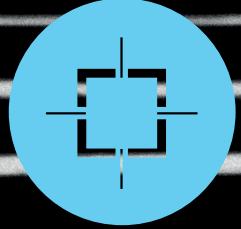
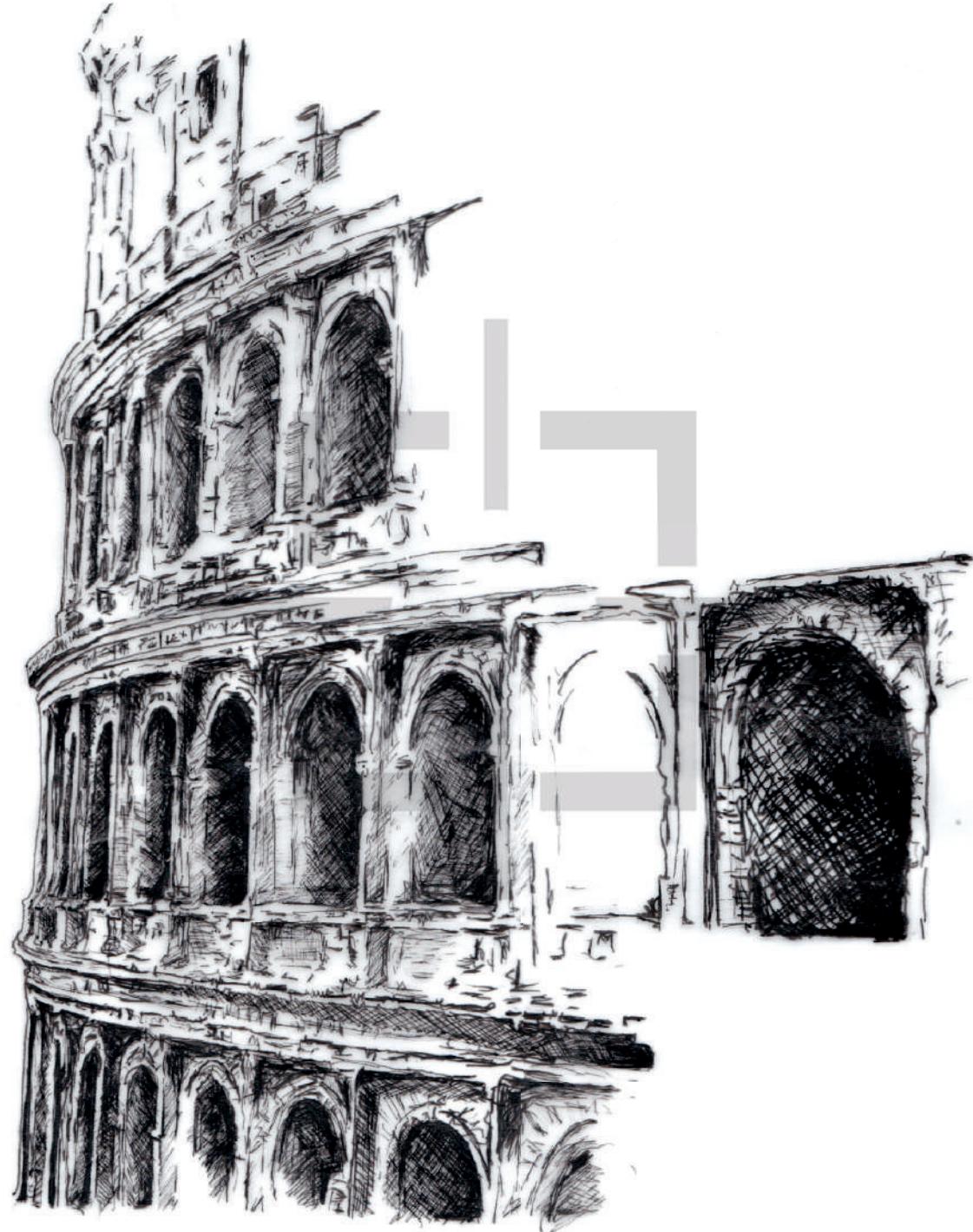


# paperspace



THE UNIVERSITY OF BATH DEPARTMENT OF ARCHITECTURE AND CIVIL ENGINEERING  
ISSUE SIX O R I G I N NEWS HISTORY  
MAY 2016 OPINION REVIEW



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Thank you to those who contributed their photos, work and drawings

**Cover**

Josh Page

This is my last issue of paperspace as Editor in Chief, as the scary realm of 'real life' awaits me in the Summer. Fortunately, an issue on 'Origin' is something I can reflect on.

We begin with peruse through what the year groups have been involved in over the past semester. Of course, the **Vertical Studio** project kicked off the semester, with action from 1st, 2nd, and 3rd years. Shortly after, people began their **placements**, which are all over the world. We can find out the gory details of what's going on in Delft, Helsinki, Madrid, Munich and Paris. There is further insite to two wilder placements in Italy and Vietnam. Finally, we welcome a previous paperspace contributor to share his **outside view**, when he returned for first year reviews.

But what does origin really mean? For many people it can mean different things; is it the beginning of time? or the origin of my drawing... Why does sketchup always seem to move the origin!? As we delve into the meat of the issue, we encounter a first contributor insight into origin, and how **inspiration** is made in the Big Apple. Deeper still, we can explore the origin of **Ideas**, the history of **architectural drawing**, and some incredibly primitive, yet surprisingly clever **Nuragic architecture**.

Throw in a review on Italian author Pier Vittorio Aureli, and his book about absolute architecture, and we have a pretty good view on origins? Nope. This being a student magazine, we have to have a dig at someone. Find out why **bad architecture** might exist, and if it is really our fault.

Origins can mean the beginning of things in so many ways. They can be very near to us, or incredibly far away, physically, mentally, and in time. They are both literal and implied, yet so rarely do we actually experience the origin of anything.

I hope you enjoy reading this issue,

Editor in Chief of Paperspace

Harry Streuli

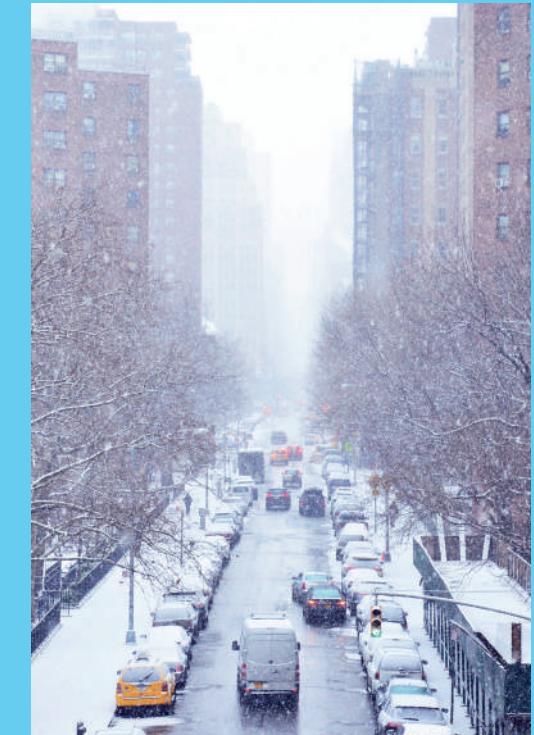
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We are proud of our long-standing relationship with the School of Architecture and with the University of Bath. We learn from you, we employ you, we teach you and we taught a lot of your teachers too!

# Remembering Zaha Hadid

This year, the architecture world was left broken hearted due to Zaha Hadid's sudden passing away. Two students reflect on her legacy.

## By Harry Streuli

Not so long ago, in my studio, we were discussing our dream critics. Who would we most like to have to interrogate our work; projects that we have likely spent hundreds of hours working on, and what would it be like? The usual names went around the room; Clegg, Rogers, Zumthor, but to name few. Perhaps Nicolas Grimshaw would insist everything became modular, or Santiago Calatrava would only like your work if it was painted white? Someone brought up Zaha, and no-one really knew what to say.

The vast body of work that Hadid is known for is undoubtedly divisive amongst architects; students or otherwise. She – like most 'celebrity' architects – had a textbook style that makes use of double curved, parametric structures, with evocative geometry with an equally exotic price tag. Yet I can't help but think that she was touching on something great.

Her practice has been pushing the boundaries of parametric design for years. She was experimental, provocative, and downright interesting. Hadid also held a very strong interest in raising the profile of females in the industry, and being the first woman to be awarded the RIBA gold medal reflects this.

Whatever you may think of her architecture, the resounding impact of her career is, for me at least, everything else she did.

**"You have to really believe not only in yourself; you have to believe that the world is actually worth your sacrifices."**  
- Zaha Hadid.

## By Oliwia Jackowska

Zaha's specific signature composing of fluidity in form, curves and extraordinary organic shapes earned her the name of revolutionist, but also prompted people to build strong opinions on her designs – either positive or negative. However, the truth is that what inspires and builds the personality of such a superstar is actually the paths and choices she took during career.

### 1. A ROLE MODEL FOR WOMEN

Her attitude undeniably changed the position of female architects in the world. She always underlined her support for all ambitious women, especially when she became the first woman and Muslim to receive the Pritzker Architecture Prize in 2004, the first women to be awarded RIBA Gold Medal in her own right, as well as receiving Stirling Prize.

### 2. STRENGTH

On every stage of her life and career she had to face numerous difficulties and obstacles. She always said that it is hugely important to fight for what you think is worth it. Therefore, aiming to change the world, she became stronger as a person and as a designer.

### 3. OPTIMISM

Always ready for new challenges and with head full of ideas, she said once "There are 360 degrees so why stick only to one?"

### 4. IMAGINATION

Her architecture is very expressive and particular, but she could surprise and inspire also through her graphically amazing paintings that would present the building in a more or less realistic context, and earned its own exhibitions.

Zaha Hadid was definitely a person to look up to as an architect, an artist and a woman. She always expressed her style in her designs, clothing or lifestyle. With the use of her imagination, energy and personality she left the world a bit more amazing and oneiric than she found it.

# Library Photo Competition Prize Winners

The results are in for the recent competition for a full height wall image, for the Engineering & Design floor's first dedicated group workroom.

## By David Stacey Faculty Librarian for Engineering & Design

Demand for enhanced Library study space has led to a series of refurbishment projects planned in collaboration with the Student's Union. Various surveys have pointed to the particular need for improved group study space and we have been able to take advantage of an old staff office being vacated on Level 3 of the Library (L3.16). This space is a prime candidate for the Engineering & Design floor's first dedicated group workroom, paid for with Alumni funds.

Early plans for this room involved the addition of group study "Synergy Quad" tables with plasma display screens, two of the highly popular Eames chairs, floor-to-ceiling magnetic coloured glass boards and wall-size images printed on vinyl wallpaper. The latter idea was partly inspired by the visual uplift to the adjacent 1W. The redesign is intended to provide a high-quality

*"I liked design [x] very much, but had concerns about the effect of the trees on people with pollen allergies around exam time"*



collaborative environment, with connectivity, display equipment, space for discussion and brainstorming.

Students in ACE were invited to submit a single, striking photograph for the inner wall space visible through the doorway. This wall is 1975mm wide by 2615mm high. The prize on offer was a Taschen book, to be selected by the winner(s). Over 50 photos were submitted during the first three weeks of March 2016. The Library's Senior Managers with advice from Matthew Wickens whittled the entrants down to a shortlist from which the final image for the wall was chosen by our University Librarian, Kate Robinson. The other two shortlisted entrants also received a prize for their submissions.

