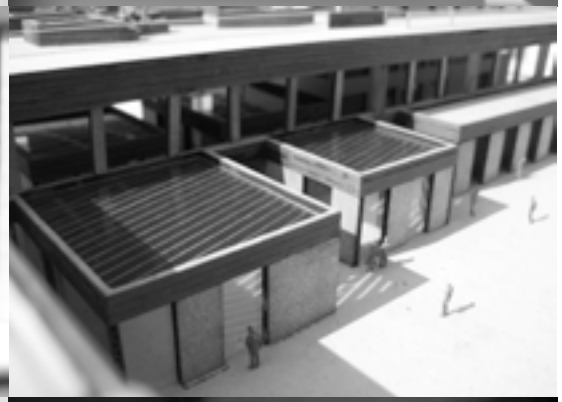
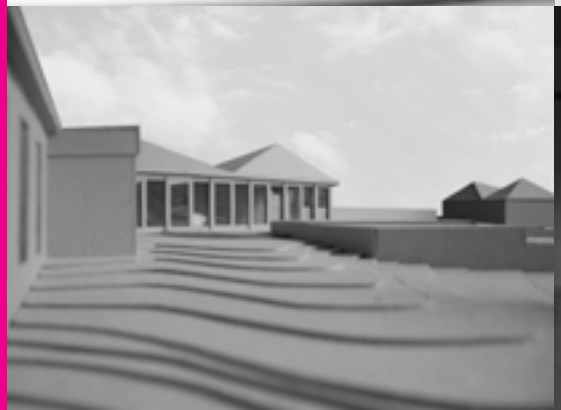
what aspect of the issue at hand they are trying to explore, another person will read it with his/her own preoccupations and contextual understanding of that particular issue or indeed mix it with other more general concerns. This is perhaps one of the most exciting and rewarding parts of the design process; where ideas are discussed, roughly put on paper and evaluated. The focus can shift dramatically from a detail to the overall arrangement of a building and back again, all the time leaving the traces of the conversation on paper to be tested further when turned into a more accurate set of information.

There is a mistaken perception that sketching is the same as drawing, and drawings should be pleasing creations in their own right. The notion that sketches should be beautiful is paralysing to those who may not be confident in their drawing ability and constrains their potential contribution to their practice. The comparison made at the beginning of this piece between sketching and shorthand is an apt one in the sense that both benefit from practice. The more one sketches the faster and more effective one becomes at translating one's internal dialogue into something that can be seen and discussed personally, with and by others. In the context of dialogue with other members of the practice, there is no doubt that the skill of a person may render their sketch more compelling in the same way that skilled rhetoric may aid an argument.

Everyone in practice can sketch. And everyone should. If we agree that sketching is the most direct and efficient method of expressing, developing, exchanging and communicating ideas within the studio, then we should be encouraging everyone to contribute by picking up their pens and making their mark.






Working Models

BARRY STIRLAND

Five years is not long in the life of an architect, but during this period of time, Project Orange has undergone a considerable shift in the methods used by the practice to design and represent architectural propositions. Where once almost every project was explored through considered model-making after a period of planning and sketching, now numerous early concepts can be investigated quickly and efficiently through computer modelling. That is not to say that these alternative forms of modelling are mutually exclusive, but the advantages of computer-aided design (CAD) have effectively reduced the quantity of physical models produced as part of the design process.

The merits of CAD versus physical modelling is an issue that has been hotly debated by practicing architects, academics and students alike. This short article aims to highlight the viewpoints of two of the world's most pre-eminent architects to help illustrate these polarised outlooks on modelling as a design tool.

Patrick Schumacher, a director at Zaha Hadid Architects, favours advanced computational design tools and techniques, which he has stylistically dubbed, 'Parametricism'. Implicit in the term is the notion that all architectural elements and complexes are parametrically malleable; we are no longer restricted by the means of representational production to designing with rigid geometrical figures. In practical terms, this means that enormously complex, and often curvaceous, buildings can be accurately drawn and analysed in detail; forms it would have been impossible to describe using the traditional hand produced drawings and models.

Schumacher argues that Parametricism involves more than the mere employment of certain tools and techniques. In his Parametricist Manifesto of 2008, he suggests that it is the most valid approach for civilisation today:

"Contemporary architecture aims to construct new logics…that gear up to organize and articulate the new level of dynamism and complexity of contemporary society."

Subsequently, writing in the Architects' Journal, Schumacher cites the Innsbruck train station, by Zaha Hadid Architects, as a real world example of the successes of Parametricism, arguing that;

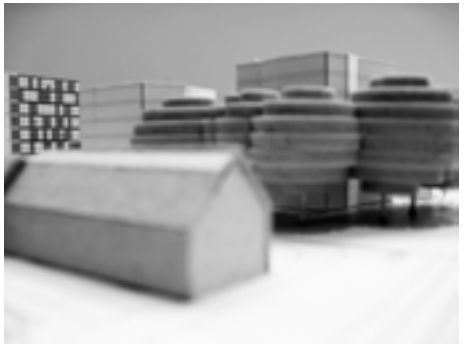
"No other style could have achieved this coincidence of adaptive variation to different site conditions with genotypical coherence across those phenotypical variants."

Conversely, Peter Zumthor has a clear phenomenological approach, modelling with building materials and exploring physically how natural light engages with his proposals. In 'Thinking Architecture', Zumthor writes:

"All the design work in the studio is done with materials. It always aims directly at concrete things, objects, installations made of real material (clay, stone, copper, steel, felt, cloth, wood, plaster, brick…). There are no cardboard models. Actually, no "models" at all in the conventional sense, but concrete objects, three-dimensional works on a specific scale."

Zumthor's handmade manipulation of materials as a fundamental generator of form suggests a notion of the architect as crafting a building; the master builder manipulating and honing materials to create individual buildings and experiences which are site and to some extent culture specific.

<
STUDY MODELS BY BARRY STIRLAND



STUDY MODELS 2

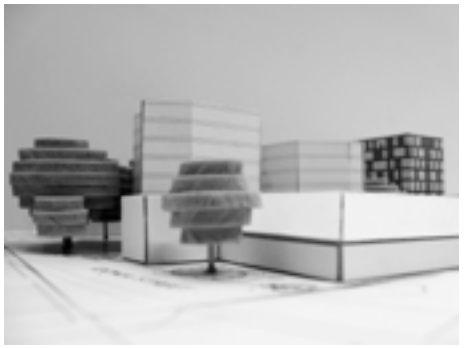
These two approaches to a design methodology articulate the contradiction between the simulation and artificially constructed prediction of CAD and the 'real life' and far more unpredictable intuitive, 'handmade' process. Serendipity relies on the unexpected, the unpredictable. It evolves out of experimentation and intuition. Zumthor's approach, it might be argued, allows for these opportunities, but it is individualistic and interpretive; open to flaws and, we might argue, failure. Parametricism enables an architecture that is not restricted by the conventions implicit in the production of hand drawing and modelling. But it is a system, predictable and determined by the software that allows the image to be generated.

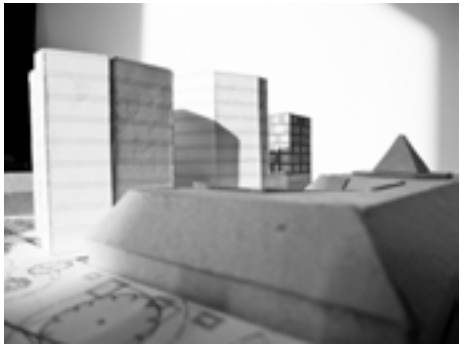
Zumthor provides a fascinating insight into how photographs of his models are used as a design tool challenging the restrictions of scale implicit in the use of models . In a 2010 interview with architecture blog, Thinking/Making Architecture he states:

"I'm trying to do the building so I photograph the models because I don't believe in computer aided design renderings and we need to make models and put them into real sunlight to learn from that. The photograph helps me to take away the scale so if I look at this (the model) I look at the model; if I look at this (the photograph) I look at reality? So the photograph takes away the stupid model scale."

This process, it could be argued, is open-ended and evolutionary, whereas the parametric design software could be seen as enabling the realisation of a concept as an absolute.

At Project Orange, we find ourselves somewhere in the middle ground between these two positions. The computer is respected and used as a tool as well as a resource, but the physical properties and opportunities in the manipulation and use of materials are central to the development of a proposal and explored using samples from our extensive materials library.





STUDY MODELS 3

For a residential project in Deptford, physical modelling, and photography proved to be a most effective way of exploring how building form and massing might respond to physical context. The brief was to provide around eighty new homes on an extremely constrained site, set on an area of land to the north of an arts centre and bounded by mature trees. Our concept was to retain as many trees as possible, by forming a tall building, in turn broken down into two blocks to reduce its visual mass and allowing direct sunlight through the gap inbetween. Modelling was used to investigate how the form of the building might respond aesthetically to the site constraints and how the southern edge of the development might shape the fourth side of the centre's garden courtyard.

The photographs betray the crudity of the modelling, yet one could argue that it is exactly that roughness which validates the models as a working tool. A hand made working model can, of course, be more refined, but at what point do we begin to question the purpose, or motive, of the model? One may have a premeditated concern with the presentation of 'process', for example, or simply be indulging in the fine representation of an idea already resolved. Both of these examples are of value in practice, however their purpose contrasts with the idea of a model as a pure design tool: an instrument with which to examine aspects of form and scale, light and shadow, materiality and texture, and juxtaposition with context.

