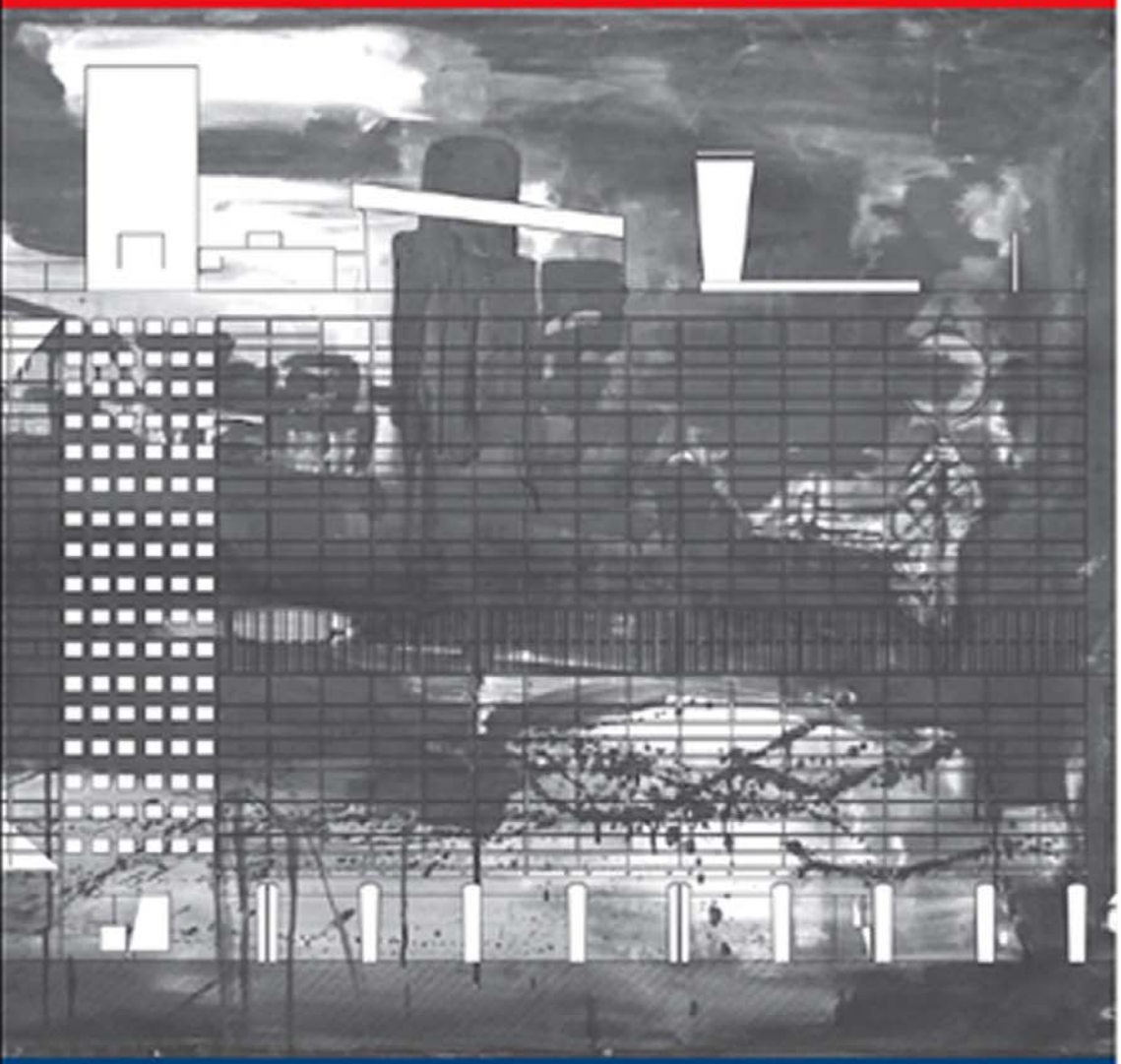
Yasmin Shariff and Jane M. Tankard



Towards a New Architect

The guide for architecture students

Architectural Press

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Yasmin Shariff and Jane Tankard

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Foreword

Take control of your career, be informed, work smarter not harder.

> Architecture is, in the final account, all about life itself.
> Tombazis (2007), p. 17

This guide will help you through the maze of regulations and requirements to unlock your talent, fulfil your potential *and* launch your career proactively.

Architecture is easy. No one is born a genius architect. If you learn the codes and skills that allow you to communicate fluently, if you develop what you are really good at, work hard at what you are not so good at and recognise the skills that others hold, if you are brave and conscientious, focused and determined, you will succeed.

If you insist on sitting on the edge of the pool dipping your toe in the water and never jumping in you will never feel the freedom and invigoration real commitment allows.

Architecture is a kind of addiction, but a really positive, creative and productive one. If you allow yourself to be taken over by it, to be obsessed and make it your frame of reference for your life, the rewards are huge.

The title of this book is inspired by *Vers une architecture* (1923) which contains seven essays – six of which were published in *L'Espirt Nouveau,* an avant-garde magazine edited by Amadée Ozenfant and Le Corbusier between 1920 and 1926. The book was translated by Frederik Etchells and *Towards a New Architecture* was published in 1929 in a short run of 1000 copies. It is one of the most significant architectural books of the twentieth century.