The prize winners are:

**Overall winner: Jian Yong "JY" Khoo (Image: British Museum)**

**2nd Prize: Sofia Valentini (Image: Brick Columns)**

**3rd Prize: James Wright (Image: "Grand Hotel", Lopud, Croatia)**

The refurbishment of L3.16 will take place over the Summer and we look forward to your feedback on our newly designed learning space. We hope the look and feel of the room will be conducive to study and offer something markedly different to what has come before. Finally, my thanks again to all of you who took the time to submit a photo and who engaged with the various surveys which have looked at learning spaces on campus and in the Library.



# Vertical Studio 2016: University Library

The Vertical Studio at the University of Bath gives an opportunity for students across each year to join in a week of intense collaboration, often producing exciting results:

## By Oliwia Jackowska

Vertical studio is an amazing opportunity for students with different level of experience to combine their ideas and work together. This year's brief, provided by the University Librarian Kate Robinson, was to reimagine our University Library so that it responds to needs we think are not properly thought of in the current design. We can hope that the designs will be actually at least partially realised, and that the Librarians wanted to see what's in students' minds and make the most of their creative ideas.

The jury was positively surprised and impressed as all 12 groups provided them with amazing and thoughtful ideas after only 3 days of cooperation! Every group considered different aspects that are to be changed, and as a result, produced amazing drawings, renders and designs.

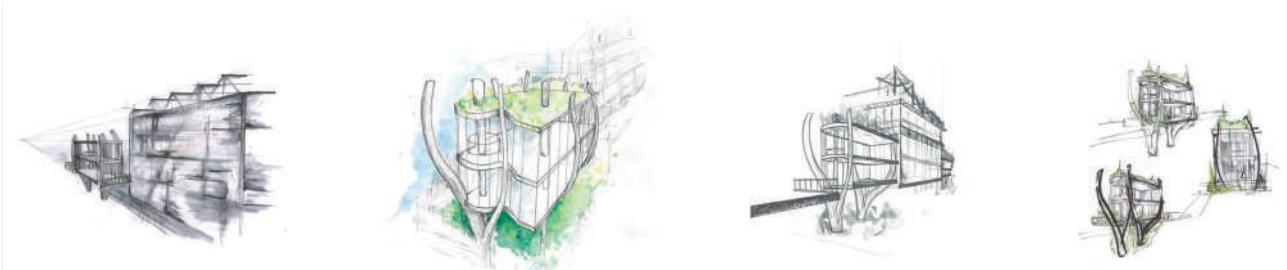
The Librarians rewarded projects that addressed most significant problems posed by the Library at the moment, such as study places, efficiency of used spaces as well as the users' comfort. They were seeking for the understanding of issues like making quality information available, providing skills training in using information sources as well as delivering a study environment useful for quiet concentration or collective working.

The initiatives like Vertical Studio provide valuable experience for students, result in great projects and everyone can admit that it is just fun!

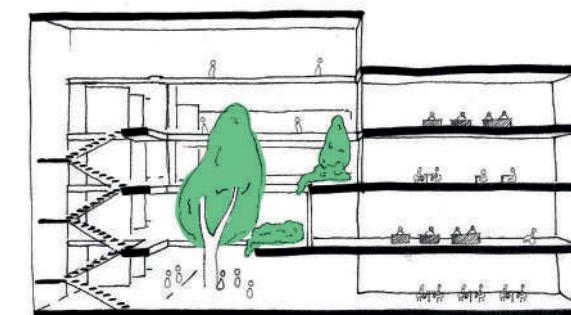
1st Prize – Group 10: 'Seed' (Justin Bean, Ella Smith, Hannah Record, Paige Stapleton, Hannah Falcone, Naomi Punnett)

Group 10 Justin Bean, Ella Smith, Hannah Record, Paige Stapleton, Hannah Falcone, Naomi Punnett

# seed.



Group 10: Seed.



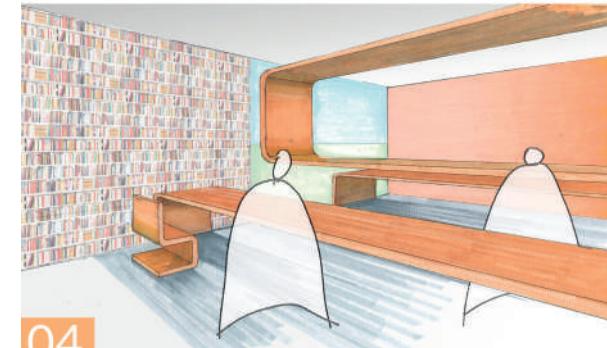
3rd Prize – Group 7: 'Intus / Foris' (Charlotte Pires, Jasmin Reeve, Muireann McHugh, Tess Hillan, Tewary Peaster, Zeid Truscott)



Group 2: Green Light for the Library (Audrey Mainsant, Helen Zhang, Isabella Traeger, James A.D. Wright, Reedima Uppal)



02



04

Group 5: Library +100 (Antrea Antoniou, Constantinos Gregoriou, Teodor Andonov, Rebecca Lim, Tom Band, Fred Palmer)



2nd Prize – Group 3: 'Passi Verdi' – (Clarice Hong, Latifa Alkhayat, Michele Chee, Oliwia Jackowska, Rupert Heasman, Sebastien Stripp, Sophia Babiolakis)

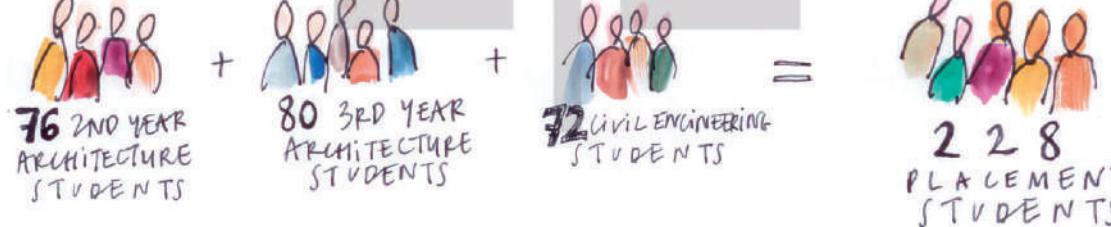
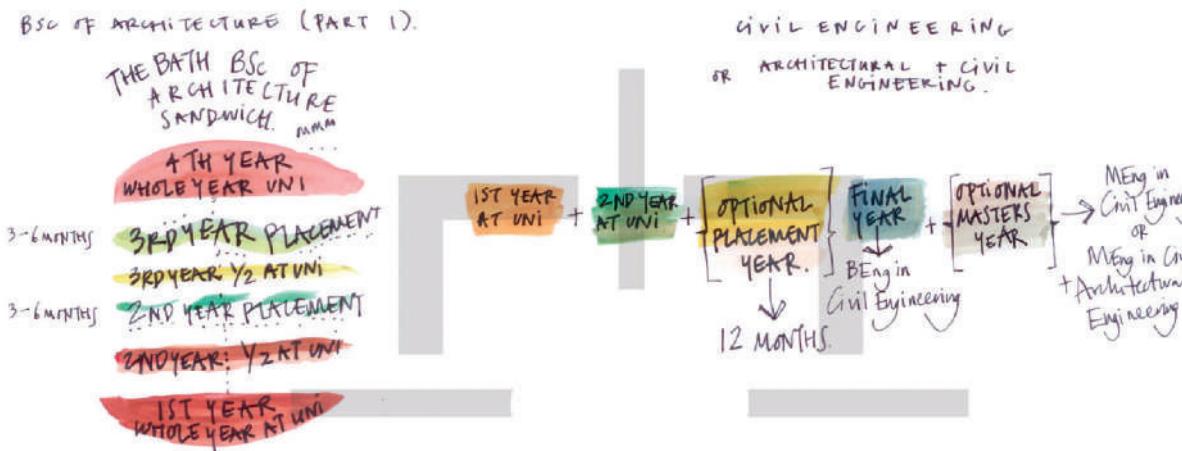
GROUP 3  
Clarice Hong, Latifa Alkhayat, Michele Chee, Oliwia Jackowska, Rupert Heasman, Sebastien Stripp, Sophia Babiolakis

# Where in the World are the Placement Students?

Civil Engineers and Architecture Students at Bath have the great opportunity of working in industry before returning to study. Here are some doodles to show you where we are.

By Issy Spence

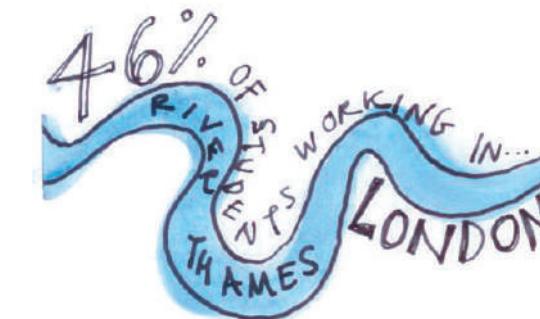
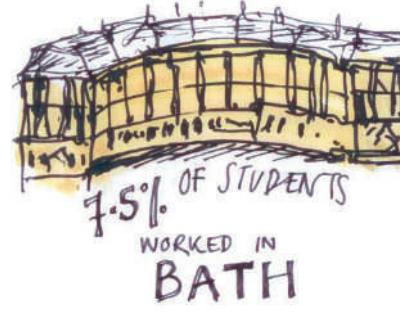
## THE BATH ARCHITECTURE + CIVIL ENGINEERING COURSES EXPLAINED...



62 DIFFERENT LOCATIONS.

728 DIFFERENT COMPANIES

15 COUNTRIES



# Interview: Bath Abroad

Third year brings with it the chance for our students to spread their wings and tackle the world of architectural education across Europe, whilst the remaining students welcome their counterparts to Bath. Here we can see their reflections of the experience.

By Tom Cunningham

**With thanks to our outgoing Bath students (host institution in brackets): Joshua Page (Aalto University, Finland), Toby Stafford (TU Delft, Netherlands), Thomas Ambrose (TU Delft, Netherlands), Max Betley (TU Munich, Germany), Nathan Davies (TU Munich, Germany), Findlay McFarlane (TU Munich, Germany), James Weaver (ENSA La Villette Paris, France), Tom Cunningham (UEM, Spain)**

**First off, your prior thoughts towards this Erasmus opportunity? Any particular worries or things you were looking forward to?**

Thomas Apprehensive. Bath were considering ending the exchange with Delft so I didn't know what to expect. Excited about the course because it would be so different to what we'd been doing in Bath. Above all I was looking forward to the change and to trying something new.

Max I was worried about how hard it might be to meet new people (it ended up not being a problem, there are so many other Erasmus students, it's like a second freshers).

Tom My main worry was housing, having been on placement right up until the week before leaving for Madrid I hadn't bothered to start house hunting. However the process was quite quick and I ended up with a decent and cheap flat in the centre with only a few days of homelessness.

Joshua Language and housing were a particular worry of mine...Finnish is ridiculous. I was looking forward to



Max, Findlay and Nathan loving life at Munich Olympic Stadium by Frei Otto and Gunther Behnisch

getting a taste of something very different, life away from England.

James Holiday!! Language barriers were a major concern but the thought of a new city was amazing.

**First impressions of your host city and university upon arrival?**

Toby Fresher's week is a sham compared to England's vomtastic bonanza.

Max It was 34°C the day I arrived in September - so, bloody hot.

Tom Posh. The campus had two lakes and a waterfall, yet no SU bar. Priorities.

Findlay Clean, friendly, Oktoberfest.

James The city was fantastic, it was so busy and energised. The university was tucked away behind a little brown door, but opened up onto a courtyard where friends were gathered having a drink and a smoke.

Joshua Finland is bloody hot in summer, who knew? The campus atmosphere is something completely new, very tranquil. The culture is something completely alien. As I met more exchange students I became acclimatised, as everyone was in the same, very strange, boat.