Cut + Paste

ALESIA SIROKINA

Collaging in its simplest form is a 'Cut and Paste' technique which takes material from different sources - cuttings from newspapers, magazines and photographs for example, then pastes them onto a new surface which, in the juxtaposition of the fragments, creates a new whole. Today, thanks to computer software, collaging extends beyond the physical limitations of manual cut and paste and can be assembled digitally. The contemporary rendered image or CGI can be seen as three dimensional digital collaging and is a common technique that we use in our office to represent our ideas. It is also helps our clients to understand and visualise proposed interior spaces beyond the constraints of two dimensional drawings and helps communicate the spatial and material qualities of the design.

The beauty of digital collaging is that by turning on and off layers or changing a few colours or digitally sampled materials, the same drawing can achieve a completely different 'look'. This makes it an important everyday tool in exploring a diverse palette of finishes, colours and lighting effects in our interior designs.

It is now very popular to produce such three dimensional computer collages by using the latest modelling and rendering software. This kind of collage aims for an almost photo-real representation of the final 'look'. The collages would normally have the identical textures, light settings, shadows and reflections as the final design. However, it is not always that collages aspire to a complete representation of the final design. They are sometimes drawn in sketch format, or can be abstract, with very minimal indication of the actual colour or material. These types of collages do not create a complete image, but instead they may suggest some spatial quality, whilst hinting that there is still some space for the further development of a design.

CONCEPT SKETCH/COLLAGE AND FINAL RENDER
BY HAYES DAVIDSON

<

RENDER/COLLAGE: HOTEL CORRIDOR

COLLAGE: DREAM HOLIDAY COTTAGE

In an early Project Orange work, 'Dream Holiday Cottage 2003', a traditional collaging technique was used to assemble clippings from magazines and coloured paper to create an abstract image of a duplex apartment set in the mountains. In the apartment a double height wall can be opened which fills the room with the dramatic view. At the back of the apartment is a terrace with swimming pool. This work was published in the Observer Magazine in 2003. To inhabit the interior, Project Orange cut out a pair of flirtatious figures from the magazines. One of the figures was a model from the Cavalli fashion campaign. This use of the 'branded' imagery from the magazines prompted a threat of legal action for copyright infringement, revealing that, at that time, collaging could be limited in terms of source material. This collage was inspired by the British collaging pioneer Richard Hamilton, who had explored ideas of domestic space in his famous piece 'Just what is it that makes today's homes so different, so appealing?' – a collage of paper and magazine cuttings on paper and an icon of British Pop Art. Tellingly, in the 1990s Hamilton was invited by a television programme to demonstrate an artist's use of computers to generate art. His response was to recreate this famous 1956 piece digitally using Quantel Paintbox software.

Another related form of representation is the photomontaged view. The image here is a result of cutting and then joining several photographs which when complete gives an illusion of a new view. An early example of photomontage is Peter Smithson's 1952 proposal for the Golden Lane Housing Competition, which photomontages housing blocks onto photographs of the bombed site, with, in the foreground, the French actor Gerrard Phillippe. Project Orange has recently used photomontage to illustrate our competition proposal for new housing at Pembury Green in London which inserts a digitally generated image of the proposed building (itself a three dimensional digital collage) into black and white cut and spliced photographs of the site.

LINE DRAWING AND FINAL RENDER: RESIDENTIAL PROJECT

Sectional Frustration

JAMIE HUGHES

"The more art is controlled, limited, worked over, the more it is free: my freedom will be so much the greater and more meaningful the more narrowly I limit my field of action and the more I surround myself with obstacles."
Igor Stravinsky 'Poetics of Music'

Igor Stravinsky, the influential 20th century Russian composer, was talking about musical composition but in my opinion the sentiment is equally transferable to architectural design. Constraints and parameters can strengthen a project, leading to much greater creativity and design rigour.

In 'Delirious New York', Rem Koolhaas describes how the 1916 Zoning Law in Manhattan was introduced in the wake of the skyscraper boom at the turn of the century to ensure sufficient light reached the streets below. This creation of rigidly defined 'invisible envelopes' calls for increased creativity; or as Koolhaas phrases it:

"The Grid's two-dimensional discipline also creates undreamt-of freedom for three-dimensional anarchy"
Rem Koolhaas 'Delirious New York'

58 Barnes High Street is a Project Orange scheme with a lot of constraints. With a brief to create a mixed-use development of office spaces on the ground floor and seven apartments above, a substantial amount of programme had to fit on a compromised site. As well as the constraints of the 'invisible envelope' of pitched roofs from a previously granted planning application, the compact site (previously an MOT garage) is completely surrounded by a historic party wall with a three metre wide site entrance. The option to increase head space in the upper floors is limited by drainage issues and a tight budget preventing deeper excavation.

The sectional drawing is of particular relevance here. With the vertical limitations imposed, it became a vital tool in maximising the quality of spaces within the scheme. As Peter Cook proclaims in 'Drawing': *"The section is the aficionado's choice. Buildings can be infinitely debated through the forensic analysis of a section."* He goes on to describe the section as *"both technical and conceptual"* which I find to be especially true for 58 Barnes High Street where the long section is an elegant shorthand for the complexities of the project.

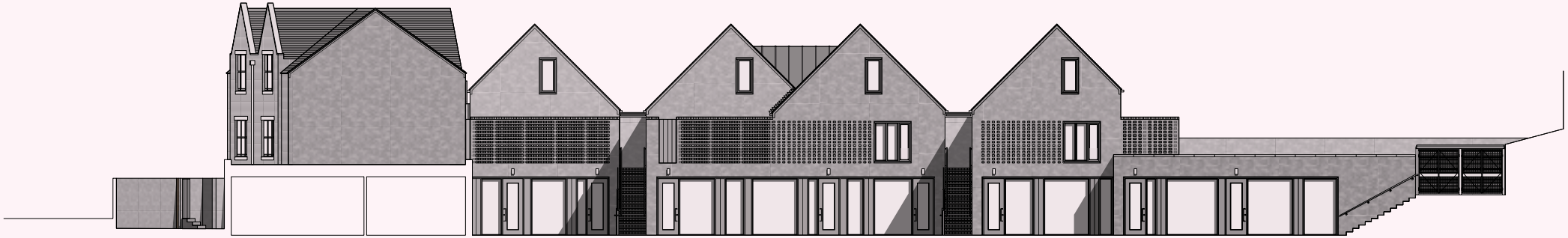
Although three dimensional modelling has overtaken orthogonal drawing with its seductive imagery, the section, it could be argued, sustains itself as a more satisfying image. In SketchUp, the Cross Section tool allows the user to sweep across the model, slicing through and creating sectional cuts in any direction. It is this realisation of a fantastically impossible composition which draws the viewer in; the reveal of the tensions within the structure and the capacity to absorb the whole scheme simultaneously from within, like looking into a dolls house.

From Gordon Matta-Clark's Building Cuts, to the tour around the Belafonte in Wes Anderson's 'The Life Aquatic', or even the British Museum layout guide, there is a seduction in being able to communicate concisely.

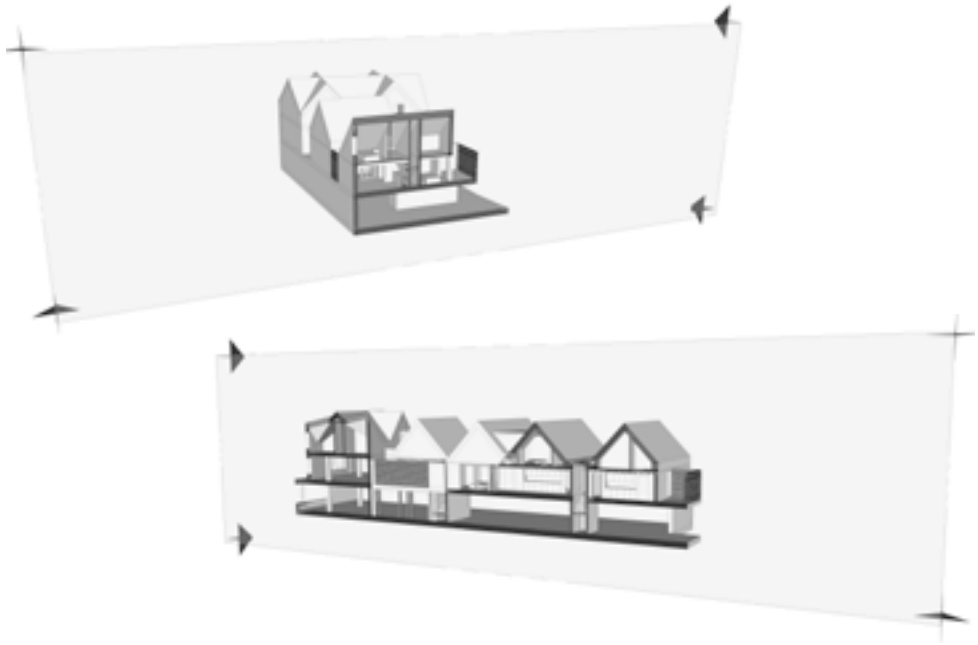
With 58 Barnes High Street, the cross section is utilised as a vital design tool to negotiate the planning envelope, service piping, structural build-ups, excavation, party wall underpinning, drainage options and overlooking neighbouring properties. In a project of this complexity, the various parameters and 'invisible envelopes' imposed upon the scheme serve to solidify the concept and consolidate the architecture and it is the sectional drawing which best describes this tension and unity.