Acknowledgements

This book would not have been possible without the generous help and time given by Dennis Sharp and Steve Bowkett and many of the students we have worked with including Roxanne Waters.

The business of Architecture is to establish emotional relationships by means of raw materials.
Architecture goes beyond utilitarian needs.
Architecture is a plastic thing.
The spirit of order, a unity of intention.
The sense of relationships; architecture deals with quantities.
Passion can create drama out of inert stone.

Le Corbusier (1923)

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A cool career

1

If you only live half your life, the other half will haunt you forever.

Architecture opens the door to many different opportunities. Think laterally. Work out where you want to go and how to get there, but serendipity may take you somewhere exciting if you allow it. The list below includes just a few of the many super-successful creative people who started out on a career path to becoming an architect and ended up doing other things:

- **Musicians**: David Byrne (Talking Heads lead singer, also film-maker, cultural commentator, artist), Suede, Damon Albarn (Blur), Justine Frischmann (Elastica), Pink Floyd, Moloko
- **Novelists**: Thomas Hardy, Orhan Pamuk, Arundhati Roy, Victor Hugo
- **Playwrights**: John Arden, Alan Plater
- **Fashion designers**: Gianni Versace, Paco Rabanne, Pierre Balmai, Gianfranco Ferre, Giorgio Armani
- **Furniture/interior designers**: Tom Dixon, Arne Jacobson, Alvar Aalto
- **Film-makers**: Fritz Lang, Sergei Eisenstein, Patrick Keiller
- **Set designers**: John Box (Academy Award-winning set designer)
- **Actors**: John Laurie, James Mason
- **Computer games design/virtual world software designers**: Mel Croucher, Fred Abler

Architectural education trains you to think laterally and creatively – to challenge perceived norms and the status quo: **'what if…?'**

Step 1: get going and keep a sketchbook!

Not a day without a line drawn.

Pliny the Elder

You will find throughout this guide that we recommend you **keep a sketchbook**. It will pop up time after time in every chapter. We cannot emphasise the importance of keeping a

Figure 1.1 *David Byrne in concert. © Stephen Bowkett*

sketchbook enough. Keeping a sketchbook helps you open your eyes and your mind. It develops your drawing skills. It keeps track of what you have seen, thought and found to be of significance. It forces you to look in a way that no other medium does as your mind has to work out what it is drawing. But you have to go beyond that and analyse what things are made of, how they come together and how they work.

Keeping a sketchbook requires discipline and concentration and it is all too easy to dismiss its importance in favour of computer-generated material. It is very difficult to start so be prepared to make an effort – an effort that you will be well rewarded for all through your life.

A sketchbook helps you to focus and record selectively your journey through time and space. The very act of drawing will help you see things differently and more acutely, and develop your hand, eye and mind connections.

The first step is to make your sketchbook a habit. Try and associate the act of sketching with a common habit like having coffee. Make sure you have a sketchbook with you and some suitable pens that you like to use. Experiment. See what effects you get with different media.

Figure 1.2 *Page from a sketchbook of architect Manfredi Nicoletti. Light, shade, proportion, space and architectural detail are all captured in a few lines – each line with its own weight and meaning. The composition is carefully framed on the page. © Nicoletti*

Enhance your input with real measurements. Take a tape measure around with you and, if you can, a thermometer and light meter. This will help you interrogate what you see and enable you to instinctively gauge the size of rooms, tables, materials. Use all your senses when sketching, not only the obvious ones (sound, touch, smell, sight, taste). In any one place there are many other more subtle forces at play. There is a sense of history, occasion and solitude. All spaces have a character, and capturing the spirit of the place and understanding how and why it feels the way it does – harmonious or desolate – is part of the sketch.

> Architecture and music are sisters, both proportion time and space. The tool which cultivates our feeling of enchantment is proportion. Our feelings are so closely bound up with it that in its highest form we approach the esoteric, the language of the gods. Feeling derived from architecture is determined by the measure of distance, dimensions, heights, volumes: mathematics possesses the key to – or away from unity.
>
> Le Corbusier (1961), p. 53

Figure 1.3 *Strawdance. An experimental strawbale dance studio by Dennis Sharp Architects. The architecture has been inspired by dance and geometry, and the finished building inspires musicians and dancers. © Yasmin Shariff*

Sketching will help inform your computer-generated drawings in many ways. It will help you decide line weights, views, massing and orientation. It will help you understand 3D projections and make you much more confident and skilled at producing effective renderings. The hand-drawn line has qualities and character that the computer will find difficult to replicate because the hand-drawn line is imbued with feeling and knowledge that is immediate and unique, planned and spontaneous. The machine can only go as far as it is programmed to.

Sketching develops your hand-drawing skills making it much easier to enter into a discussion or dialogue with others in your team. You can think with a line and explore. If you are fluent and confident you will be able to take charge in a way that a good speaker can run an effective meeting.

Sketching forces you to make a selection – you have to choose what you draw and hence what your mind is to focus on.

Figure 1.4 *Sketch by Maltese architect Richard England, exploring light and shade, form and mass.*

Sketching in a lecture can be compared to taking notes. Writing a description of a building is very different to making a sketch.