**"Dutch people speak English better than me - convenient and mildly embarrassing"**



Not the type of Scandinavian model you were hoping for. Model by Joshua Page

**Name one work of architecture that the Erasmus experience has enabled you to visit?**

Toby Antwerp Cathedral

Max Munich has a ton of beautiful modern buildings, especially the museums which surround the University. I've got to give a shout-out to Frei Otto for the beautiful Olympic Stadium in Munich. For a beautiful building slightly more off-the-radar, I fell in love with the Jewish Centre by Wandel Hoefer Lorch + Hirsch

Findlay Kolumba Museum, Köln, Peter Zumthor

Tom Ciudad de las Artes y las Ciencias, Valencia

James The Eiffel Tower

Joshua \*insert Aalto building\* They're bloody everywhere

**How did you find the differences in teaching methods and studio culture at your host university?**

Nathan The studios are a lot smaller than our 'whole-year studio' at Bath, this presented a closer knit group, and relationship, of individuals, but without the opportunity to learn from a vast number of other students. In terms of teaching methods, personal weekly tutorials have proved useful, but I feel are not actually as personal as they are at Bath.

Tom Firstly, there is no discernible studio culture here. Both in terms of the academic programme and physical workspace. Each module has its own classes (not lectures) and work load, whilst having an equal weighting in terms of credits. This was a shock coming from Bath where studio is so central and important.

Toby Studio closed early evening in the week and wasn't open at weekends at all, and it seemed to not even matter because we didn't have enough work to fill even that time! Infinitely preferred to becoming a 6 month resident of Bath's cad lab.

Findlay Not as effective or organised as Bath in teaching, but the facilities are generally very good.

Thomas Educational. The methods are nearly incomparable because I did an urbanism course as opposed to architecture.

Max There's less emphasis on studio projects, but far greater choice of modules and courses to study: the architecture of film sets, building in extreme environments, church design, life drawing and design + build projects to name a few. However, with that comes more responsibility and lecturers don't spoon-feed you like they do at Bath (something I sorely missed).

**Looking back, would you have any pieces of advice for future students taking part in the Erasmus exchange programme?**

Nathan Say yes to every opportunity, no matter how ridiculous it may seem. It may just turn out to be the best decision you could have made.

Max Don't live by yourself! As sad as this sounds, I thought I was getting a good deal having a studio flat close to the university, but I missed out on living with other Erasmus students or native German speakers. Fortunately I made friends who lived in big student blocks that had a lot of parties, but it would have been

**"\*insert any Aalto building\***  
**They're bloody everywhere"**

cooler to be hosting than just to get invited.

James It's incredible. Just do it.

Joshua Don't stress about it, just embrace it. Take all the chances you get. Travel, don't be shy, drink... go out on a mad one.

Thomas Practise cycling... before you leave. If you want to travel anywhere or do anything, plan for it - the time goes by



Beats looking out onto Moorland Road. Photo by James Weaver



so quickly. Don't constantly be comparing it to Bath to the point where you've become obsessive ...that's important too.

#### How did you find adjusting to the local culture? Speaking the language? Trying local cuisines?

Tom I've started a love affair with Chorizo that will last a lifetime. Not that this will make up for the terrible bacon they have here.

Joshua The language is a joke. I mean it's hard. Very hard. I took some lessons for a semester but it proved frivolous.

James The language was a struggle at first - especially the lectures, but I soon picked it up. The cuisine was incredible, and the French aren't actually that bad.

Max German food is pretty weird. Needed parents to send over marmite and peanut butter when I ran out. It takes time to adjust, but when you do you appreciate the quirks.

Toby Dutch people speak English better than me - convenient and mildly embarrassing.



Taking a break from fenestration and window details. Model by Toby Stafford

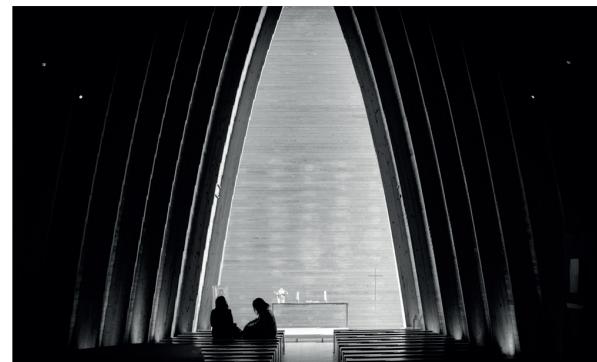
Thomas Pretty easy. It's actually quite a challenge to find a Dutch person who doesn't speak at least basic English. Although any Dutch word with a 'g' in it is a pronunciation nightmare (think Van Gogh). Most traditional Dutch food is absolutely vile, fortunately it's not eaten that often!

#### Has undertaking this experience altered your future academic and/or career plans?

Max I'd definitely love to come back to Germany at some point, maybe for my Masters. Munich is such a cool, relaxed place.

Findlay It has shown me a strong alternative to working in Britain.

James If I ever have this opportunity again I'll definitely take it.



Timber galore at St. Henry's Ecumenical Chapel, Tampere. Photo by Joshua Page

Joshua It's opened up doors for me that I didn't dream of undertaking. Moving abroad and building a life from scratch is possible, you just have to be determined. I'd like to embrace the Nordic culture more and certainly explore and live in more cities!

Nathan After partaking on this experience, I am definitely considering studying for my masters in a different country, and after that I would definitely like to work elsewhere.

#### Your thoughts on returning to Bath for fourth year?

Joshua The first few weeks will incredible, many pints will be deleted. After that? Christ save me.

James Joy...

Findlay Looking forward to getting back to the Bath system, but have gained a lot from the exchange.

Max I'm not gonna lie, I've missed Bath. Can't believe we're going into our final year, but I'm looking forward to seeing all my archi[ecture] pals again.

Toby Probably going to crumble under the pressure and fail but at least my 3rd year portfolio looks snazzy full of European design bs.

Nathan It may take some time to get used to the Bath atmosphere and way of doing things once again.

Thomas Excited. Although it will probably feel like going back



Playing with thrust lines at the Aqueduct of Segovia.

With thanks to our incoming exchange students (sending institution in brackets): Juliette Zegers (TU Delft, Netherlands), Merel Cornelissen (TU Delft, Netherlands), Julie Escoffier (ENSAL, France), Dana Barale (UEM, Spain), Anna Gnizdiukh (TU Munich, Germany), David Salvat (UEM, Spain), Leonie Layher (TU Munich, Germany) and Lotte Oppenhuis (TU Delft, Netherlands)

to school, I'm looking forward to coming home, seeing everyone and finally getting on with fourth year.

#### First impressions of Bath, both as a city and university?

Leonie Small, sophisticated, welcoming.

Lotte I thought Bath as a city is really lovely and pretty. Quite a charming place to live. The university itself was actually quite tiny to me. I did not realise how massive my home university was until I got to Bath.

Anna The uni campus is quite big and the sport facilities are impressive, all together very different to TU Munich.

Dana I loved The University of Bath, I can certainly say that I have experienced university life without question, the facilities were amazing, and also the student organizations such as the one of international students, and the one of sports.

Juliette The city is incredibly beautiful, but everything does look quite strict and sometimes a little bit too neat (boring). The university itself is very compact and this creates a nice communal feeling.

#### Name one work of architecture that the Erasmus experience has enabled you to visit?

Juliette House for an Art Lover

Merel Roman Baths

Julie Hooke Park

Dana The London monument or the Gherkin

Anna Stonehenge

Lotte Oxford University Museum of Natural History

#### How have your studies and studio projects here compared to those at your home university?

David They [Bath] give you much more freedom when it comes to work process, but much less freedom when it comes to creativity on the project.

Dana At Bath there are no classes, which I found useful because you can have more time to develop your project. I also love the fact that there are lectures. Besides this, I did not know what a crit was before going to Bath, which is a fantastic way to present your work.

Merel The studio projects in Bath are a lot shorter in comparison to Delft (6 weeks instead of 10). This means you have to work hard in a short period. The first project together with Civil Engineering and designing in groups is also different from Delft.

#### How did you find it adjusting to British culture?

David Easy, in the way British culture is very open and multicultural. A bit harder to get along with the British though.

Julie Quite easy, unless maybe for the food!

Lotte It was alright, the Netherlands is not that far away anyway so both cultures have quite some similarities. The British culture is more polite and less direct than the Dutch one though.

#### Looking back, would you do anything different were you to repeat your experience?

Juliette I think I would want to stress less and enjoy more of the country and its people.

Anna I would definitely get more rain/windproof clothes

Merel My time in Bath gave me also a broader vision on architecture. I look back at a great experience.



# What's it Really Like? Placement Abroad

Two students this year highlight their drastically different placement experience on opposite side of the planet - in Italy and Vietnam.

## Placement in Veneto, Italy, By Diana Smiljkovic

The architecture course at the University of Bath differs from the usual system. We are required to do a semester of placement during second year and a semester during 3rd - otherwise known as the thin sandwich course.

This system allows us to gain more experience and more knowledge of the work environment. Seeing how different offices work in different ways; it being a big company or a small studio, having the option to do more yet shorter placements expands our view of different ways of working. As our course requires us to study an occupation and not just a singular subject I believe it is very important to know early on all the potential possibilities we have, and what we don't necessarily agree with. Being exposed to the generic office standard, many of us students are discouraged by some of the ways in which office work functions. This can only act as motivation and inspiration for working towards a standard of work that fits to the innovative ideas of this generation.

Originally planning for a placement in London, I had constructed an idea of what I'd imagine it to be. I was adapted to Bath, and was looking forward to London. As all my applications went out, one of the firms asked me to work for them in Italy. Astounded, I found this an opportunity I couldn't decline.

Many factors come with a placement abroad. Firstly, the manner in which one takes work on and the importance of certain things is ranked differently. There comes the technical side where one must adapt to the work ethic of the country, the way their universities have taught them and their business run them.

Secondly: adapting to the mentality and culture. I let myself be fully immersed. I took on learning Italian by using every opportunity to speak the language, no matter how many mistakes I make in the process.

Placement abroad not only teaches you aspects differently from the UK but also inspires you as it is an alternative setting and environment. The porticos of Treviso and the patterned, washed stone walls are sights that constantly feed my eyes.

The office itself has taught me a plethora of things, focusing on a multitude of different projects and sizes of projects. I was not



Treviso, Italy

restrained to a specific role, but was allowed and pushed to use my abilities in different fields and magnitudes. I was required to get involved with not only design, but calculations, visualisations, diagrammatic work - ranging from products to master planning. The constant changing of tasks exercises the brain and unclogs one from the undesired writers block.

Architecture is not only at the drawing board, but it is the collaboration between users, society, and initiators. Not only architects, but engineers, carpenters, digital artists, philosophers, art directors and many others. All have to come together for the creation of a piece. The clients' desire needs to be visualised, whilst the architect's vision and understanding needs to be executed and designed in a respectful and considerate manner.

I would describe the style of work here as I would describe the people: passionate, creative, innovative, but also with a beautiful view of life; where one must enjoy the little things and enjoy every second. The focus on detail astounded me as I observed how every millimetre had to be considered, collaborated and executed.

I had the great opportunity of working on a project for Milan Design Week. Attending this event enabled me to see how seriously detail is taken when creating a specific atmosphere.



Venice, Italy

Another aspect that is of heightened importance is the presentation of the project. Expressing the intention and design to the viewers in a way that enables them to comprehend it. As architects we do not only concern ourselves with building, but we take a theme or a situation, study it, and then apply it to our design. We let these needs and analyses shape the form and structure. Taking this information and conveying it to the public so that the reasoning behind each design decision can be understood, is therefore an important factor in work here.