The restrictions of the site entrance impact on the construction method significantly; pre-cast

LONG SECTION: 58 BARNES HIGH STREET



LONG ELEVATION: 58 BARNES HIGH STREET



SCREENSHOTS SHOWING BISECTED MODEL

concrete and large prefabricated elements are 'out' and timber stud walls and in-situ cast concrete are 'in'. Choosing to expose these elements – concrete soffit in the ground floor commercial space and exposed timber joists in the living spaces above with surface-mounted lighting – unashamedly celebrates the parameters imposed and plays on the light industrial heritage of the site. The height limitations of the envelope necessitate the maximisation of headroom throughout and so the traditional use of the 'attic' roof to the top storey bedrooms creates uniquely interesting spaces.

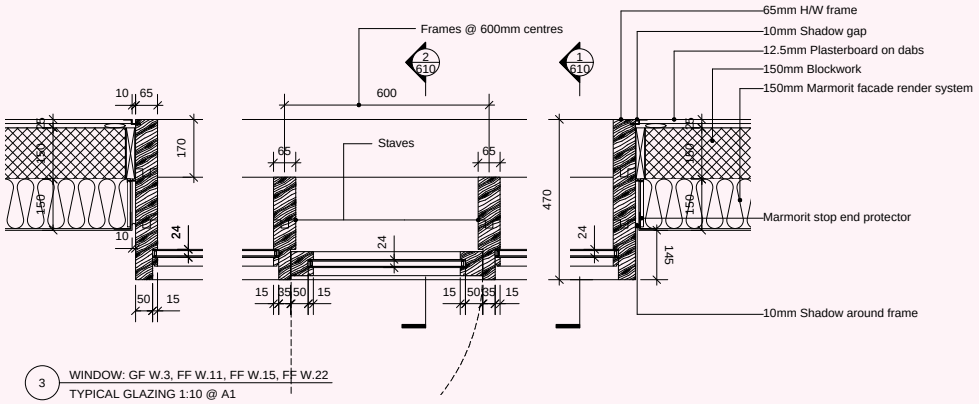
In the sectional drawing, the material concept is immediately apparent – from the concrete industrialism of the ground floor to the pitched roof timber mezzanines of the bedrooms and the excavated ground floor of the development with steps down from street level.

A requirement to shield the roof terraces from neighbouring properties resulted in full-height perforated brick screens wrapping across the first floor of the façade, thereby continuing the dominant material language of brickwork while adding textural variety. In addition, external communal access stairs to the first floor duplex entrances were developed when lobbies became an impossibility owing to the increased massing and proximity to the adjoining property. Rather than a negative omission, the exposed brick stairs become a distinguishing feature.

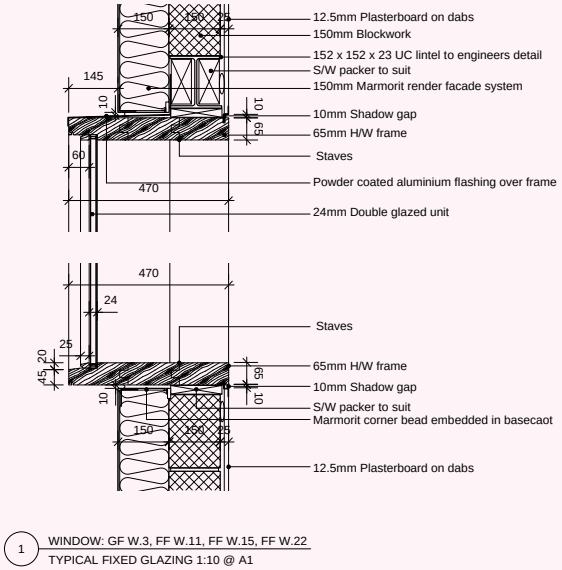
Beyond a mere exercise in tectonic juggling, the aim of the project was to create exceptional architecture in the realisation of the brief. The compact architectural solution became a sequence of unique and rich spaces for living and working, heightened and informed by the project constraints.

Tell Tale Details

IAN RITSON



PLAN DETAIL: WORKING DRAWING OF PROJECTED WINDOW



SECTION DETAIL: WORKING DRAWING OF PROJECTED WINDOW

If architecture is an exercise in narrative, a site where those who design or commission buildings will consciously or unconsciously encode meaning into the fabric of the constructed landscape, then it might be viewed as a repository of the everyday. Narrative can take the form of a grand urban gesture, but it could be argued that it is most profoundly felt by a building's user in its detail, either external or internal: architectural details are the DNA of a building.

An architectural detail produced by a designer is often regarded as a mundane technical drawing; used by a builder to assemble elements on site to achieve a particular aesthetic and to solve 'problems', such as weather proofing. The detail represents the building's construction and communicates meaning through the choice of materials, how these materials are fixed together and how they are finished.

The duality of technical function and aesthetic aspiration often go together to tell us something about the socio-economics of the time a building was built and the geography of where it was built. The methods used to fix elements together can tell us about the culture of its builder, the overall assemblage can hint towards who has designed a building and the style of the architecture.

Take, for example, the detail above; this is a window detail for a project in Suffolk, an analysis of which reveals a compelling story. The first element to draw attention to is the 600mm distance between mullions; this is not an arbitrary dimension, relating to a 600mm timber stud dimension. This distance in fact sets out all the windows, mullions and rafter feet for the entire project and originally it would have had a technical function as well, being used to set out the module of a timber frame. However, as the detail shows a masonry construction, something has changed the original design intent.

The masonry construction is a result of the project's economics. A cost analysis revealed that it would have been too expensive to construct the building in timber, but it was economically viable for the client to use block work. The change in construction did not affect the architecture and once the building is finished it will be impossible to tell if the building was built of timber or masonry construction.

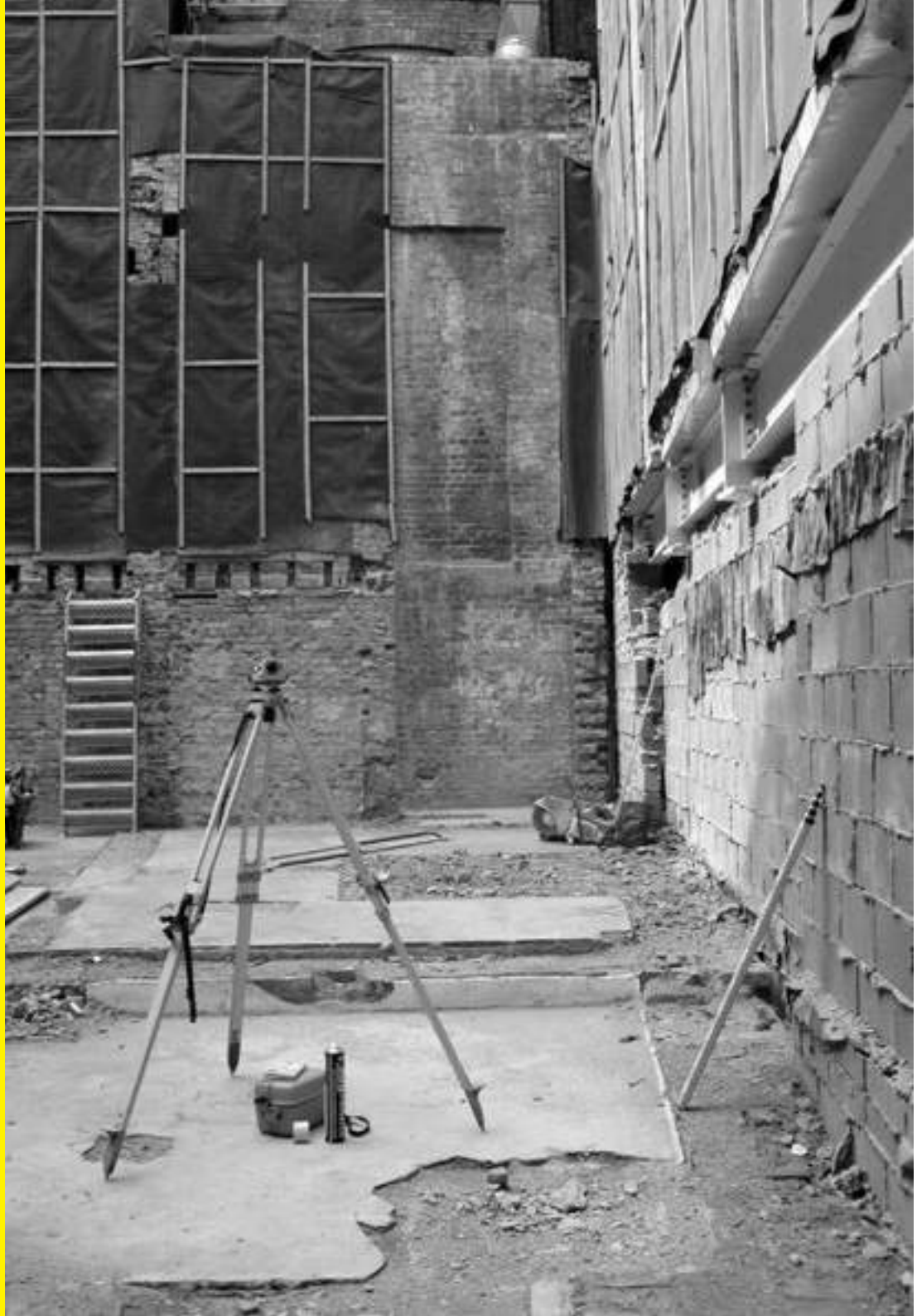
PROJECTING WINDOW

^
ELEVATION: 600MM SETTING OUT GRID

GLAZING TO HALLWAY

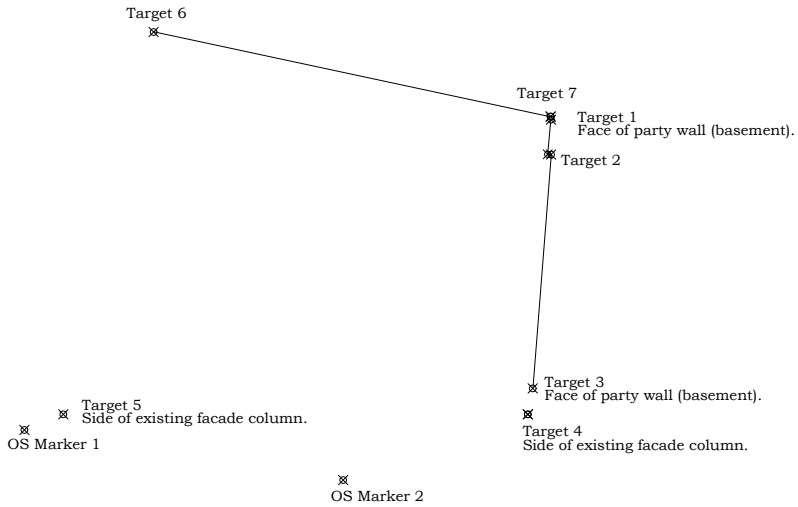
The windows themselves are deep solid sections of oak with vertical mullions reminiscent of the local vernacular. The windows are ‘object like’ and the frame forms the interior surface of the room. No window boards are used, giving the site operatives very little tolerance and demanding much from the window maker.