The type of sketch will vary according to what you are investigating. Drawing a detail of a building will be a very different sketch to one that is exploring the space and light of an urban square or an architectural idea. Do not be afraid to explore different techniques and use different media – you can even use digital media to inform the way you look and see and draw. The important point is that you are constantly using your hand, eye and mind. Get addicted to your sketchbook.

> There is light and there is shadow, contrasting those extremes which have a powerful effect on our bodies and psyches: the light and the dark.
>
> Le Corbusier (1961), p. 32

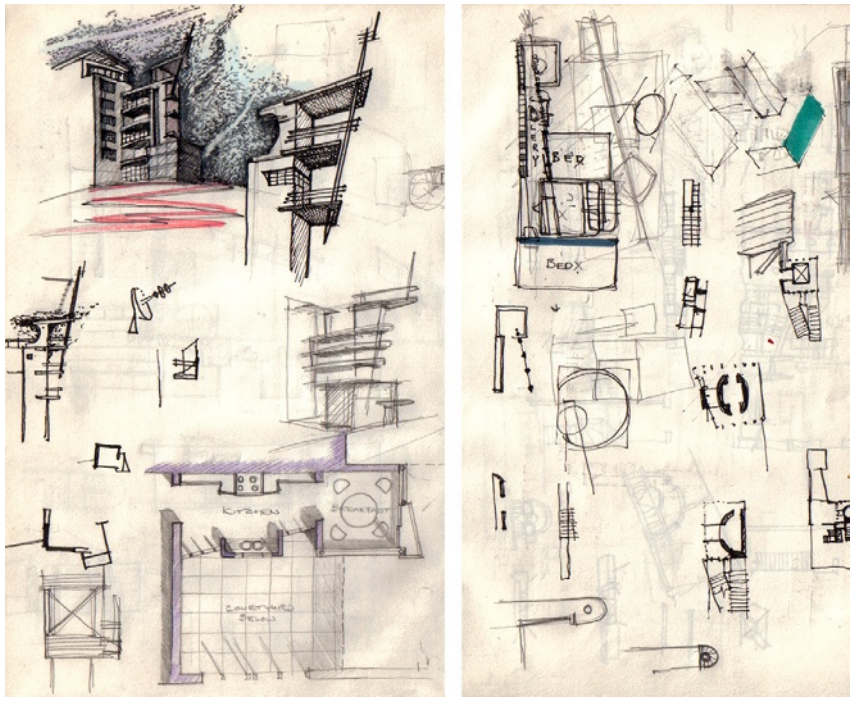


Figure 1.5 *Pages from the architect and teacher Stephen Bowkett's sketchbook. Minute details are being investigated and drawn to scale. These sketches are about how elements come together and how they work. © Bowkett*

Tips on keeping a sketchbook

- Use your sketchbook every day.
- It's not about a pretty drawing – it is about what you see and what you understand. Your sketches will improve with practice. You just have to get over the hurdle of the first few months until your hand and eye co-ordination improves with practice.
- Choose a size that sits comfortably in your bag or pocket. An A5 or A4 format is ideal.
- Date and locate each sketch with your initials.
- Go around with a tape measure so that you can put dimensions on your sketches.
- What are the elements made of?
- How does it stand up?
- Draw the play of light and shade and proportion.
- How does it function in terms of use, light, rain, wind, etc.?
- Is it beautiful?
- How can its design be improved?

Figure 1.6 *Sagrada Familia (1882). Gaudi's major work, the Sagrada Familia, is only just being completed, some 80 years after his death. The hyperbolic parabaloid geometry used in the structure is unique and inspirational. It is at the heart of Barcelona's enormous tourist industry that has evolved from Antonio Gaudi's architecture. It is a building designed with love and genius that brings enormous joy and love. © BookArt*

Step 2: tune in and keep a sketchbook!

> Architecture is an act of love, not a stage set…It is the power of invention, of creation which allows man to give the best that is in him to bring joy to others,…
>
> Le Corbusier (1961), p. 34

Succeeding and enjoying what you do are central to a truly great career. This does not mean you have to be brilliant at school or university.

What do you enjoy with a passion?

It doesn't matter whether you haven't yet started studying architecture or are well on the way: taking stock and analysing your education is a vital step in the process of taking control of your career.

Figure 1.7 *Sultan's elephant: architecture or mobile? Toy or vehicle? Work or play? © Jane Tankard*

Ask yourself some fundamental questions about what you really value about the education you have had:

- Is it the skills that you have gained?
- The opportunity to put together a really great portfolio?
- Or is it about the people you have met and been taught by; the experiences and ideas you have been exposed to?

When asked if they want to be architects, almost all first year degree students interviewed stated that they did. Bizarrely, however, when pressed most have a very sketchy idea of what architects actually do, or the scope of the career and its opportunities.

Exploring your ambitions does not mean narrowing your options. It does call for research, self-reflection, motivation and flexibility. Are you really sure that you want to become a registered architect? It is a long-term commitment and there may be other more effective and exciting ways of steering your career. Just because

Figure 1.8 *Bedzed (2002). The innovative award-winning eco-housing scheme by Bill Dunster Architects in Beddington, South London. Wind cowls on the roof ventilate the houses; photovoltaics power electric cars; sun spaces and a high thermal mass are part of the low-energy strategy of this design. © Dennis Sharp*

the course is long and hard doesn't mean it is better, and choosing not to become a registered architect halfway through an architectural course does not mean that you are a failure. You are more likely to be a failure if you pursue a profession that you do not value and that doesn't value you!