Working on the Venice Biennale enables me to be a part of a project from start to finish. From the drawing board to the public, following through with this project involved an implausible amount of research and reading; this provided understanding and facts that fuelled and inspired the design of the pavilion. With the theme 'Reporting from the front,' work evolved around constantly jumping left, right and centre, showing that a project is not a linear motion, but a constant crossing and intersecting of actions.

Placement abroad has not only taught me in fields of architecture and design, but has fuelled my love of travel and expanded my life skills. Treviso and Venice constantly stimulate my inspiration as they are elegant presentations of their history. The people radiate enthusiasm and a pleasure in living, giving the city a true soul.

## Placement in Hanoi, Vietnam by Yacine Abed

Day one at the practice: still wrestling with the jet lag, heat, and humidity, I warily stomp across a spacious and immaculate white room occupied by M Architects, attracting perplexed looks from the 20 odd employees – something about me wasn't quite right. Moments later, I understand their concern. "Your shoes, please" says Trang, the studio administrator. I look around and everyone is in socks or bare foot on a sparkly clean timber floor, now partially dirtied by my carelessness. Everyone's shoes were neatly stacked on shelves by the entrance. I'd have a lot to learn.

As much as I'd enjoy recounting all my 'Mr. Bean abroad' moments, which would take a few million pages to cover, this short piece will focus specifically on the cultural differences I have encountered within the realm of architectural practice – from a British student's point of view.

First and foremost, it is important to point out that at M Architects, and commonly across architecture practices in the country's



Hanoi, where trains squirm through alleys a little wider than them. I don't think there are Vietnamese equivalents for "Health & Safety" and "Building Regulations".

bigger cities, a significant number of architects have undertaken part of their architectural studies in Western universities. For example Minh Phuc Nguyen, a co-founder of the company and my supervisor, has obtained his BSc in Architecture at Bath around 20 years ago, so it came as little surprise to me that they generally share a similar set of design values and processes to British architects. And I emphasise the "generally". Building sustainability and cost effectiveness are treated with utmost diligence, more so than in the London practices I worked at. However, due to obvious differences in climate, direct sunlight tends to be treated as a scorching killer rather than the pleasant source of warm light we perceive it as in the UK, so any building here that lets any direct sunlight in is considered an unfunny joke. In terms of presentation, hand drawing and hand-made models are frequently used tools for all design stages, not just the concept stage as in most UK firms. There are some very skilled draughtsmen here.

The most prominent difference in design ethos that I've had the chance to observe lies in the approach to historical contextualisation of projects and conservation. Whilst every other



Nalanda Resort masterplanning - One of the company's current projects I am working on where the local ecosystem is at the core of the story. The average project scale here is colossal in comparison to current projects in the UK.

ramshackle shed in the UK is grade-listed, the Vietnamese are very loose with their building regulations; 19th century colonial buildings with last week's makeshift concrete extensions bursting out the facade is a common sight. There are no rules regarding style, let alone height. And I have speculated three reasons for this phenomenon: technology, infrastructure, and corruption. Technology: One could say that the Vietnamese, like many East Asian countries, embrace and consume technology religiously, so destroying ancient walls to install new power sockets and improve the WiFi connection is a no brainer over here. Infrastructure: Hanoi is simply not up to date with the Modern Man – for example the 1km stretch of alleys leading to my residence are only 2m wide, making it impossible for any car to get into the neighbourhood – so new architecture gives leeway to unclog the urban lifeline. Corruption: life is easy when you have money, especially in Vietnam. Property developers can bribe the authorities to have full control over a site, and property developers don't typically have a taste for the subtleties of context, so they can erect whichever "look at me I'm loaded" structure they want. The end result is not as bad as it sounds though – every building along a street ends up being very different to the next, a consistent inconsistency so to speak, and variety has never bored anyone. My eyes are constantly swimming around. However one ancient

tradition that is still carried out in most, if not all, projects is Feng Shui. M Architects, like many other practices, employ Feng Shui consultants during the concept and planning stages to establish a harmonious relationship between new build and nature.

The practice does not take employee wellbeing lightly, and one of the main things I will miss about working in Vietnam is how humane the day's structure is. After the lunchtime hour, all the lights in the office are turned off and the employees can nap for half an hour (on roll out mattresses), then at 4pm we have 'Tra Da Via He', which translates to "Street Ice Tea Time". The whole office goes out for a 30-minute ice-tea break in the hot weather to socialise and nurture the team dynamic. M Architects also organises several weekend/evening events and workshops, such as a team-building trips to the UNESCO sites around the country. And to put the cherry on the cake, all my expenses are covered, from flights to accommodation as well as a generous Vietnamese salary. I would highly recommend any architecture student to pursue a placement here, 100%. Please get in touch for any more information. Xin chào for now.

# Handmade, Manmade, and Making Things

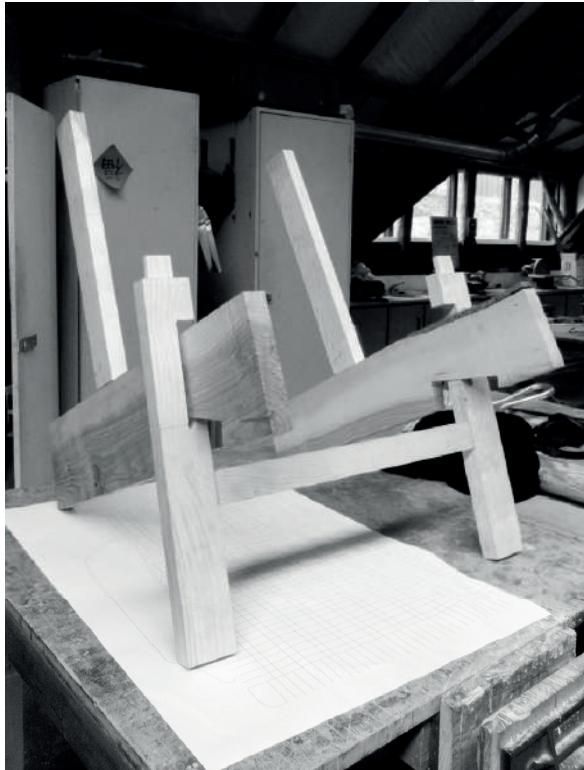
Projects at architecture school often only exist on the paper we draw them, and are rarely ever acutally made. How much are we missing out on?

**By Harry Streuli**

During the past summer, I was lucky enough to be involved in one of the construction projects that the AA carry out as part of their 'Design and Make' course at Hooke Park, in Dorset. I spent five weeks helping the small team of students there construct a barn for storing wood chip for their new boiler. During this time, I was able to apply my knowledge from architecture school, but more importantly, practice what I will be instructing contractors to do for the rest of my career.

I, along with four other volunteers, worked closely with the students at Hooke, and additional staff on the site. Once I got to know the design, I found it interesting to not only consider how a certain bit may be built, but how to actually go about the process. For example, we had to de-bark, measure, 3D scan, and prepare 26 large beech forks for processing by a robot arm. Sounds pretty straightforward, right?

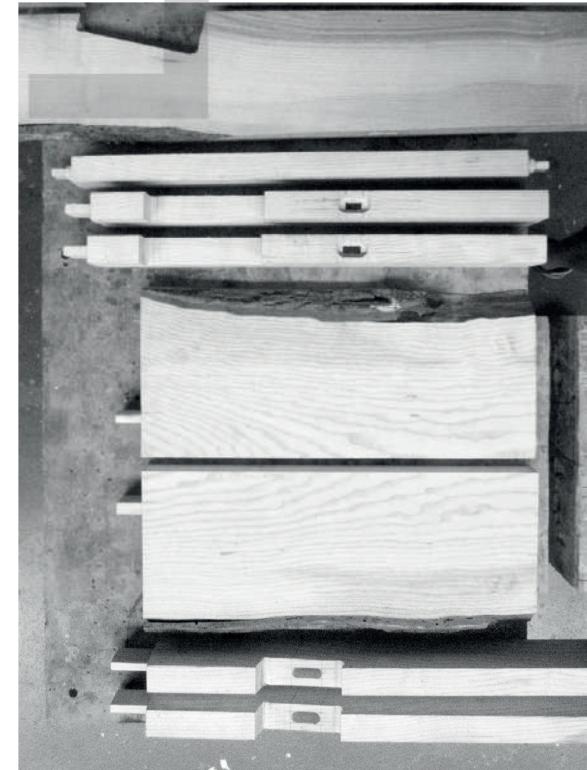
Wrong. Each fork was approximately six meters long, and



Test-fitting the basic joinery components

the collection took up a rather large amount of space in the construction yard. At the same time, the yard needed to be used for preparing various other parts of the building, including large pre-fabricated wall and roof panels. The design team had assumed that this whole process would 'just happen', yet it turned out to be a rather complicated arrangement. After about a week of thought and design revisions, a plan was formulated, and the trunks were processed. However, the point is that this could have been avoided if it was better considered from the outset. It was only through conversation with the design team and the site manager that we were able to work out the best method of achieving a high quality process in an appropriate amount of time.

During my down time at Hooke, I was able to make use of the furniture workshop and start making a chair. The chair itself is designed by Hans Wegner, arguably a champion of modern Scandinavian furniture production that was so prevalent in the mid twentieth century. A borrowed design allowed me to just get on with the experience of making it, and avoiding the problem of the actual design process! I fell in love with it because of the

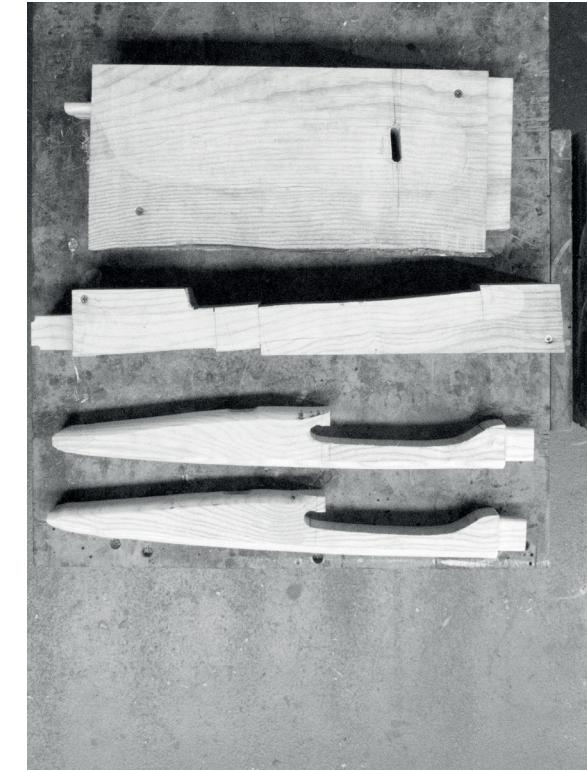


First iteration of joinery and shaping

intriguing position, delightful upholstery, and elegant joinery. Much like the process happening in the yard, this project was a massive learning experience for me, and I found myself challenged by a design that I had expected to be relatively simple.

It turns out, through my experience at least, that architecture and furniture making share many similarities. While architecture operates at a much greater range of scales, it is still principally designed around the needs for people, and how they might inhabit the design. People may walk across a whole square to enjoy the sun, or they might lounge over a whole sofa to read a book; but the needs of the person are still at the core. How people might interact with their material or climactic environment often has a significant impact on the experience of that place, or that seat.