The external sill detail carries a hidden story. Although similar window details have been used before by Project Orange, the window subcontractor at West Stow raised concerns about the fall on the window sill. After discussing the matter with TRADA (Timber Research and Development Association) it was agreed to increase the fall from a nominal 1 degree angle to the TRADA recommend 9 degrees. This was achieved and the window remained in a single piece. Though it could be argued that this is a mutation on a Project Orange detail, only time will tell if this variation becomes an evolutionary development and is used again or if it is an evolutionary dead end.



What Information is Beautiful?

RUTH SILVER



AGREED DATUM LOCATION PLAN: POST DEMOLITION

As architects we spend the bulk of the duration of a project compiling information. This information takes many forms whether this is drawings, spreadsheets or written specifications. Regardless of format, what they contain is data: grid lines, levels, clauses, thicknesses and constraints. That is, information for building.

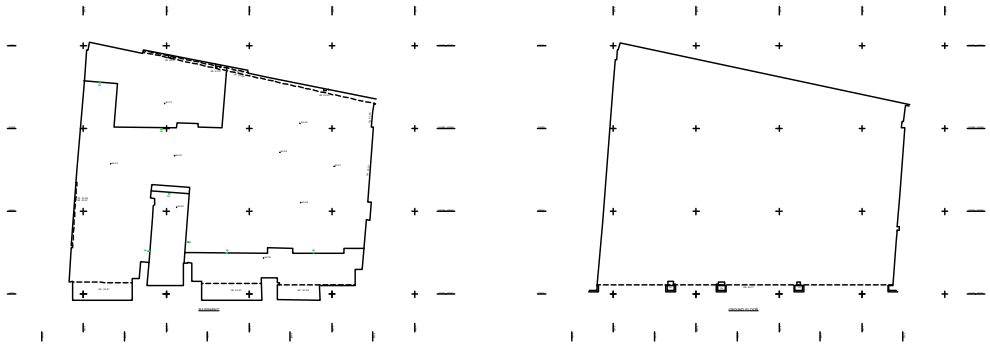
I am something of a self-confessed information junkie. I believe there is something deeply satisfying about the fact that every bolt and building board can be named through code, performance specifications and references. A wall can be drawn, but it can also be written. The fact that an entire architectural project can be represented both by drawing but also by writing is not just intriguing – it is beautiful.

4 – 12 George Street, Oxford is an intricate façade retention with a new building inserted beyond. We have been on site with this highly complex project for almost two years, but it was only after many months of demolition when we were able to gain access to survey all the existing parameters and effectively "see" our site for the first time. Previously, we had drawn our construction details to appear perfect, beautiful perhaps. On these details, our existing walls were straight and orthogonal, but the reality could not have been more different.

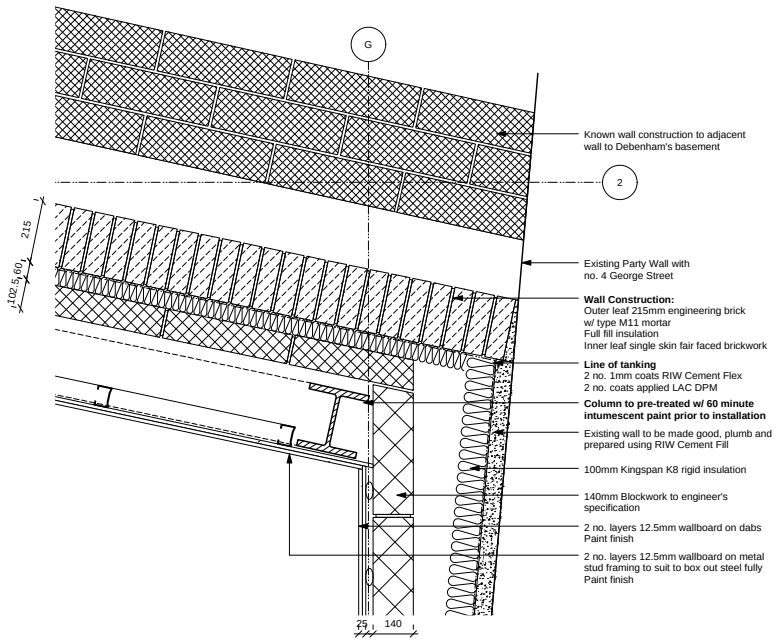
Post demolition, our main contractor identified a series of targets to take measured survey data in order to define the actual boundary of the site. The "map" of targets was emailed to me. It reminded me of some kind of secret treasure map, which had

<

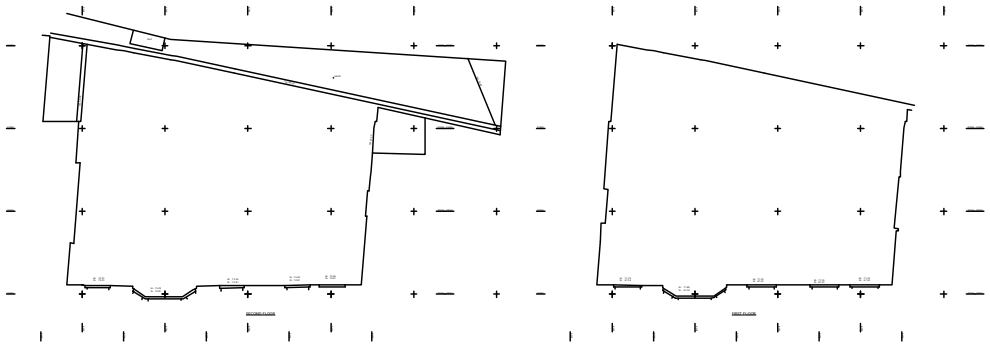
SITE PHOTOGRAPH: SETTING OUT



SURVEY PLANS AT ORIGINAL FLOOR LEVELS: POST DEMOLITION



PLAN DETAIL: NORTHEAST CORNER



NORTHEAST CORNER

been hidden under a brick waiting for someone to discover it – most definitely an object in itself, not merely just a piece of information.

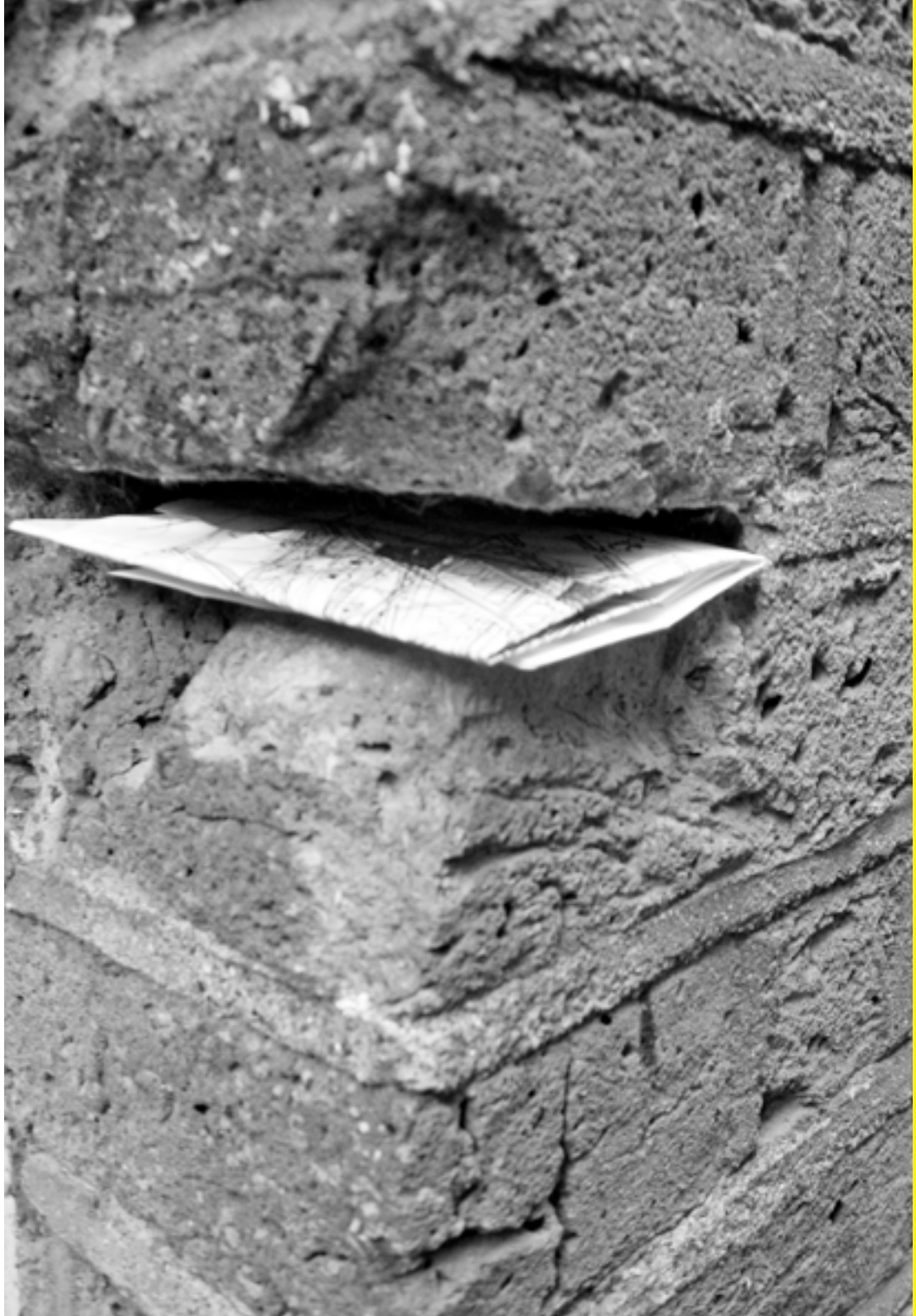
When the completed survey was circulated it appeared less like a building and more like some kind of sewing pattern littered with loci and dotted lines. A fact, which becomes even more poignant given that in 1895 when the building was first completed, it was occupied by a dressmaker and a cabinet-maker. Again, the information itself, taking on the guise of both artefact and a representation of history.