Are you taking advantage of everything that's on offer and really giving 100% of yourself?

What turns you on?

Everything you do and everyone you work with matters; you are constantly defining and redefining yourself through what you do, your values and what you expose yourself to. You can let this happen or you can decide. Who you work with (fellow students and tutors) and what you work on will make a big difference to your experience and who you are. Ultimately it will define you and what you do.

Norman Foster left school at 16, Buckminster Fuller was expelled from Harvard, and when Gaudi finished his studies Elies Rogent declared, 'Qui sap si hem donat el diploma a un boig o a un geni: el temps ens ho dirà' ('Who knows if we have given this diploma to a nut or to a genius: time will tell').

All went on to do great things with determination, passion and skill.

Do you spend all weekend clubbing, master-chefing or football-ing? Really good architects see no distinction between work and play. Any of your interests can fuel and even determine the path of your career if you keep your architect head on 24 hours a day. You need to unravel the environment around you – if you love food then you should be exploring the design of tables, colour, light, kitchens, textures, menus, presentation, etc. Explore the culture of food: its politics, history, environmental impact, economics. Develop friends and contacts who are as passionate about your interests as you are; they may well be your clients or collaborators of the future.

There are many exciting opportunities ahead and your initial experiences in both work and education can fundamentally influence future prospects.

Global warming and climate change directly impact our environment. Over three-quarters of carbon emissions are directly due to the built environment and transportation. This is the key challenge that faces us, and those with an architectural training have an opportunity to play a significant role. Understanding construction, climate and culture has never been so important in the history of humankind.

Design your career 2

Step 3: think differently

> Insanity is doing the same thing over and over and expecting a different result.
>
> Eva May Brown

Work smarter, not harder. Make new connections between what you know and what you do and where you are going.

At any point in the chaos that describes your life an opportunity can arise for you to grab.

Small steps make great leaps. Don't expect it all to happen immediately. There will be many setbacks but there will also be opportunities.

Opportunities arise out of activity…the more you do, the more people will know you and invite you to collaborate.

Determination, stamina and vision will get you to many interesting places – some that you have deliberately aspired to get to and others that are unexpected and unpredicted.

The better equipped you are in terms of skills and knowledge, the better your chances. The rate and pace of change is very rapid. 2008 was a year when the architectural profession was so busy that many practices expanded rapidly, only to find that a few months later they had to radically downsize with the near collapse of the global economy.

Redundancies provide an opportunity to refocus and retrain. The market looks for a better service, greater flexibility, better skills, and more innovation and creativity. The design of your career does not stop – it is an ongoing project for the rest of your life.

There are many ways of starting. Here is a list of three ways you can explore a way forward through brain storming/mind mapping; using De Bono's six hats; and doing a SWOT analysis:

1. **Mind Mapping** (http://www.buzanworld.com)
   Developed by Tony Buzan, Mind Maps can help give you an overview of complex situations and be used for a number of different applications from tips for exam revision (identified below) to mapping your future career. These techniques are used by internationally famous companies and decision makers including Microsoft and Al Gore.

2. **Six Hats** (http://en.wikipedia.org/wiki/De_Bono_Hats)
   Edward De Bono is well known for his work on lateral thinking and has developed a number of techniques which can be useful to explore new possibilities and inform your career/life decisions.

De Bono has identified six core states the brain is sensitised to and developed 'six thinking hats' as a structured way of bringing these different ways of thinking or reactions. It is possible to use the 'six thinking hats' technique to develop design solutions, make presentations, or even to help you make decisions about your career.

The six hats help you interrogate an issue from different aspects and they can be used by the individual or as a tool for working in groups.

3. **SWOT analysis**
   A SWOT analysis (strengths, weaknesses opportunities and threats) can be a helpful tool to structure your thoughts. You may find it easier to do this with the help of a friend – who is perhaps less inhibited about singing your praises and can recognise talents that you may not have thought were worth mentioning. SWOT analysis can also help you focus and develop your project presentations in a more confident and positive way.

> Love of an idea is the love of God.
>
> Epitaph on Frank Lloyd Wright's tombstone

Everything you do will influence the way you think and look at the world so choose your path carefully.