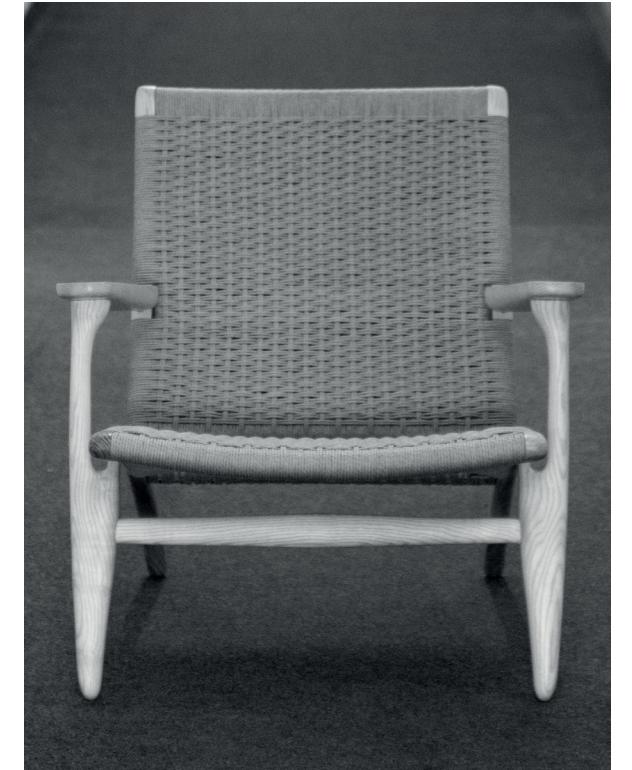
As with architecture, it is often easy to draw a furniture detail that looks smart and tidy, with hidden connections and beautifully neat upholstery. However, I found elegantly simple details in my borrowed design to be deceptively complex. Even the implications



Second iteration of joinery and shaping

of simple joinery are surprisingly important to a novice carpenter, despite having a set of 2D and 3D drawings to refer to. Through trial and error I was able to work out the best way to proceed with issues that arose, and it only became clear after making different options. As I have described, my experience in constructing novel architecture is much the same.

Understanding the implications of your design work has always been an important factor here at Bath, and 'buildability' is an often used buzz word during tectonic reviews. It is always difficult, however, to imagine what this really means. Only by experimenting with construction techniques, and actually building something yourself, will it become clear how things are put together, and how to achieve the aspirations of your design. Despite an approach that seems overwhelmingly pragmatic, I have found inspiration in a sparing thought for a lowly craftsman. Thinking about how to turn a transient, paper design into a physical product will often pave the way for a better resolved project.



The finished product



# The Crit: An Outsider's View



A Sketch from Porto - Mike Lewis - MArch Year 2

A Bath architecture graduate shares a few thoughts about the experience of making the trip back to 6 East as a visiting critic

By Emaad Damda

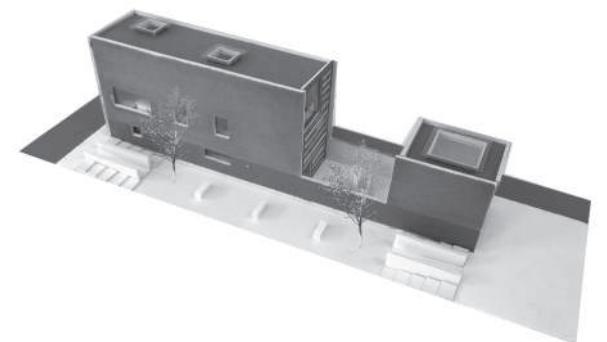
Martin Gledhill mused in the inaugural issue of *Paperspace* about "a language rehearsed and refined through a process of ritual sacrifice". This was of course a tongue-in-cheek reference to the architecture student's recurrent rite of passage known as 'The Crit'. So after six years of being put to test, it was a somewhat strange experience to return to Bath on the other side of this 'ritual sacrifice'.

I was part of the first 'external' reviews for the most recent cohort of first years, looking forward to putting some of this knowledge to good use and as clichéd as it sounds, give back to the university that shaped my architectural mind. It wasn't the first time, Bath creates good opportunities for the upper years to sit in on the lower years - with MArch critics, the new Vertical Studio project, UCAS days and often inviting alumni to reviews across all years.

You might have noticed I used the word 'reviews' as opposed to 'crits'. Whilst a part of you will cry out "political correctness gone mad!", you may realise that the university's change in terminology is more reflective of what the process actually tries to achieve. It is really about feedback. As students, we can feel adversarial when faced with criticism. Often devoid of sleep and food, the fight or flight instinct kicks in and we feel compelled to argue our corner.



Snapshot of the array of models at first-year Aperture project review



Author's first-year scheme produced for Live-Work - a project with a similar brief

Whilst defending a design is an invaluable skill, the criticism isn't for the sake of criticism. Fourth and sixth years will recall from their lecture series, "you are not your project". The reviews are timed to let someone with a fresh eye look at the scheme cold and share their thoughts on what they believe works and where it doesn't, how it could be resolved or evolved. They may share a tip or two about drawing conventions and presentational skills or even some enlightening precedents and details. There will always be something to reflect upon from a review, or crit.

All that being said, it was an enjoyable experience being part of the reviews. There is a challenge to distilling a scheme down to its key elements, and then offering feedback in a way that might take the scheme forward. In the Aperture masonry house project, visitors may have noticed a curious bias towards flat roofs and façades with few or no windows - I confess to designing the same in my first year (see above)! It was heartening to see the students all enjoying their projects and describing their schemes with a level of thought, resolve and enthusiasm.

First year is generally about getting an introduction to the world of architecture, picking up skills such as drawing, model-making, and 3D modelling. The nuances of tying a building to its place, the socio-cultural impact of a particular proposal and a student's own individual architectural identity are developed with further projects and experience. I'll leave this with a handful of mantras that will be relevant throughout the crits and reviews of architecture school... Save and Backup. Always Test Print. Get Some Sleep.



# The Origin of Inspiration

## New York City

New York City provides a plethora of architectural wonders. They do not sit as singular entities but come together, creating a unified urban plan which resonates originality.

By Diana Smiljkovic

The final result is not just the establishment of one idea, but the culmination of a plethora of discarded sketches, ideas, initiations, withdrawals, trials, copies. A building is not only the skin it bears but all the effort and work put into creating it. How does one get to the physical finale? or better yet, how does one start? The origin of influence and inspiration in design is the determining factor for which your outcome is composed of. For without an aim, there is no strong foundation onto which it will stand.

Architects and designers utilise their surroundings and make clear decisions based on their observations.

New York City is a fine example of where inspiration is taken from objects, surroundings, the aim of creating a specific mood and more. It is observed, experimented with, and beautifully represented in the executed forms of buildings and master planning. Where items or ideas take life in buildings, architects prove that no object is single in use.

The grid plan defines Manhattan to this day. The plan has been

described as encompassing the "republican predilection for control and balance ... and distrust of nature." It creates order and convenience in an otherwise disordered lifestyle. Order determines the decision of the plan and therefore creates a city that is easily navigated through.

Arriving at Rockefeller station you enter the core of midtown. The maze of gold lit corridors snake to lead you to the next extremity. Finally through winding paths you find the way into the web of skyscrapers. Midtown Manhattan is filled with perfectly assembled facades. Each glazed face reflects that of the other building. This first encounter with the big apple rose past my expectations.

A team of architects headed by Raymond Hood heralded the art deco design of the Rockefeller centre. The interiors are dotted with works by artists.

Covering an array of architecture from beaux arts to art deco, Lower Midtown houses elder titans such as the Chrysler building and many more.



Chrysler Building, Midtown Manhattan

The Chrysler building was inspired by the car radiator grille. The building's gargoyles were modelled after Chrysler automobile products and ornamentation tastefully replicates the 1929 Chrysler radiator caps. It exemplifies the machine age in the 1920s and acts as a representative of modernity in its place amongst its famous counterparts whose aims are to do the same. This initiative to mimic machinery drives the designer to incorporate object and idea into utilitarian space.

I find that design is highly influenced by site analysis and surrounding environment, however as construction in New York was started anew, surprisingly each building complements the other whilst holding its own character. With no aim of mimicking surrounding structure, the diversity in design does not create a schizophrenic scene, but a respecting one where modernity is beautifully represented as the collaboration of eclectic design.

The vast, vaulted interiors of Grand Central terminal induce monumentality as well as a humble airiness. The crisp state of marble and plaster combine to create a striking space whose ceiling only extends the eye outwards into the star dotted night sky. The whispering galleries create a mesmerising awe where architecture proves to create magic. Focused people rushing through the station yet the odd few face the corners of the whispering gallery and voice their message. Giggles boom throughout as they receive each others words. Its innovative scheme features pedestrian ramps inside and outside that wrap themselves around the building. One of the splendours of Grand Central is that its vast, majestic spaces reveal extraordinary attention to the smallest design detail. Bronze and stone carvings, including ornamental inscriptions, decorative flourishes, and sculpted oak leaves and acorns adorn the station. The Grand Central station started out as an architecture competition and the pure motive was to achieve grandness. Your own take on a theme or atmosphere aids you in creating spaces and volumes of which you believe are its embodiment. Design is a personal understanding at which you aim to induce and represent a specific feeling. The way in which you do so will varyingly depend as each person experiences it differently.

432 Park Avenue is the tallest residential building in the world and the second tallest building in New York City, ahead of the Empire State Building. Architect Rafael Viñoly's aim was to create "the purest geometric form: the square" and was inspired by a trash can designed by Josef Hoffmann. The building definitely stands out in the skyline as its slender physique's stability seems unnatural.



Rockefeller center viewpoint of the 432 Park Avenue building.

To reduce the effects of swaying due to wind vortex loading on the flexible tower, the window grid and interior space of 2 floors between every 12 occupied floors are left open to allow the wind to pass through. The resemblance between the building and the trash can is uncanny and I personally understand how this trash acts as inspiration. Its gridded, perforated faces create a constant unison, and without coming across this trash can, the purity and elegance of this building would not have come across the New York skyline.

"Many cities remain what they are, New York constantly reinvents itself" - Helmut Jahn



Cast iron buildings, Soho, Manhattan



World Trade Center, Civic Center, Manhattan



Guggenheim Museum, Upper East Side, Manhattan

With a dense urban surrounding, inspiration by nature can lend an architect the ability to create a stand-out structure. The Guggenheim Museum is an embodiment of Wright's attempts to render the inherent plasticity of organic forms in architecture. The winding ziggurat of Babylonian origin allows this museum to differ from the conventional approach to museum design which leads visitors through a labyrinth of rooms. This museum takes the visitor to the top of the building on the gentle slope of a continuous ramp. The galleries are divided into membranes and the open rotunda allows visitors to view several open spaces of work on different levels simultaneously. The spiral design recalled a nautilus shell, with the continuous flow of spaces where they interconnect freely. Personally, what I found most impressive was this ability to view life happening on all storeys and the constant flow of people. It felt as though it represents a journey through both architecture and art.

Soho and Tribeca house a plethora of cast iron buildings. As it was cheaper to use for facades than materials such as stone or brick; moulds of ornamentation, prefabricated in foundries, were used interchangeably for many buildings. The convenience of using cast iron made it very popular and as the buildings could be erected quickly, many found their construction. Classical French and Italian architectural designs were used as models for these facades. Cast iron was painted in neutral tints such as beige to simulate stone. The strength of cast iron allowed the construction of high ceilings with sleek columns, and interiors became expansive and functional. Here the inspiration for design was the advantages of a material. Easy to use, quick to erect, and with numerous qualities to it, cast iron boomed in popularity. Its mimic of classical Italian pediments add to the design as an alternative,

modern take. The qualities of the metal enabled the evolution of this classical architecture as larger spaces could be created and therefore the architect had more freedom with what was to be created.

Manhattan displays its vibrant side as it takes you through Chinatown, little Italy as well as Lower East Side. As iron fire escapes decorate the brick facades; colours, flavours and scents dominate the streets with life. Food, jewellery, knick knacks: all comes together for a warm authentic atmosphere which further proves the dynamic lifestyle.