The reality of uneven lines, gaps, chimney flues, positive and negative projections trapped within the party walls paints a very different picture to that of the "perfect" construction details originally drafted to represent the project. Now, well under construction these remnants of data past have become trapped within the new build, like time capsules or mementos. As work progresses, new data is layered on top of old. Pipes, ducting, cable trays and structural steel are being woven throughout the building. This process is constantly evolving.

Some of these images are not as formal as the data you might expect to represent a building. For me, this information represents a true narrative of the project; a collaboration between architect and builder, but also of site history and something a little more whimsical. This information does not require an ISO number; it is the DNA of this project – unique and in my opinion, quite beautiful.

My final image is that of pure fiction, a layering of information. Perhaps it will find its way into a service void or a deeper crack in the Party Wall? If it does, that is one piece of information I won't be willing to share.

EASTERN STEEL FRAME AND HISTORIC PARTY WALL FLUES



Representing Composition

CHRISTOPHER ASH

I have chosen to reflect on representation in the design, realisation and interpretation of our project in Sheffield, 192 Shoreham Street and in doing so plan to make reference to musical analogy. Great thinkers have, since classical times, attempted to define principles of visual beauty through the extrapolation of rules of musical harmony. And in the language of metaphor it was Goethe who famously stated:

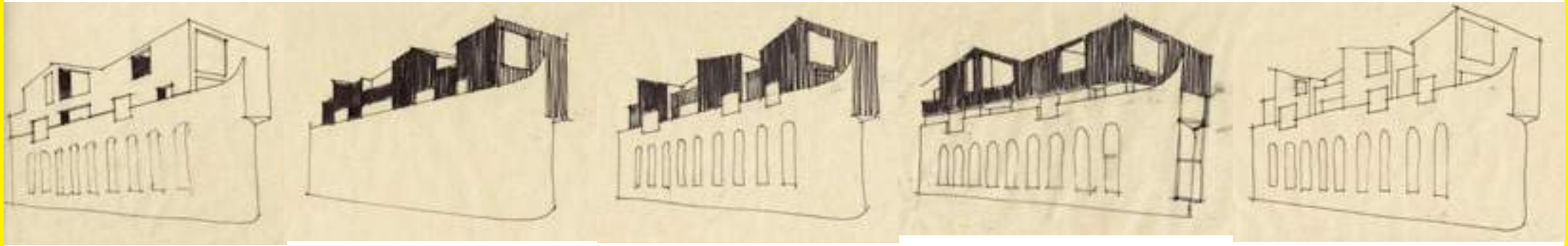
"Music is liquid architecture; Architecture is frozen music."

It struck me that such analogy is not only useful in the reading of the completed project but that strong parallels also exist between the art (or process) of musical composition and that of architectural design.

192 Shoreham Street is a mixed-use building comprising a two storey upward extension of an historic brick industrial building. The completed project, it could be said, "photographs well" and a number of striking images have been widely published in international digital and print media. Notwithstanding the project's success in responding to the immutable architectural contingencies of programme, context and cost, this photographic representation, these emblematic images have now almost become the project in that it exists as powerfully in the image as it does in real time and space.

It is important to understand why these photographic images are compelling. I believe it has much to do with the dynamic, and in terms of architectural convention, subversive, relationship between the old and the new. The new extension, far from polite, might be said to dominate the parent building. Yet it does not overwhelm it. Indeed the laconic brick structure is rendered more purposeful serving as a perceived muscular plinth to

A STRIKING IMAGE: 192 SHOREHAM STREET



SKETCH DESIGN DEVELOPMENT

the lightweight dynamic form of the extension. The two parts share a complete mutual dependence.

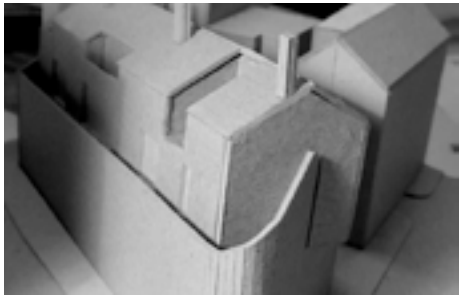
These are still the conventional terms of architectural critique however a reading of the building through musical analogy can help further explain the power of these images and by extension the essence of the project.

The existing building is the basso continuo of the composition, the anchor that sets the rhythm and builds the harmonies that support the flourish of the melody carrying soloists above. The building plays from left to right and, in a challenge to Goethe, it could be argued that this architectural music is not frozen. The bite into the brick structure where a deep window breaks the otherwise inviolable parapet line is the opening chord, an emphatic moment of unison. The two parts proceed together, irreducible, but with their distinct character underscored by the narrow recessed band of solid, void and window that separates old and new and establishes a secondary play of point and counterpoint within the upper parts. These rise and fall against the regular rhythm of the base (bass) to the terminating interrupted cadence of the musical phrase, the dramatic cantilever of the eastern corner.

The project has been composed and is composed. Much as a composer may rework and refine a musical phrase, the final form of 192 Shoreham Street was derived through the reiterative overlay of yellow trace and felt pen in the incremental pursuit of an aspired-to rightness – the sweet spot where, in the eye of the composer nothing can be added or taken away. The sketch in this instance, in terms of process, is purely instrumental. Each overlay, with nuanced changes marks a significant step in the evolution of the final design. It is not about loose possibilities, but dogged pursuit of a perceived absolute, the point where the parts combine to be so much more than their mere sum.

There are of course no real absolutes – and the rules of musical harmony do not actually translate into rules of visual proportion. But the pursuit of a desired beauty, harmony and balance are real and in this the sketch is a tool that contains and builds the DNA of the final design without being necessarily a thing of beauty in its own right.

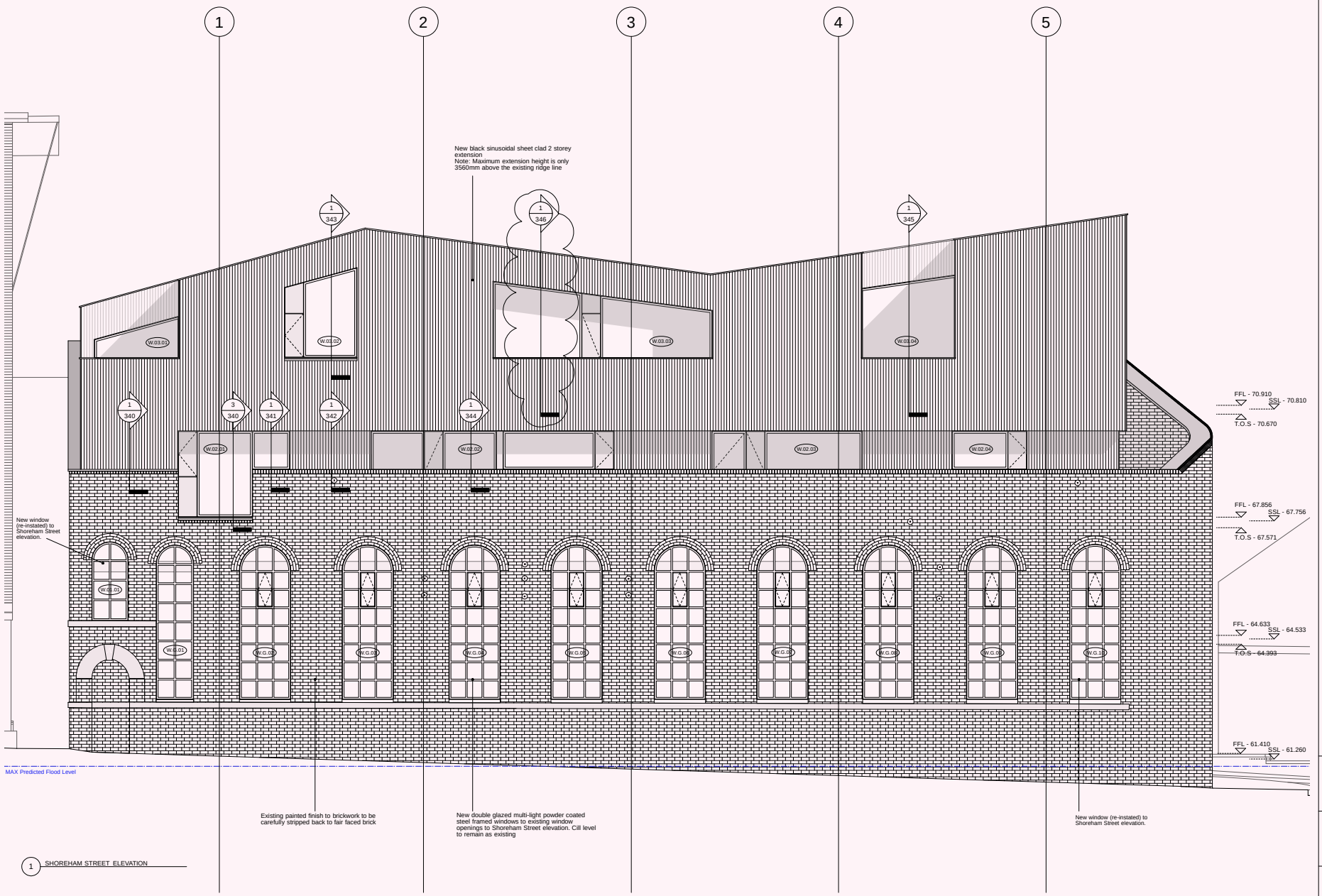
If the sketch is the musical phrase then the working drawings are the orchestration, the building's score, played to the time signature of the construction programme. The hundred plus drawings for Shoreham Street bring together the innumerable