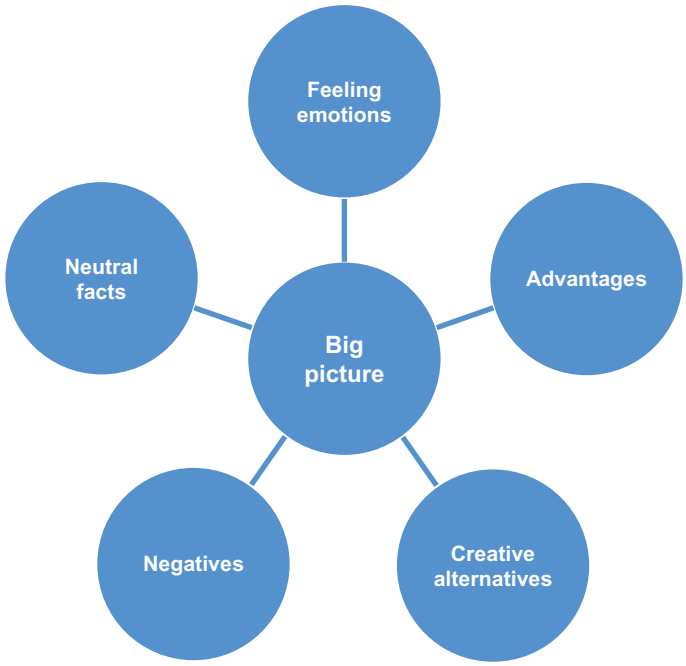


Figure 2.1

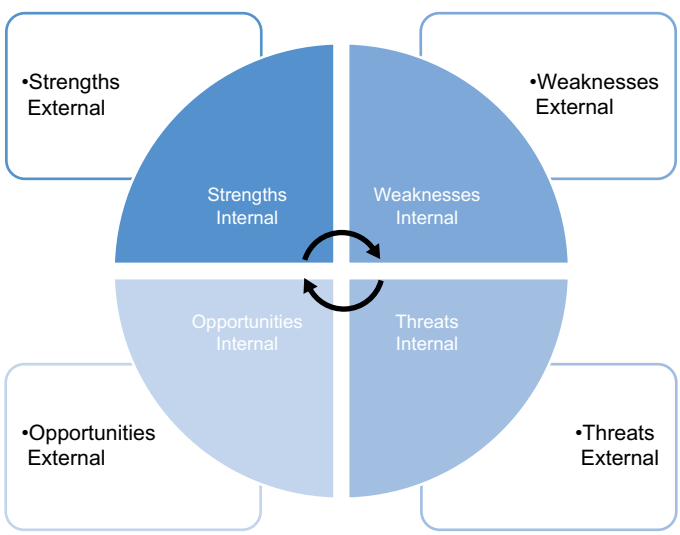


Figure 2.2

Figure 2.3 *Cosanti, Paradise Valley, Arizona. Paolo Soleri's love of the idea of an ecological city led him to develop the idea of arcologies (architecture and ecology) and he has managed to establish two centres (Cosanti and Arcosanti) in Arizona, which are funded by bells that are manufactured on site and powered mainly by people who volunteer their services because of their belief in this idea. © Dennis Sharp*

Step 4: get help

We become what we behold.

William Blake

Mentors

Get a mentor who you like, respect and value. Ideally your mentor will be a registered architect, but there are all sorts of other people out there who are able to give you help if you are humble enough to ask. Mentoring is a reciprocal relationship. Mentors like mentoring – they discover what students are doing and keep in touch with the dynamics of architectural education. To get the most out of your mentor make the exchanges enjoyable and stimulating. The idea is not to be in constant contact, but to

have an expert to turn to who can also help you make connections and decisions.

Where to look for a mentor

If your school of architecture doesn't have a mentoring system then start one by contacting the course leader or head of department. Alternatively, you can approach any of the architectural organisations and clubs in your area such as the RIBA, Company of Architects, Docomomo, etc. Find out if they have an education section and ask them directly who you should approach. Friends and family are sometimes another source of contact for a mentor. Once you have one, keep in touch; nurture the relationship – send a Christmas card, a postcard from an exhibition you have visited and enjoyed, let them know what and how you are doing. Don't be afraid to ask for help – that is what they are there for.

Sign up and participate

As a student, becoming an active member of ARCHAOS and your local RIBA Region will trigger off many connections. The RIBA and the Worshipful Company of Architects are always looking for students to participate in their activities. You will meet people and go places. As you get to know people they will either offer you work or put you in touch with someone who can.

Be bold – ask

People are very helpful if you ask in a sensitive manner. RIBAnet (access through www.architecture.com) could be a source of names of people you could contact and ask for advice on your portfolio, etc. Once you can engage people effectively, they will willingly introduce you to their network of contacts if you gain their trust.

Employment agencies are a very good source of information. They can tell you the sort of practices looking for staff, and if you are lucky they may even look over your CV and give you valuable advice.

Network

Making friends, influencing people and developing your social skills are key to your future success. Architecture is not a solitary

activity. You are not alone. There are networks out there ready to welcome you, nurture your abilities and help you find a job. All you have to do is to get wise and get connected. Establishing networks of contacts is essential to the success of your future career.

Successful practitioners stand on the shoulders of their mentors and have safety networks which support them when they fall. Isolating yourself is dangerous and you will be vulnerable. You could start by getting together with a group of students in your year – exchange CVs and comment on each other's portfolios, or practise interviewing each other. It could be part of a fun night out or a weekend jolly.

It is rare that architects get a direct commission. Often architects have to bid in competition with other practices. Fees are a significant factor but so are rapport and confidence. A client wants to feel positive about you and that you will do a professional job and deliver within the cost constraints. Being able to demonstrate that you can motivate large groups of different people is an important part of demonstrating competence. Design is often a secondary issue and poorly understood.

Look at the opportunities for networking. Many architects go to conferences and seminars specifically to meet new clients and to find out what the competition is up to. Joining the local branch of the RIBA, or the many student societies at college, can help you build your career. Joining the debating society for instance will help you with your presentation skills and you may even make friends with future clients. Being an active member of a club also has many benefits, especially if you take on responsibilities of an honorary officer such as secretary, treasurer or chair. These pursuits will look good on your CV and make you stand out.