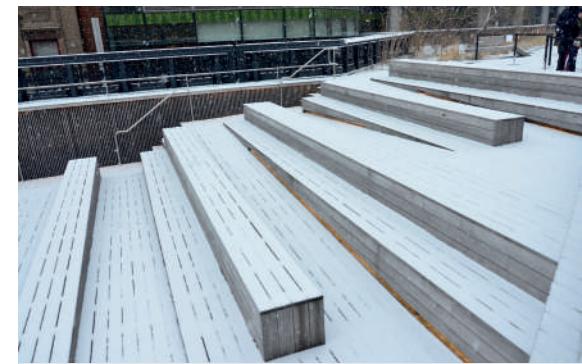
Lower Manhattan is known for its financial district. The New York Stock Exchange built in 1903 shows off a Neo-Classical style which perfectly fits with modern structures dressed in glass. The bronze bull was originally anticipated to be a temporary instalment, yet its symbolism of strength, power and hope for the future after the market crash was what keeps its residence there.

The 9/11 memorial commemorates all those who have lost their lives. The largest manmade waterfalls are very touching and stir emotion. They symbolise the loss of life and the physical void left behind. The names of all are inscribed in bronze around the edges. The sound of the falls drowns out the noise of the city making the site a contemplative sanctuary. The emotion associated with the event is what is replicated with this memorial. A symbolism of a fall and collapse, the void created stirringly depicts the void created by the catastrophe.

Battery Park was designed in such a way to reacquaint the relationship between the outside and the user. In a city whose skies are dominated by structure, a recent development in parks and landscape design has taken place. Creating spaces of contemplation and leisure; these tranquil areas promote human connection, activity and safety. One can simply sit in the park and observe the river whose inhabitant stands tall with her representation of liberty so beautifully presented.

The high line is another example of this initiative to create user friendly spaces for interaction in the city. The inspiration for the high line park was the post-industrial railroad character of the site. The rail tracks are kept intact and the linearity is impressively executed in the whole composition; the seating, ramps, trashcans, lighting; all comes together to create a constant directional motion. The green strip fuses with that of the industrialisation of the train track, and its contrast only boosts the idea of nature taking over. The park allows the visitors to engage, and it engages you in a constant journey through nature and city. It conveys a journey for which the track was originally built. Keeping true to the origin is sometimes the strongest form of inspiration.

A cable car departs from 2nd avenue at 60th street rides across the east river to the slender piece of land wedged between Manhattan and Brooklyn - Roosevelt island. Originally housing hospitals, a jail and insane asylum, the remains of these and a lighthouse gives a sense of disconnect. Even with the Manhattan skyline staring back, a short distance away yet this island has a mind of its own. Louis Kahn's Four Freedom Park is located her.



The High Line ramp

In a 1973 lecture at Pratt Institute, Kahn said:

The Mount Airy granite gives direction and aim. Its crisp sides lead to the open room where Roosevelt's Four Freedoms speech are carved on the walls of this room-like space, which is open to the sky above. Located at the tip of the island, it leaves the

"I had this thought that a memorial should be a room and a garden... The garden is somehow a personal nature, a personal kind of control of nature. And the room was the beginning of architecture. I had this sense, you see, and the room wasn't just architecture, but was an extension of self."

river as your only company. The trees are beautifully places to create direction, the handrails gracefully designed to create a true relationship of understanding with your hands touch. The park embeds all that it stands for: Freedom.



Franklin D. Roosevelt Four Freedoms Park, Roosevelt Island

New York has imposed a need for me to keep returning. It is a neverending labyrinth of constant construction and is a fine example of how such unique identities can make up a network.

It houses many iconic architectural pieces, as well as successfully integrating nature and spaces for interaction. The city does not isolate the user, but instead involves them in the journey and process of discovery and constant advancement.

**"One belongs to New York instantly, one belongs to it as much in five minutes as in five years"** - Thomas Wolfe



# The Origin of Ideas

When was the last time you had an idea? Was it a good one? Where did it come from? In a world relying on progress through ideas, they are a very ethereal subject matter.

**By Sebastian Stripp**

About a year ago our theme was 'Senses'. Many articles were written about the physical sensations of space. How we feel, smell and hear spaces as well as see them. In this article I will touch upon this as I make a philosophical enquiry about, where ideas originate from.

Ideas are very intangible, and regardless of whether you look to scientists, architects or philosophers, ideas just appear all the more elusive. Some philosophers would argue ideas are just sensations like touch and smell, while other creative souls argue that one does not know what one thinks until it has been written down. In which case the idea is no longer as intangible, but does that make it less of an idea? One thing is for sure, you need knowledge and experience to generate ideas.

The two philosophers David Hume and Immanuel Kant were in close agreement that all of our knowledge comes from our senses, or arises out of our sensual experiences as Kant reformulated it. This is the empiricist philosophical view. Therefore, a more phenomenological architectural approach should be taken, as there is much more to architecture than visual appearance. Use all of your five or six senses! Do you remember the smell of your childhood home, the taste of the city, the sound of the café or the emotions associated with a certain place? You didn't see any of these. Yet, we travel great distances to see buildings. I have never met anyone, who just went to smell Ronchamp or hear Tadao Ando's concrete echoes, and only a few have gone to Finland to feel Aalto's handrails. There is much more to architecture than meets the eye, and if we are to acquire new ideas, we must expand our brains. Do things we haven't done before, go places we haven't been and understand what we do not know. We must see beyond.

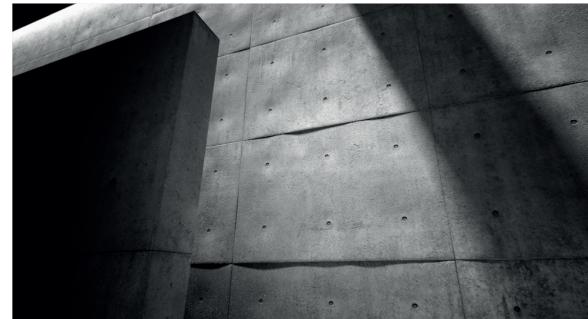


1961-82, Louis Kahn, National Assembly Building of Bangladesh

"What is the most resilient parasite? Bacteria? A virus? An intestinal worm?..."

We often think art, design and architecture are special, separated from the likes of classic science, and, yes, we have been keeping them apart for a long time. However, the mathematician, physicists and doctor are still faced with creative issues, though they have many standard procedures. But we also have the Building Regulations and standard off-the-shelf ways of dealing with certain problems. Likewise, scientists have to think out of the box to come up with new testable hypotheses, they cannot just copy and paste, otherwise nothing new will come of it – just like architecture. What we do is very much problem solving of built space. There are all these factors, variables and influences we try to boil down to a single answer: our final project. Einstein said that to reach the fundamental laws of the universe; 'only intuition, resting on sympathetic understanding of experience' can guide us. I believe the exact same is true for architecture.

Early on in this article I said our ideas originate from our senses and experiences, but like any response in philosophy, this actually raises more questions than it answers! Firstly, another philosopher, René Descartes, questions the origins of our fundamental ideas such as pain, colour and sound, which precede our senses and experience. Secondly, we sometimes seem to get ideas, which have nothing to do with anything we have ever experienced. These ideas arise out of nowhere, thin air. They are truly original, unique and our own. Or are they? Is it actually possible to be original?



1984, Tadao Ando, Koshino House, Ashiya, Hyogo, Japan

Before the 16th century people were said to have a genius instead of being a genius. People produced work or ideas of supernatural origins and this was the way to explain it. However, we all have a genius inside; our brain. Amazingly complex and not yet fully understood, we simply need to let it unfold unrestrictedly. The reason ideas seem to come from supernatural places or other dimensions can be explained by the concept of emergence. This is best illustrated with some chemistry; oxygen and hydrogen are both gases, but when combined under the right conditions, our most vital liquid emerges; water. Similarly, simple ideas combine in our minds to create, occasionally, ground-breaking new buildings. For instance, move all the services and circulation to the outside and make a massive piazza in front of the building; Centre Pompidou, Paris by Piano and Rogers. The thermal properties of earth and a ridge in a hill for access; the Edgeland House in Texas by Bercy Chen Studio. Or, a private entrance and a private garden for each individual combined with a massive, multi-storey housing development; Alexandra Road Estate, London by Neave Brown.

We may want to create something new and fancy, we may even try and force it. Nevertheless, I think we should pay close attention to the words of Hella Jongerius & Louis Schouwenberg's manifesto Beyond the New; 'It is absurd and arrogant to begin the design process with an empty piece of paper. Cultural and historical awareness are woven into the DNA of any worthwhile product. Otherwise the designer is merely embracing newness for its own sake – an empty shell, which requires overblown rhetoric to fill it with meaning. There is value in continually re-examining



1990-1, Tadao Ando, Water Temple, Awaji, Hyogo, Japan

what already exists, delving into the archives, poring over the classics. What untapped potential do the materials, colours, functions and forms, still hold.' We have to keep in mind that nothing is perfect, therefore, you can always improve on it. Our generation, like the ones before us, stands on the shoulders of giants and we should be careful not to fall from such a great height, though sometimes you must take a leap of faith.

"...An idea. Resilient... highly contagious. Even the smallest seed of an idea can grow to define or destroy you. Once an idea has taken hold of the brain it's almost impossible to eradicate." – Cobb (Leonardo DiCaprio), Inception

# Architectural Drawing History and Origin

Along with movements and styles Architectural representation has changed. Are today's drawings fundamentally the same or do we now draw differently and for different purpose?

**By Lydia Hair**

An Architect's office or university department 20 years ago would have been a very different place from those of today with drawing boards at every desk. As most students, I battled with my own drawing board and Rotring pens for a short while and then promptly abandoned them in favour of my laptop. Offices full of drawing boards now seem alien, with a new generation of students and architects brought up using CAD. Is there really that big a difference? You still start with a concept and turn it into functional plans, sections and elevations. Even those of us braving the new world of BIM still end up with the same collection of drawings.

We are taught that each drawing is a tool used to convey different messages:

1. Choose me to design your building
2. This is what it will look like
3. How it is constructed

Today, we are expected to illustrate the answer to all these questions. This wasn't always the case. Since the profession has become recognised, an architect's role has changed. Originally, an architect's primary task was to sell the vision to the client. The detail of the construction then fell more to the experience of the craftsmen. No-one concerned themselves about drawing where the damp proof membrane resides.

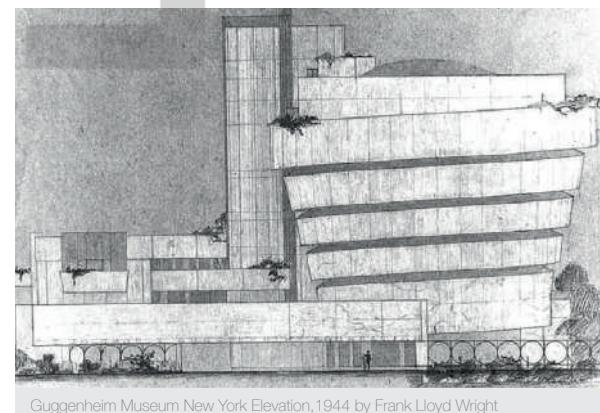
## Perspective

Architecture was a more visual profession historically. Pupils took the Grand Tour or used pattern books, 'borrowing' for their own work. Plans have always been fundamental to the organisation of building designs but perspective was key. Brunelleschi is credited with combining perspective drawings and architectural design together in 1420 but, as with most art, it took sometime for things to filter over from Italy to Britain. The 18th Century and the Picturesque movement was Britain's age of the perspective. Drawings changed from private correspondence between architect, client and builder to elaborate perspective paintings exhibited at the newly founded Royal Academy of Arts with the intention to attract new clients.