MODEL PHOTOGRAPH

parts that make the whole, defining with absolute precision their relationship one to the other and effecting the transition from ephemeral sketch to work of substance. Light, shade, colour and texture are terms applicable equally to music and architecture and it is through the medium of the score or the working drawings that these qualities are made manifest.

In returning to the completed project, the image should therefore be understood paradoxically as a visual ear-worm, like a musical phrase that you can't get out of your head, the image of the building playing its tune on a loop.



1 SHOREHAM STREET ELEVATION

NOTES

ALL SETTING OUT MUST BE CHECKED ON SITE
ALL LEVELS MUST BE CHECKED ON SITE
ALL DIMENSIONS MUST BE CHECKED ON SITE
DO NOT SCALE FROM THIS DRAWING
THIS DRAWING MUST NOT BE USED ON SITE UNLESS ISSUED FOR CONSTRUCTION

TENDER ISSUE

	Date	Init.	Revision
det ref	04.01.11	RS	E
det ref, tender	30.12.10	RS	D
win nos	25.11.10	RS	C
windows	22.11.10	RS	B
gen update	17.11.10	RS	A

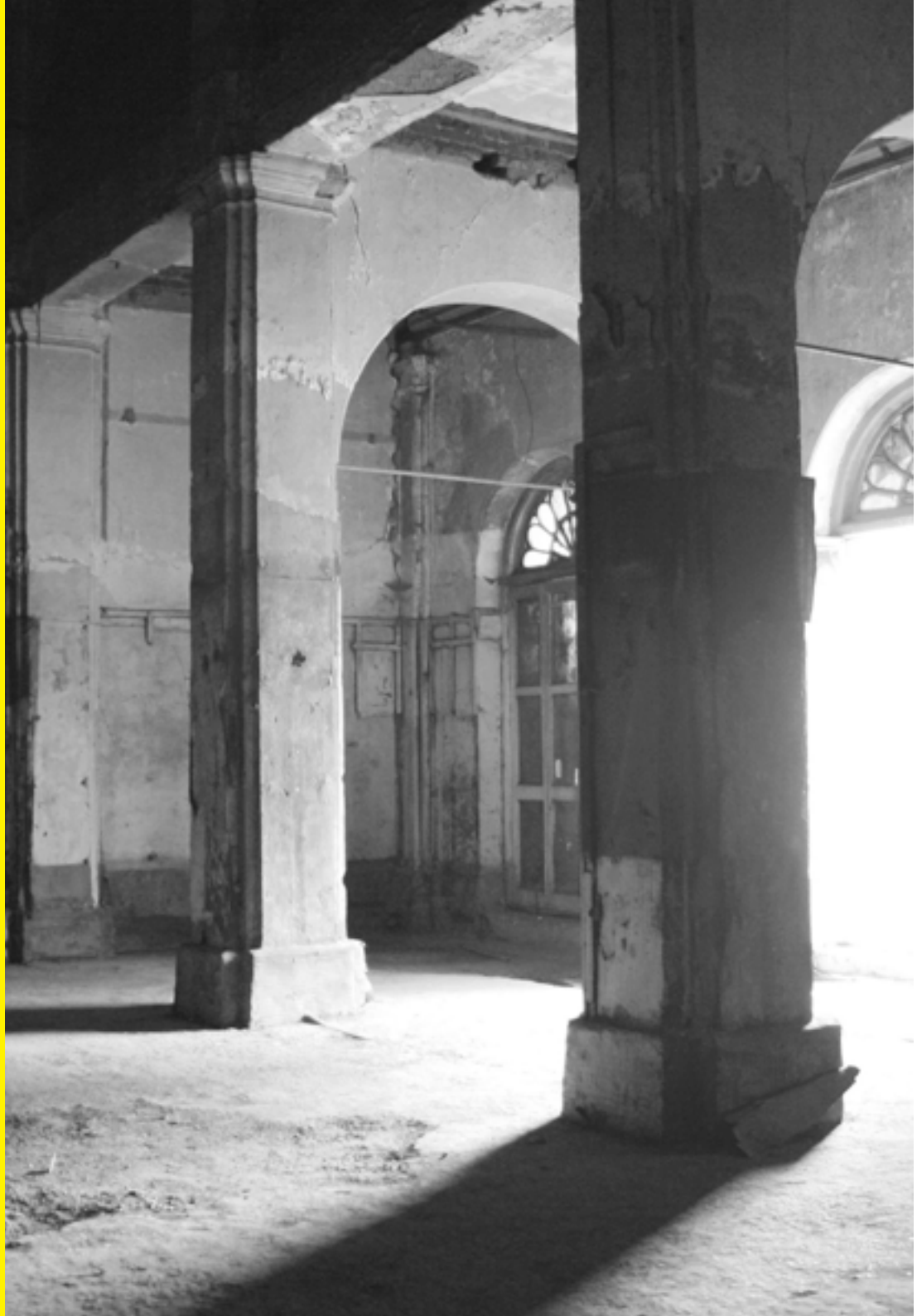
PROJECT ORANGE
2nd Floor Block E Morelands,
5–23 Old Street, London EC1V 9HL
t 020 7566 0410 f 020 7566 0411

Project
192 SHOREHAM STREET
SHEFFIELD, S1 4SQ

Drawing
PROPOSED ELEVATION
SHOREHAM STREET

Drawn	Date	Scale
RS	19.03.10	1:100 @ A3 1:50 @ A1

Job No.	Drg. No.	Rev.
0905	205	E



Seducing with Shadows

HOLLY REES

"Shadows reveal the light of Architecture – the representation of shadows reveals the idea embodied in the design"
Vicenzo Scamozzi

Light and shadows are one of the most significant architectural generators when considering the atmosphere or desired quality of a space. But with something as intangible as light, how can this be effectively represented to a client?

An idea can be held in a designer's mind; they can imagine the space, the depth of shadows in a darkened cave-like enclosure or the vibrant, sparkling light that can penetrate in shafts to enliven an over-scaled void. As designers, we are selling an idea. We want to portray fully and effectively our imaginings in a way that will seduce the client and convince them to undertake the scheme. The aim is to demonstrate the spirit or atmosphere of a place and as this essence of a building is something that is experiential in real form, makes the successful representation of ideas at design stage all the more imperative.

Some designers simplify the forms of spaces and choose building materials because of the way they will react and come to life when natural light clothes them. Light in itself acts independently from the objects it comes into contact with, shadows are a product of this union and the depth of shadows can be manipulated to add richness to a space. The value of light is diminished by uniform illumination, making the space appear shadow-less and dead. Careful thought about the sculptural effect of direct illumination can enhance the value of the light. Light is a dynamic force, the temperature, intensity, tonality and temperament of natural light is ever changing. Through the variation and interplay of heavy and light shadows in the space, a deep sense of atmosphere is created.

As a drawing exercise at university we were sent out into the city to sketch spaces using different methods of representation. One study involved drawing only shadows, hollowing out the forms and depths of a space, creating a series of layers that cannot be represented by a line pencil drawing. Another exercise involved using clay to hollow out small, cave like spaces, which we then pierced with slits and shapes. Shining light through the openings and taking photographs from the perspective of a person standing in the space, this basic form of representation effectively demonstrated the ethereal and real quality of the light as it entered and moved around the dark void.

In cooler climates around the world, shadows bring gloom to a space and are associated with poor health in cities. Light has been viewed historically in many cultures to be essential to sustaining life, by deterring a large number of diseases. In Religion, natural light arouses feelings of mysticism and conveys the sacredness of a place. The changing attitudes towards daylight and architecture over the centuries help to convey the dramatic variations in the meaning and handling of light.

In warmer climates, the heat of the afternoon sun is avoided and the need for shade-sensitive design is vital for human well-being. In many Eastern cultures, the requirement to maintain a comfortable living temperature in a hot climate has led to a repertoire of light controlling elements being invented and improved over the centuries. Screens, membranes, openings and finishes become optical instruments to control the intensity and frequency of the light they receive. Natural light can be obstructed, dispersed, omitted and reflected in a variety of ways that reduce the potential overheating of an internal space.