Design dynamic 3

Step 5: build your knowledge (use your sketchbook)

> …being an architect is much more than simply having a profession. It is in fact a reoccupation that should engulf your body and soul for the rest of your life.
>
> Tombazis (2007), p. 17

Be a culture vulture

Figure 3.1 *The National Autonomous University of Mexico. Boundaries between architecture and the other arts are explored at the main campus of the university. It is now a World Heritage site because of the work by architects, engineers and artists, including work by Felix Candella, Mario Pani and Enrique del Moral, artists Diego Rivera and David Alfaro Siqueiros, and architect/artist Juan O'Gorman. © Dennis Sharp*

Standing in the middle of a white sheet of paper waiting for genius and originality just doesn't work. You need to be inspired and constantly developing your knowledge base.

Use your sketchbook as a rich and personal library, full of images, quotes, copies of drawings, sketches and ideas, pieces

of material, tickets, photographs…anything that *inspires* you. Quoting from some of the key architectural writers, thinkers and practitioners will not only impress and add substance to your work, but will be a key source of inspiration and knowledge. Don't try and reinvent the wheel. Whatever you do, someone else has already done it in some form or other.

Visit exhibitions, attend public lectures. No architect designs in a vacuum; they continuously refer to the work of others for inspiration, insight and knowledge.

Make the effort to visit as many exhibitions as you can. Get on the mailing list for the RIBA, art galleries, concert halls, art-house cinemas, etc. Attend lectures. Read reviews in the broadsheets. Read others' opinions to help evolve yours. If it interests you, go check it out.

Originality comes with detailed knowledge and investigation. It evolves from the known, from experimentation and obsessive commitment. All architects study the work of others in detail, so get reading and keep sketching.

Nuts and bolts

> An architect knows something about everything. An engineer knows everything about one thing. An architect is a generalist, not a specialist – the conductor of a symphony, not a virtuoso who plays every instrument perfectly.
>
> Matthew Frederick (2005), p. 21

Nothing technical in construction is rocket science. Understanding how things work and are put together enables you to design, and puts you in control. Buildings that look simple usually are the result of refined technical development. Exploring how this is achieved will make you more confident. Really investigate and understand how things work. This includes everything from bicycles to car engines; from door handles to the human body.

Use your sketchbook as a record of your investigations. Being inquisitive is essential. Start now. Acquire bite-sized pieces of information. Like that table? Look at what it's made of, how it's formed and constructed. Can it be opened up/transformed in some way? What is the mechanism that enables this to happen? How does the mechanism work? Use drawing to explore its construction. Where relevant, find out who designed it, when and where, its history and context.

Structure

> It is the pervading law of all things organic, and inorganic,
> of all things physical and metaphysical,
> of all things human and all things super-human,
> of all true manifestations of the head, of the heart, of the soul, that the life is recognizable in its expression, that *form ever follows* function. This is the law.
>
> Louis Sullivan

Beauty, proportion and structure are inextricably linked. A good working knowledge and understanding of structure will enable you to design more economically and dramatically. Your sketchbook is a powerful way of understanding structure. Look at the scale of elements and the spans. These are some questions you should be asking yourself and noting in your sketchbook:

- Are walls or columns supporting the structure?
- If there are columns how far apart are they spaced? What are they made of?

You should be familiar with the common types of structural systems found in architecture as listed below.

Post and beam

This is the most elementary type of structure found in grand buildings like the Parthenon and simple vernacular architecture.

Arches, vaults and domes

Arched construction enables large spans, and some of the most spectacular cathedrals have complex fan vaults and domes. Buildings can be dated by the form of arch used. The origin of the arch is uncertain, but this structural form became common in the Roman era and early churches used arched forms to great effect. Hagia Sophia, completed in Dec 537AD by the Roman Emperor Justinian, is one of the most spectacular examples.

Monocoque

Structural or stressed skin is known as monocoque construction. Monocoque construction was first widely used in aircraft in the 1930s. The word is derived from Greek for single (*mono*) and French for shell (*coque*), and refers to a construction technique that supports structural load by using an object's external skin (as opposed to using an internal frame or truss) that is then covered with a non-load-bearing skin. Structural skin

Figure 3.2 *Extension: Bowkett, Tankard Architects. This simple and elegant back extension has been structured using steel beams and posts. The main support has been taken outside the building envelope and has been made a feature so that the roof looks as though it is floating, and enables the corner of the building to be opened up to dramatic effect.*