Until the 20th century, the only significant influence upon British Architects from beyond our island was that of Renaissance Italy. This was about to change with the well publicised images of Frank Lloyd Wright's radically different approach to design making it across the Atlantic. Wright was openly sceptical, if not scathing, about what he called pretty pictures. Dependent on accurate geometry, his designs were thoroughly explored in two dimensional drawings, before the overall form was tested by three dimensional representations. Perspectives were treated like a tool not a design technique.

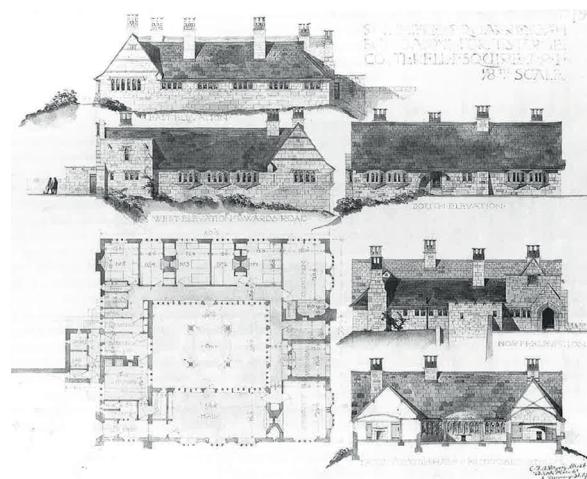
## Elevation

Prior to formal architectural education, architecture was taught through observation and apprenticeship. The 19th Century saw British architecture stuck in different revivalist movements, almost like a pick'n'mix of architectural styles. Any style could be purchased and consequently architects became expert copyists. Travelling and recording observations in sketches was critical to an architect's education. Elevation drawings became collages of these sketches often only skin deep and divorced from the building plan.



## Orthographic Projection

Not as socially inclusive as today, formal university architectural education began in Britain in the 20th century using the French Beaux Arts system and an emphasis on plan, section and elevations. This was seen as an appropriate academic technique with rules and conventions, compared with the visual judgement associated with 'picture-making'. Accurate drawing methods could be taught and marked removing emotion and personal taste.

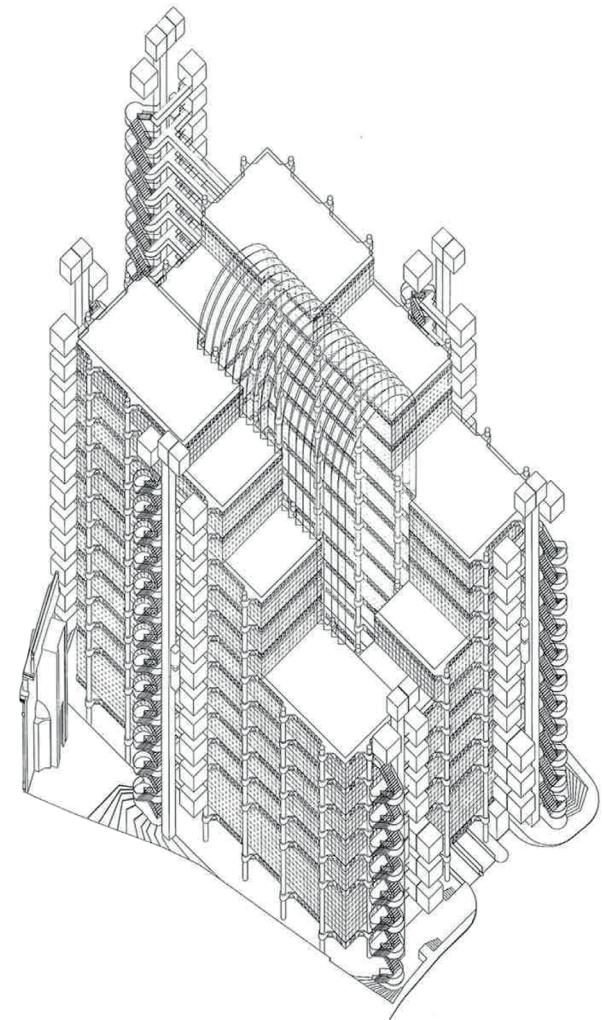
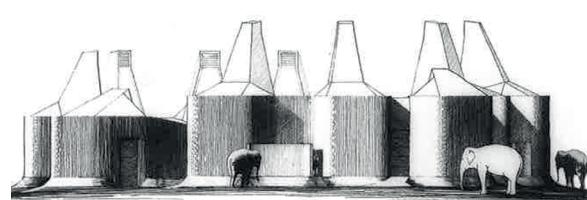


Preliminary Elevations for Combe Down Lodge, 1909 by CFA Voysey

With the dawn of Modernism, plans, sections and elevations became the favoured way of expressing architecture, as architects were arguably trying to avoid dishonesty or seduction in their presentations and buildings. All drawings, including the few sketch perspectives, were pared back to the minimum detail necessary to convey the maximum useful information. Simplicity continued through the 20th century into postmodernism. Architects' drawings, such as those of James Stirling, were deliberately restrained and scientific in character, using the smallest sheet of paper possible to allow the eye to take in all the information at once.

## Axonometric and Isometric

Axonometric, isometric and oblique projections were seen as the 20th century's solution to dishonest views, combining



Lloyds of London Axonometric, 1980 by Richard Rogers

## Computer Rendering

Since the recession, the architect as a 'salesman' has become ever more important with large firms investing heavily in competitions. SketchUp, Rhino, V-Ray, Artlantis, 3ds Max, Kerkythea and other means of rendering have all become a common part of the architectural world. That 3am render, the night before a crit, can be the image that sells your scheme and saves the day.

Architectural drawing has gone full circle and perspective is back. Now in a digital form, it performs in exactly the same way as the watercolours in the Royal Academy of Arts 248 years ago. Will we see other styles rise and fall in popularity all over again?

# Nuragic Architecture

Majestic and essential at the same time, the Nuraghe appears as an architectural composition ruling and dominating the vast and uncontaminated fields of Sardinia.

By Sara Medas

The Nuragi are the ancient and vernacular architectural buildings of Sardinia, dating back to the Bronze age , from the 18th century BC until the 5-6th BC. Today there are about 7000 of them, dotted around the country . Their primary function was to defend the surrounding territory and for this reason they can mainly be found either in strategic positions, such as at the top of a hill, an upland, or they were located in such a way that they dominated a gulf or a coast. A great example is Nuraghe Runara, near the small village of Ittiri, in the province of Sassari, which is located at the top of a hill and therefore dominates the surrounding area. Apart from a purely defensive function, the Nuraghi later became a reference point for the local community. For this reason villages of different sizes were built around them and consequently trading and religious functions were added on top of the defensive one. Not much is known about the Nuragic civilization. So far no written document has been found and our assumptions about its lifestyle and beliefs are based only on archaeological remains.

The first Nuragli were very simple buildings, made of large stones, neither tall nor slender in shape. They had very thick walls, their plans were irregular, the spaces inside very limited and their roofs

were possibly used as terraces. Their plan could be round or rectangular in shape and it could also include a few rooms. These types of buildings can be considered as the forerunners of the Nuraghe, though quite dissimilar in appearance from it.

A Nuraghe is a truncated cone in shape, that is a round tower whose diameter diminishes with the height of the building and it is estimated it could be 20 meters or more tall, in so being at the time the largest buildings in the western Mediterranean. Its conical body is made of big irregular stones laid in a very simple

way with no mortar or any other type of material in between them. Small stones were placed in between the large ones to give more stability to the building, but, in the end, it was just the skill and experience of the builders which made the Nuraghe stand until now. When entering a Nuraghe, the visitor finds himself in a narrow long

passage leading him towards the main room. This was called the "Tholos" and it took the name from its high corbelled roof whose building method was similar to the one used for the Nuraghe itself; a round room composed of layers of stones whose diameter gets smaller when a new layer was added. In the end the room was closed at the top with only one stone. This room was usually very dark with no windows, the only source of light being the entrance door. There are also some examples of Nuragli where it is

**"When entering a Nuraghe, the visitor finds himself in a narrow long passage leading him towards the main room."**

the province of Oristano. It is composed of a main Nuraghe and surrounding smaller towers, some of which connected through walls. In addition, there is also another perimeter wall for defence, with three lookout towers, two on the North side and one on the South. When the Nuraghe reached such a complicated stage of development, it was common that some huts started to be built around. The dispersion of the huts around the Nuraghe did not follow a specific urban plan; it was casual and disorganized and, consequently, with no urban public square. Huts had usually a round plan with a base made of big stones and a roof on top made of branches and leaves and supported by a vertical trunk placed in the middle. They only had one big room which was used for all the main activities of the family, from sleeping to cooking. Some niches were usually found in the walls as means of storage of objects and some pottery could be placed in the floor for storing food or liquids. Two great examples of these types of complexes are the Nuragic complexes of Palmavera, near the small city of Alghero, in the province of Sassari, and the best preserved example is the Nuragic complex of Su Nuraxi, near Barumini, in the province of Cagliari. The Nuragic complex of Palmavera has a clear defined plan showing very well the division between the land used for the construction of the huts and that left for the Nuraghe itself which is delineated by a well defined wall. The huts were mainly spread on the top and bottom of the complex, most of them having a round plan with just a few rectangular ones. One of the remarkable characteristics of this complex is that the internal courtyard is quite big and the Nuraghe itself is placed in its middle making this architectural composition very clear and legible. The most developed example of a Nuragic complex can be found in the South of the island and it is called Su Nuraxi. It developed on different phases before reaching its actual appearance: the Nuraghe is located on the South-West side, while the circular huts are located on the North,



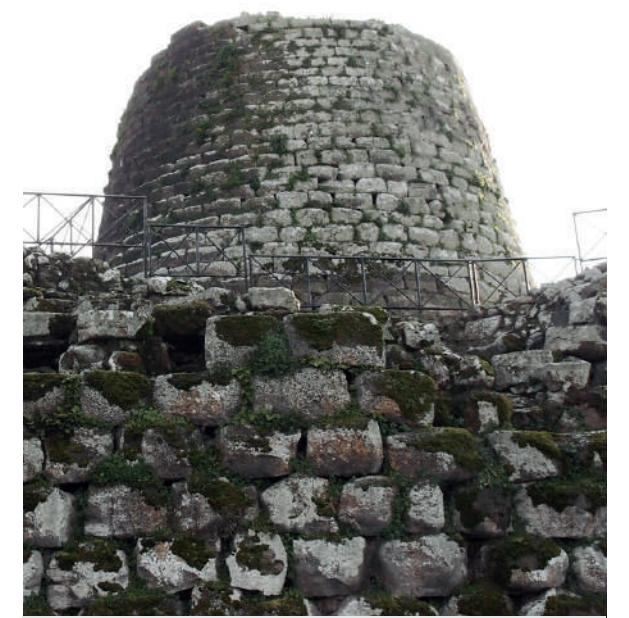
Nuraghe of Palmavera, near the city of Alghero, in the province of Sassari. View of the lower parts of the huts with the Nuraghe itself in the background. Picture by Sara Medas. March 2016

possible to find either some smaller rooms and niches or a small staircase leading to the top of the building. Some types of more complex Nuragli have more than one floor with additional niches accessible by either a stone or possibly a wooden ladder.