In Japan, vernacular architecture involved cavernous roofs, overhanging eaves and porous

<

SITE PHOTO: NEDOUS HOTEL, SRINAGAR

PHOTOGRAPH: EXISTING VERANDA

RENDER: PROPOSED VERANDA

walls to obstruct sun, disseminate light and allow breezes through the interior spaces. This was suited to the sultry climate leaving internal spaces heavily shaded and cooler in temperature and although shrouded in shadow, were seen to possess a certain beauty.

In India, where a number of projects currently being undertaken by Project Orange reside, the light is famous for its majestic and magical properties and has an intrinsic role to play within a space. Due to the climatic forces at play, different methods have been used traditionally to control natural light. When the sun is higher and hotter, intricately pierced, carved stone screens called jalis are used to filter and disperse the light. Water located outside a building is used to reflect light into a space, emitting the heat but creating soothing rippling effects of light at its interplay on the walls and ceilings. Stained glass motifs, showing the traditional use of the coloured glass, throw subtly changing patterns of diffused colour on the floor and walls. Mud is sometimes used on the exterior wall of the buildings, indented with a steel bowl (Vatki) to create a relief pattern of shadows on the façade, so that only half the wall is in direct sunlight at any one time.

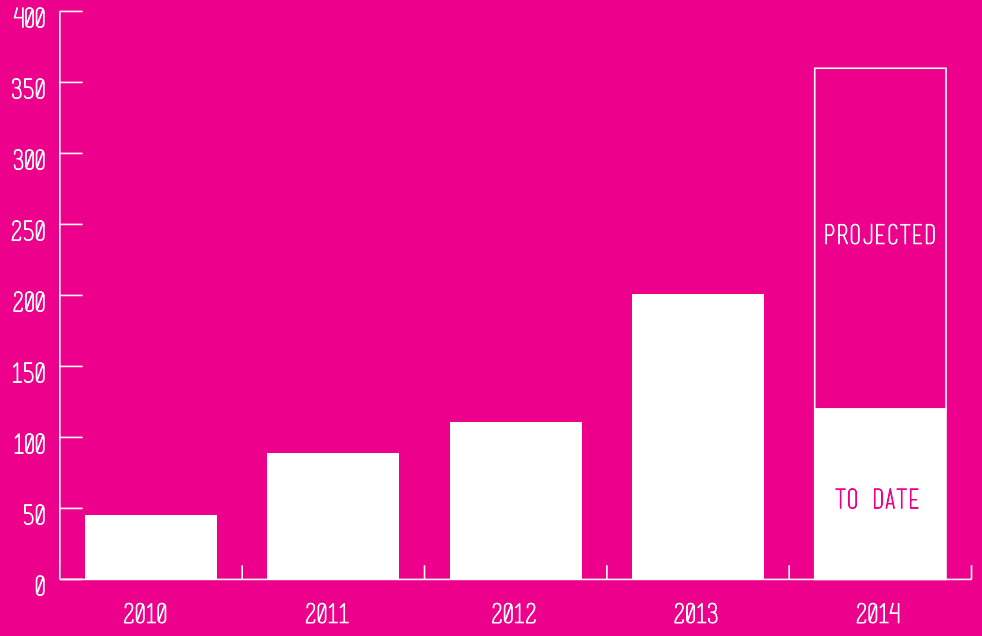
There are many forms of representing light and these processes have evolved and recycled in fashions over the centuries. Following on very closely to the development of the perspective drawing, shadows became prominent as a tool to depict an architectural design, allowing cast shadows and perspective to be seen as the two shaping factors of architectural representation. Shadows are employed as an aid to a more truthful and realistic representation. However, as a representation illustrates a frozen moment in time, it is necessary for the designer to acknowledge an “ideal” position of the sun, possibly limiting the portrayal of the potential dynamic quality inherent in the movement of the sun across the day and throughout the year.

During my architectural eduction I was able to build beautiful models and hand draw each shadow for a final presentation, but in practice time constraints and rapid evolution of a scheme can make this careful depiction unrealistic. The practicality and effectiveness of creating three dimensional models of a space and rendering views is an important factor in architectural practice. There is now three dimensional modelling software that can depict the rays of light entering a dusty space, each speck of dust modelled as a minuscule particle of light. Getting the balance and depth of light and shadows correct in a render is a lengthy process and is something that comes with experience; it takes several drafts, slight alterations and patience to get the light right.

RENDER: PROPOSED REFURBISHED DINING ROOM

PO:Rendering

HOW MUCH DO WE RENDER?

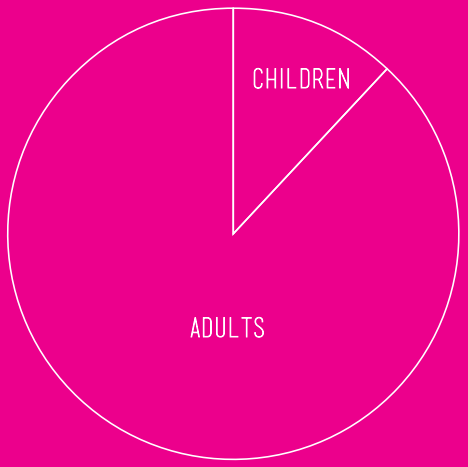


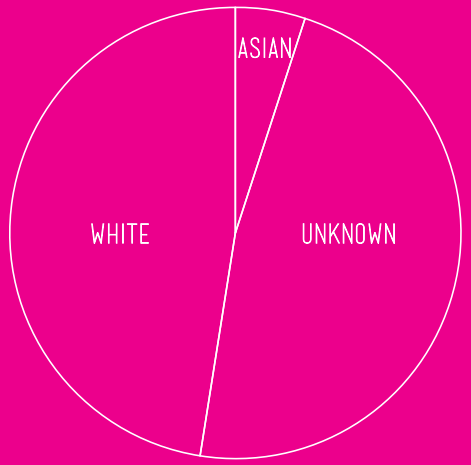
RENDERS ISSUED ON INVOICING PROJECTS 01/2010 - 04/2014

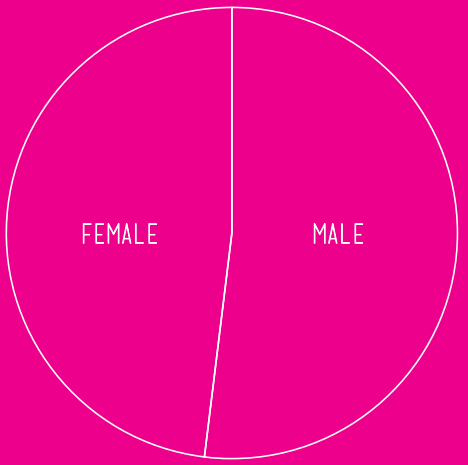
WHAT PEOPLE ARE IN OUR RENDERS?

AVERAGE NUMBER OF PEOPLE IN A RENDER

9.5







BASED ON THE RATHBONE MARKET PROJECT

Building to Draw

OWAIN WILLIAMS

Prior to the fifteenth century, regard for the architect was low due to dispersed authorship and an association with the manual labour involved with on-site construction. The drawing was understood to be no more than a flat depiction and the geometries upon it were but gestures of three dimensional objects. A command of drawing and methods of representation liberated the architect from the place of construction and gave rise to a position of intellectual superiority, similarly to how the rise of musical notation afforded composers a distance from performance and thus a perceived scholarly authority in the production of music.

Drawing remains the projective tool of the architect. Depicting visions of a proposal as if already in existence, its role also extends to describe the construction of a building to those on site charged with fabricating it. Architects draw protectively to convince and to describe - be it to clients, planners or builders.

At Project Orange, the decision to commission a graphic representation of Cemetery Road, a new-build mixed-use scheme in Sheffield does not sound particularly surprising or unusual in itself. However, when this drawing was produced, the construction of the building had been completed and photographs had been widely published in the architectural press and beyond. Drawing may be acknowledged as the primary tool of the architect, but producing a drawing retrospectively serves no direct professional purpose. Does this suggest that the execution of the construction was in some way inadequate, leaving the office to reappraise the proposal as envisioned on the drawing board?

What is more interesting is the suggestion that the project eponymously placed in the office's name is not ultimately a constructed one.

The notion that architects produce drawings rather than buildings is a commonly accepted position

PHOTOGRAPH: CEMETERY ROAD

GRAPHIC ABSTRACTION: CEMETERY ROAD, BY MARCIA MIHOTICH

in architectural discourse. Yet, in re-producing a drawing to represent the architectural reality, the decision to revert to the drawing board suggests that the project does not end at a building's construction. Project Orange's work instead suggests that the development of a graphic identity interwoven with its built portfolio is central to its meta-project, and fundamental to the conceptualisation of the next piece of work.

What if the act of building was conceived as an elaborate means of producing another drawing?

Project Orange have collaborated with landscape gardener Janey Auchincloss on a garden for the 2014 RHS Chelsea Flower Show. As in any construction project, the nature of the information produced by the architect must be incredibly diverse to satisfy consultants, collaborators and clients with varying agendas and areas of knowledge. Propagating the meta-project of the office whilst mediating between contrasting stakeholders is a challenge every office must address. A specificity of drawing operates as Project Orange's primary means of doing so.

In this case, a collage of Himalayan artefacts and architectural elements assembled by James Soane operates as the plan: a primary generator for the arrangement of the garden. The patterns and figures collected in the collage suggest an aesthetic, highly visual investigation into the organisation of the garden. Traditionally a means of describing an order or arrangement, this drawing undermines the convention of the plan and instead offers an aesthetic map that hints at contrasting visual dynamics whilst remaining an abstract (and fundamentally two dimensional) architectural drawing.