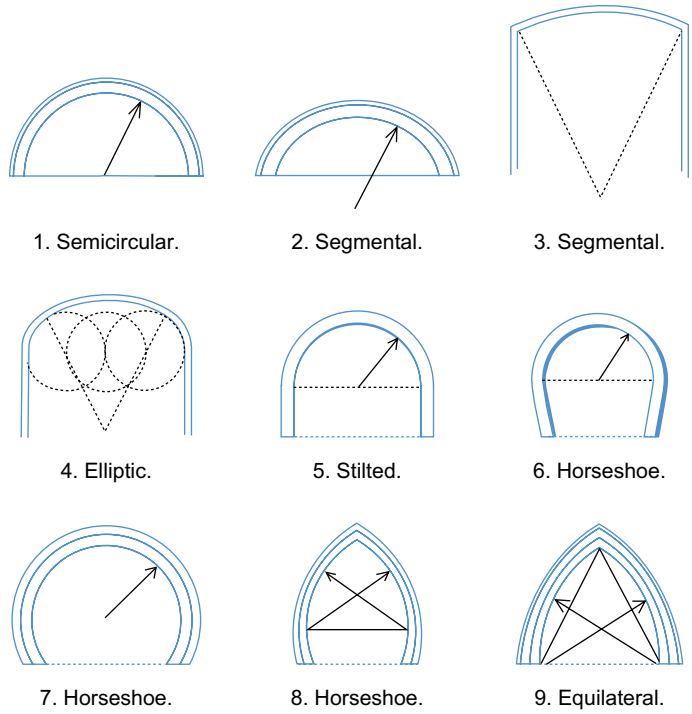


Figure 3.3 *Different types of arched forms illustrated in Parker (1905), p. 19. This illustration is out of copyright*

Figure 3.4 *Hagia Sophia. This is one of the largest early domed structures. The original dome collapsed in 557AD after an earthquake and it was rebuilt with 40 braces and made slightly taller. The length of clear span of the 32 m central dome and the semi-domes was unprecedented at the time of Hagia Sophia's construction. To the northeast and southwest, in contrast, heavy double arches and pier buttresses were erected to counter the thrust of the dome.*

Figure 3.5 *Sagrada Familia. The domes and arches at the Sagrada Familia are all based on hyperbolic parabaloids which results in a very lightweight structure compared to the early Romaneque semi-circular forms. © Dennis Sharp*

Figure 3.6 *Cardiff Bay Visitor Centre: Alsop Architects. Photographer: Roderick Coyne.*

or stressed skin are other terms for the same concept. Will Alsop's Cardiff Bay Visitor Centre is an example of a monocoque building.

Gridshell

Gridshells are lattice structures with a double curvature that are often used to span large spaces for large venues such as exhibition spaces. The system was developed by a Russian; gridshells were pioneered in 1896 by Russian engineer Vladimir Shukhov in constructions of exhibition pavilions for the 'All-Russia industrial and art exhibition 1896' in Nizhny Novgorod.[1]

The most spectacular use of a timber gridshell structure in the UK was made by Edward Cullinan Architects at the Weald and Downland Museum completed in 2002.

Engineered timber

With global resources diminishing, many new building products are being developed. One of the most significant is the availability of engineered timber. The AA summer pavilion, see Figure 3.8, was made entirely using a high-technology engineered timber product from Finland called Kerto. (There are other similar Canadian and American products.) Kerto is stronger, straighter, lighter and more stable than commercial sawn timber. It derives its high strength from the homogeneous structure, which also keeps the effects of any defective single veneers down to a minimum. Problems that naturally occur as solid sawn lumber dries, i.e. twisting, splitting, checking and warping, are greatly reduced.