**"With the passing of time, the Nuraghi evolved into more complex structures with the addition of smaller towers and a surrounding village."**

With the passing of time, the Nuragli evolved into more complex structures with the addition of smaller towers and a surrounding village, until they became real forms of settlements. In this case there was a main higher tower with one or two lower ones at its sides connected through high walls and corridors. These types of Nuragli might have had a triangular or rectangular shape in which case they had either three or four additional towers. The Nuraghe of Santu Antine, near Torralba, in the province of Sassari, is one of the best preserved examples of the first case while the Nuraghe Santa Barbara, near Macomer, in the province of Nuoro, has a clear plan with four different towers clearly distinguishable one from the other.

The most complex constructions included an external perimeter wall with a primary defence purpose. This is the case of the Nuragic complex of Losa, near the small city of Abbasanta in



Nuraghe of Santu Antine, near Sassari. Picture by Sara Medas. March 2016.



South and East sides. The Nuraghe is composed of a main central tower with the addition of four lower ones plus an external perimeter defensive wall with multiple small towers surrounding the Nuraghe. A particular characteristic of this Nuragic complex is that some huts and closed spaces have been included in the courtyard left between the Nuraghe and the external wall making in this way the Nuraghe appear as a possible fortress and refuge place in case of an external attack from other tribes. The Nuragic complex of Su Nuraxi is a clear example that the Nuraghi, although having a primary defensive and civil purpose, later became part of a more complex reality including religious and trading functions.

Another important aspect of the Nuragic civilisation is their relationship with religion, gods, nature and the development of an afterlife cult which lead them, with the passing of time, to evolve a real burial architecture.

In the most developed Nuragic complexes, especially those with huts nearby, it is possible to find big huts which were probably used for religious celebrations. This is a proof of the fact that, in a later development stage, the religious aspect of life was incorporated into the other functions of the Nuraghe. Apart from these big round huts, the Nuragic civilization developed a real form of architecture for the dead people, attesting the development of a primary form of religion. Early types of tombs were carved inside rock mountains and sometimes were even very difficult to reach.

entrance leading to a large room which sometimes connected to other smaller cells carved on the rock on the sides of the main one. These types of tombs are called Domus de Janas, which in the local language, means "houses of fairies". Another type of burial architecture built on the ground is the giant tomb, which is a much more developed form of architecture. A giant tomb is composed of two parts: an elongated burial chamber and a front entrance. The burial chamber has a rectangular plan made with

stones and its roof could be made with simple rectangular stones in a corbelled way later covered with ground on the outside face. A giant tomb appeared from the outside as a cumulus of ground with grass and stones plus the two external wings defining a sacred space in front of it. These round wings were made of massive stones laid vertically on the ground whose height decreased progressively as the stone was laid further apart from the main burial chamber. The most important stone among all these was the central one which was considered as the entrance to the afterlife. This stone, the highest one among all of them, was carefully carved and it was divided into an upper and a lower part

in which a small hole was sometimes cut. It is thought that giant tombs, because of their size, were used not only for the most important members of the community, but for all the members. Not so much is known on what type of celebrations were held in this place but it is possible that objects and food were brought as a form of offer for the people buried there.

Nuraghi are the most important architectural compositions left by the Nuragic civilization. They let us perceive very little of what their civilization was about as no written document has ever been found. From what it is possible to understand, although they had very simple building techniques, they had been able, with the passing of time, to develop a particular architectural language which can only be found in Sardinia. Simple, but impressive at the same time, Nuraghi appear as real fortresses whose main function was to defend the land surrounding them. Nowadays, many places of the island have remained inhabited and rural as they were thousands of years ago and therefore we can still perceive that feeling of greatness that these buildings inspired to the people who built them.



Nuraghe Santu Antine, near Sassari. Picture by Sera Medas, March 2016.

**"Early types of tombs were carved inside rock mountains and sometimes were even very difficult to reach."**



The Hive - Sophie Beagles - MArch Year 2

# The Possibility of an Absolute Architecture

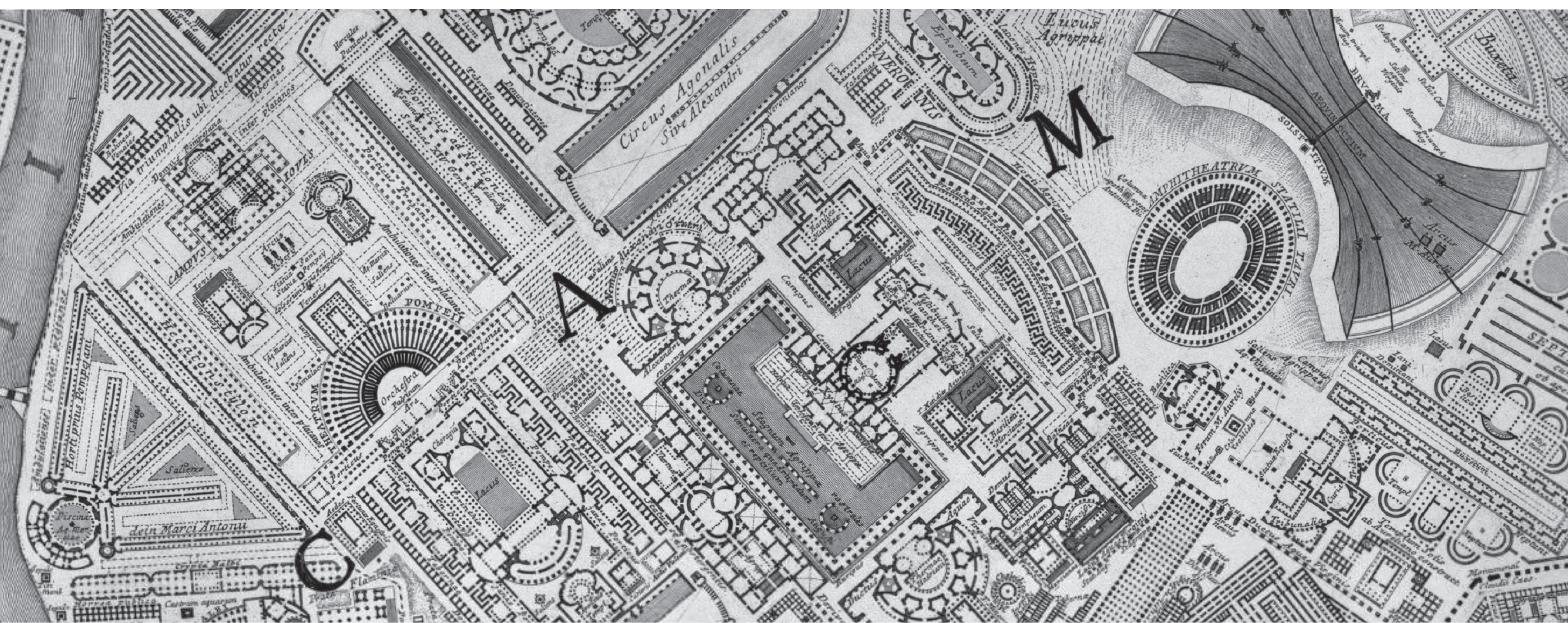
The book aims to redefine the role of architecture amongst the current debates around its social and cultural power.

**By Paulina Konkina**

Over the past few decades the concept of The Political in different understandings and variations has been repeatedly discussed in the context of architecture by various people. I was introduced to this subject by accidentally picking up a book called 'The Possibility of an Absolute Architecture' written by Italian architect and theoretician Pier Vittorio Aureli. He teaches at Berlage Institute in Rotterdam and the Technical University of Delft and is a cofounder of the architectural practice DOGMA.

Aureli became wider known to readers of architectural theory in 2008, publishing 'The Project of Autonomy, Politics and Architecture within and against Capitalism'. It offers an insightful look at the history of Autonomia Operaia, an Italian political movement particularly active in the 1970s and its effect on architectural theory and practice in Italy over that time, including the writing of Manfredo Tafuri and the practice of Aldo Rossi and Archizoom. The book initially descends from the theories of Italian philosopher Mario Tronti, whose concept was the interpretation of Marxist theory and the latter trend of a post-political activist-thinking. Because of this, the reader is forced to rethink the formative period of the Autonomia movement, coming to the conclusion that the possibility of autonomy was not a "...generic claim of autonomy from, but rather a more audacious and radical claim for autonomy..." thus constructing a source of alternative opposition to the hegemonic power relations maintained by capitalism.

'The Possibility of an Absolute Architecture' is a follow-up to his first publication, however, it can be read as a direct, though much more historic and architectural expansion on these original ideas.



# The Origin of Bad Architecture

How was the monstrosity known as the Walkie Talkie ever able to complete construction? According to Rafael himself - who referenced this very building as 'looking at it could literally kill you' - to have a multitude of origins.

**By Sonya Falkovskia**

From the Rafael Viñoly lecture at the Royal Academy of Arts, March 31st 2016

For many it would seem the perfect irony for Rafael Viñoly to be discussing what makes bad architecture and why. I'll start off with what most people, if not every current Londoner, wonder every day - how was the monstrosity known as the Walkie Talkie ever able to complete construction? According to Rafael himself - who referenced this very building as 'looking at it could literally kill you' - to have a multitude of origins.

The first is that of education - or the lack thereof. To complete an architectural education today one must be driven to achieve their best if they are to put themselves through that much debt and that much angst. Rafael mentioned how he decided to stop teaching because he wasn't allowed to fail students (apparently because of the ridiculous fees said students were paying) - perhaps a comment which wasn't fully serious, but within it there was some truth. There seems to be a reoccurring theme with architecture students being poorly prepared for the actual world of architecture. No wonder only 1 out of every 14 architecture students go on to achieve the part 3 in the UK. Rafael Viñoly explained the shared opinion that to become a surgeon, a medicine student must have experienced more times than they could remember the full procedure of every possible surgery they could be expected to make within their chosen field. Relate this to architecture students - before graduating have we ever completed or undergone a full project from start to finish involving the design process, client communication, fees, contractors and the rest? Of course not, because projects take years to complete and no student could be expected to undertake such a task - but surely this would be the best way to prepare someone for what an architectural project actually entails?

The next reason for problematic architecture is the client and their own god complex when it comes to projects. Rafael brought up the doctor analogy once more. This time it was referring to the trust between the doctor and the patient. If a doctor was to say you need to have your foot amputated otherwise you will have to have your leg amputated, would any patient in their right mind refuse? Or said 'actually I think having both my arms amputated instead would be better - you see I like symmetry' - of course not because people trust that doctors have had enough of an extensive education to trust what they are saying. Whereas when it comes to clients, Viñoly explained how the majority of clients these days think they know better than the architect they have

chosen to employ, and thus the deliberations between the two strong-minded individuals begins. This extends projects into a never-ending abyss of debates and disagreements which when it manifests can result in a project totally different to the architect's original intentions. Rafael then briefly mentioned his own project of the Walkie Talkie and how in the final stages of the design process the 'subtle proportions' of the facade were changed, resulting in the unfortunate event of a melted jaguar which would have never happened if the client had just listened....

But now you ask yourself - 'well isn't it the architect's job to deal with the client and design a project which will make everyone satisfied so nothing need be changed in the first place?'. Here is where the problem of cost comes in, because unfortunately the decision maker in the majority of projects is the cost and where corners can be cut to reduce the price of a building. Other than the vast range of projects Rafael Viñoly has worked on over the his career he revealed he had a side project as well which was to find out since the Renaissance how much more projects of excellence cost in comparison to average architecture. The number he came up with was 25%. 25% more cost and you get an excellent building. Go over this cost and you are just wasting your time and money, go under and you apparently are also wasting your time and as a result your money.

So when it all comes down to it - are the clients of today asking too much of the architects who want to desperately to create works of art but are too often prevented by the misconceptions and perhaps unfair limitations on the profession itself? Are the architects really always to blame for bad architecture or should the origins of bad architecture be most often thought about to give the architect some slack? Rafael certainly thought so, but then again he would be biased after all.