Just as in any building, the plan is an abstract view that will never be visually experienced by the user. In this case where a plan has been saturated by image so intensely, the appearance suggested

RENDER: DESIGN FOR HIMALAYAN ROCK GARDEN

by the collage itself will remain hidden from the viewpoint of the subject in the completed garden and reserved instead for indulgence in the realm of the abstraction of drawings.

In this case, the primacy of the drawing as a critical generator for the garden supersedes any conventional notion that the direct production of architectural space is the objective of the architect. Those experiencing the garden may be entirely unaware of the collage and will not ever experience the project in the same way as it has been represented in the design process. This leads us to a critical question: why dislocate the two?

Many people will not experience the garden directly but will engage with it through text, photographs and drawings. The nature of architectural publishing and the fetishism of the blog produces a visual environment where work can be legitimately experienced without ever having to visit the project itself. If you were to ask a room full of architects which project had influenced their work, many would cite buildings they have a knowledge of exclusively through lectures, books or even websites. In this type of environment, the modes of representation chosen in the design of spatial environments become experiential pieces in themselves, equal in stature to the constructed garden.

Attributing such importance to a graphic abstraction exaggerates the distance that exists between architectural drawing and constructed reality, between the point of construction and the point of design: a distance first seen during the rise of drawing in the Renaissance.

The constructed garden becomes an abstraction of a drawing. Whether or not a new collage is produced after the construction of the garden is completed remains to be seen, but whilst an agile process of graphic production remains at Project Orange, so will the elastic interpretation of what that project truly is.

<

PLAN: RHS HIMALAYAN ROCK GARDEN

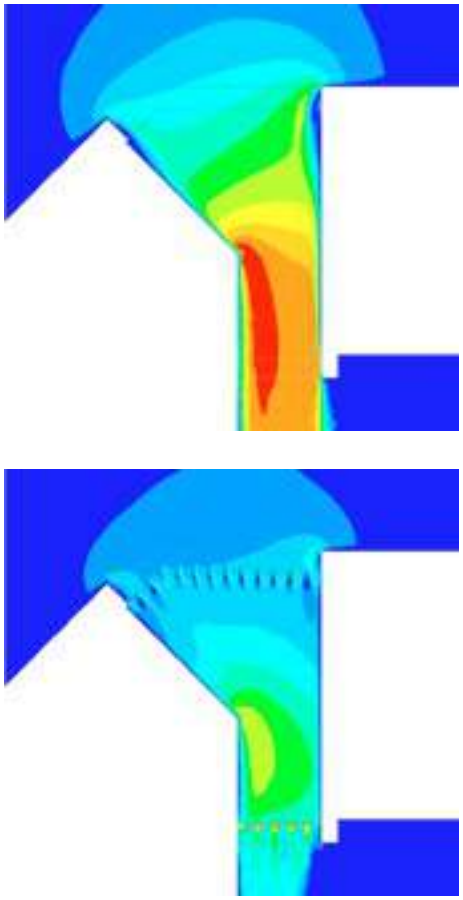
Simulating the Future

THOMAS PARTRIDGE

The tools now at the disposal of anyone with a computer allow the creation of exceptional architectural imagery where nothing is exceptional about the architecture; seduction without substance. Architects have long maximised the representational tools available to them in order to engage people with their designs. The capacity of photorealistic images to communicate with the widest possible audience is clearly reflected in their ubiquitous use. While the use of these images by clients and marketeers to sell their buildings is inevitable, how we designers use them is not. It is often argued that photorealistic imagery is devoid of the capacity to clearly articulate architectural ideas and that the now commonplace outsourcing of visualisation production has led to the homogenisation of the 'final' architectural image. However, the problem with the render isn't its ubiquitous use, but the often perfunctory, uncritical nature of its production.

First developed in the 1970s, computer algorithms designed to create photorealistic images were developed on the premise of accurately simulating light transport. Advances in computer technology allowed the development of global illumination algorithms, which were tested by simulating scenes that could be easily recreated in the real world for comparative verification, such as the Cornell Box. The objective was total simultaneity. But these simulations are devoid of the material reality intrinsic to a physical model; sitting between the processes of computer modelling and photomontage, they are snapshots of a parallel (modelled) reality.

The computer model from which the render is taken can be incredibly 'hot' with information, including a huge range of material properties, light sources, global positioning and orientation, but falls short in portraying many of the complexities which make up real-world environments. The introduction of hard-to-simulate features such as context, plants, people and material imperfections is often achieved using



WIND SIMULATION TESTING NO MITIGATION VERSUS THE INTRODUCTION OF PERMEABLE SCREENS: RATHBONE MARKET

<

RENDER: RATHBONE MARKET, BY HAYES DAVIDSON

RENDER

PHOTOSHOP

THE CHELSEA GARDEN PROJECT DEMONSTRATES A DESIGN PROCESS WHERE THE SIMULATION ALONE IS OF LITTLE USE. THE SIMPLE GRASSES WE WERE ABLE TO SIMULATE ARE NOT SUFFICIENT AND PHOTOMONTAGING WAS UNDERTAKEN IN CONSULTATION WITH THE LANDSCAPE DESIGNER, WITH SPECIFIC PLANT SPECIES OR CLOSEST MATCHES USED TO ACHIEVE THE MOST ACCURATE REPRESENTATION POSSIBLE.

Photoshop, but the render can quickly become tacit in deceit. Whereas conventional photomontage allows the rapid embodiment of ideas and spatial relationships into a working drawing, photoshopping the render amalgamates the designed and the simulated-real into single gestures of pasting, blending and masking. As a result, this process can add an unwarranted sense of reality, and in doing so belies the true nature of the simulated environment. Clearly the richness of real environments is incredibly important in real life, but when applied to the render, are we at risk of fooling ourselves?

The render alone is a photorealistic visual simulation, directly comparable with the way that weather forecasters use real world observations to predict future outcomes and Formula One teams use flow-vis simulators to test aerodynamic effect. This likeness is elucidated by the use of the Rathbone Market computer model to produce both rendered visualisations and wind speed analysis. Similarly, the design of the project was in part defined by the need to keep all habitable spaces above the 100-year Thames Basin flood plane – a line that is based on a much larger scale simulation of potential storm surge scenarios with which the Thames Barrier cannot cope.

Such simulations will always come with limitations, and failure to take account of the complex ways in which high winds and rain could cause a storm surge to behave would likely make this datum ineffective in the event of a 'perfect storm'. In the same way that these simulations utilise a limited amount of data to compensate for a lack of computer power, our visualisations are limited in ways that must be understood. While they are produced similarly to the photograph, they are really photo-real simulations; visual 'forecasts' of the future. As a result the render is best seen neither as a working drawing nor a final image, but as a reality-feedback-loop in the design process, testing potential visual outcomes.

In the future these frail snapshots will be rapidly replaced by game-like worlds of simulation, with the capacity to combine wind, rainfall, flooding, pedestrian flow and thermal performance into a direct and responsive visual environment. As designers, our capacity to 'feed' these virtual environments with enough information to sustain meaningful outputs may challenge our ability to maintain creative oversight and design intent in order to ensure that our projects continue to embody the ideas which give them 'life' in the real world. Both the role and accountability of the architect will change dramatically, but virtual environments constructed with the objective of total simultaneity are necessarily of interest because we are embroiled in the design of reality. We are simulating the future in a far more scientific way than ever before and, although the render can arguably be sterile, the technological capacity to experience the inter-reflections, refractions and absorptions of light within a space can also instil a thrilling sense of the real, and a glimpse into the future complexity of architectural simulation.

SIMULATION - NO GATE

SIMULATION - WITH GATE

RATHBONE MARKET PHASE 3: RENDERS TESTING THE DESIGN CHANGE OF AN ADDITIONAL ENTRANCE GATE TO PREVENT THE AREA BEING USED BY NON-RESIDENTS FOR SHELTER.

PHOTOSHOPPED - NO GATE

PHOTOSHOPPED - WITH GATE

THE PHOTOMONTAGED VERSIONS ADD ONLY A SUPERFICIAL FEELING OF LIFE AND ACTIVITY TO THE SCENE, CONCEALING BOTH THE MOTIVATIONS BEHIND THE DESIGN DECISION AND THAT A NEARBY UNDERPASS JUST OUT OF SHOT WOULD LIKELY SERVE AS A FAR MORE ATTRACTIVE RESTING PLACE FOR THE HOMELESS..

MOSCOW OFFICE ATRIUM RENDER

Credits

Executive editor
JANE TANKARD

Managing editor
JAMES SOANE

Design
THOMAS PARTRIDGE

Copy Editor
RUTH SILVER

THANKS TO JANE TANKARD FOR HER PATIENT MENTORING AND SMART EDITING.

Photography
JACK HOBHOUSE
GARETH GARDENER

Printed by
SURE PRINT SERVICES

Additional renders
HAYES DAVIDSON

PROJECT ORANGE
COSMOPOLITAN HOUSE
10A CHRISTINA STREET
LONDON
EC2A 4PA

WWW.PROJECTORANGE.COM

Project Orange is:

JAMES SOANE
CHRISTOPHER ASH
GUIDO VERICAT
RUTH SILVER
BARRY STIRLAND
ALESIA SIROKINA
EMMA ELSTON
IAN RITSON
HOLLY REES
JAMIE HUGHES
OWAIN WILLIAMS
THOMAS PARTRIDGE
BILLY SINCLAIR

PO STUDIO

project
orange