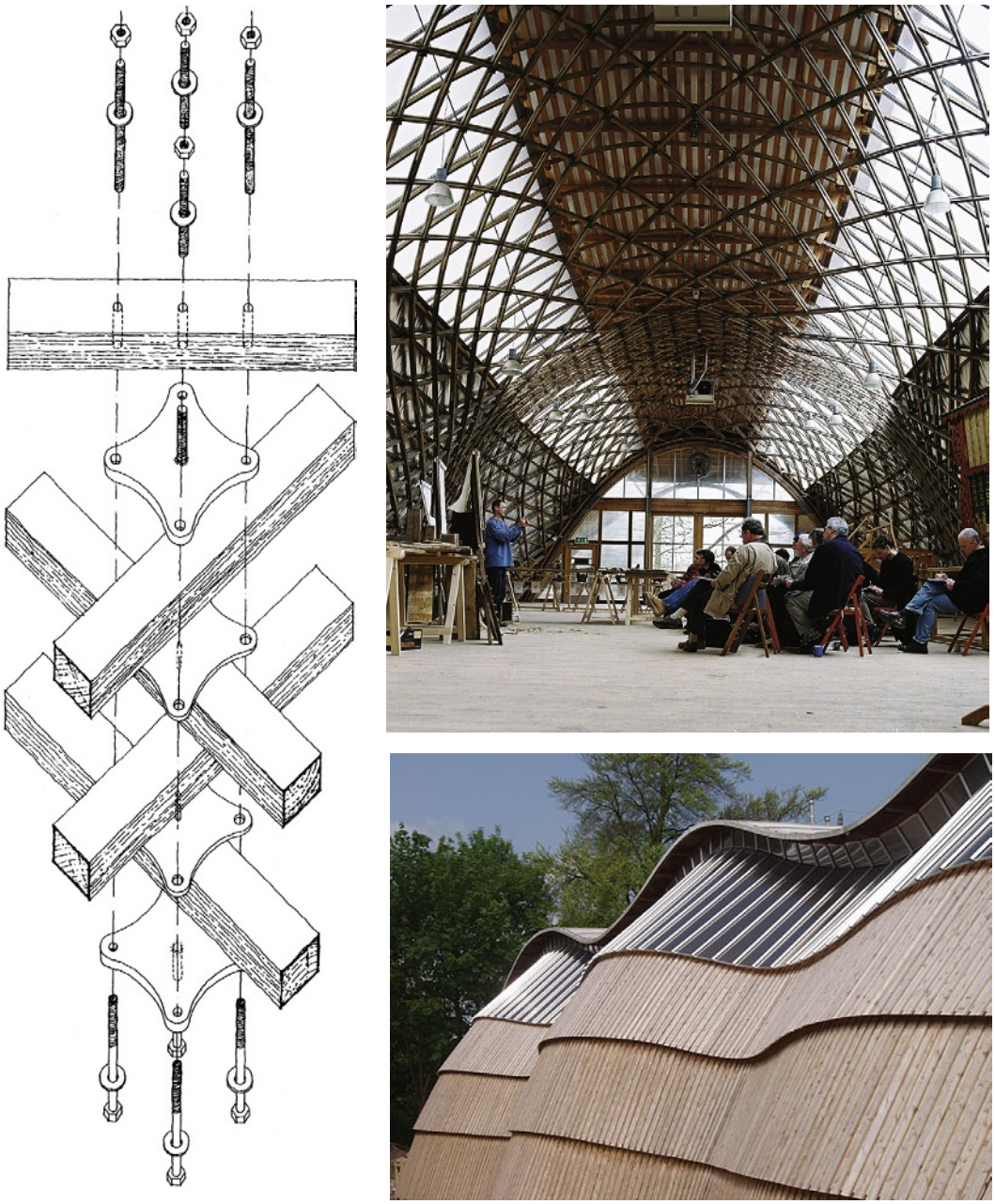


Figure 3.7 *Weald and Downland Museum: Edward Cullinan Architects.*

Figure 3.8 *Architectural Association Summer Pavilion. © Dennis Sharp*

Travel

To be well informed you have to visit lots and lots of buildings. It is no coincidence that many well-known architects are also well travelled. Being in a different place (and keeping a sketchbook) helps you question where you are and where you have been. The qualities of light and shade, design responses to climate, context and culture, and making time to look and see and meet people are essential to your education.

Many famous architects started their careers with trips abroad including Le Corbusier, Connell, Barry, Soane, and even Norman Foster won a prize that allowed him to spend a summer travelling around Europe studying buildings. There are many travel scholarships available including the RIBA's Norman Foster Travelling Scholarship, Manchester Society of Architects, The Company of Architects, and many more.

To make the trips worthwhile you need to do a little bit of research to see what is there. The Pevsner guides are the architectural 'bible' in the UK. Nikolaus Pevsner (1902–83), a Polish émigré, set out to document significant buildings in Britain. What started in 1951 as weekend trips has resulted in hundreds of county-based guides for England, Scotland and Wales, and a web site www.lookingatbuildings.org

Must do: Architectural weekends out

Hardwick Hall & Yorkshire Sculpture Park	Letchworth Garden City
Bath	Dartington
Saltaire	Cambridge

Port Sunlight and Liverpool

Edinburgh

Oxford Pitt Rivers Museum and Blenheim

Hokham Hall

London visits to get you thinking

Soane Museum

British Museum

Royal Festival Hall

Oxo Tower

BedZED

Leighton House

St Pancras Station and British Library

St Paul's

Tate Modern

Top 10 European cities you could visit in a weekend

- Prague
- Florence
- Barcelona
- Berlin
- Helsinki
- Athens

Figure 3.9

- Paris
- Rotterdam
- Vienna
- Budapest

Context

Understanding the orientation and the site context is fundamental. Do the spaces get south light or north light? Where are the views and how does the architect design the journey or the experience through the building? How does that relate to the outside?

The cultural context is also very important. In his book *House Form and Culture* (1969) Amos Rapoport writes how two identical houses can be used in very different ways by occupants of different cultures.

The economic and political context also influences form. Haussmann in Paris for instance developed wide, open streets large enough to get the army and their cannons down to control riots and revolts. Hospitals and prisons also have a similar radial plan to enable supervision of inmates and patients.

Be humble

Don't just rubbish what you see on a superficial glimpse. Everything has a value and you can learn from it – both negative and positive. Style can get in the way like prejudice. Making architecture is difficult and if you don't like a building find out what informed its design and understand why you don't like it.

Step 6: develop your skills

> The most powerful drive in the ascent of man is his pleasure in his own skill.
>
> Jacob Bronowski

Anyone can be an architect. No single person can possibly know everything about structure, materials, regulations, site conditions, contracts, budgets, etc. Architecture is about teamwork and having enough knowledge not to compromise the design. Mediocrity is easy – it doesn't create a fuss and everyone is 'happy', except the final product is not worth bothering about.

An architect can be compared to a conductor in an orchestra. The conductor may be able to play a couple of instruments but not all of them. The conductor also has to know enough to earn the respect of the individual players, and be visionary and confident enough to take the lead.

Making buildings is not just about design or motivating people, it is also about meeting legal, contractual and financial requirements. Clients expect their money to be spent wisely and that the building complies with the regulations and is built to programme. These are onerous tasks and require an organised, confident lead. There are no short cuts. You have to be professional and have enough knowledge to earn the respect of those you work with.

If you are focused and determined, gaining the right skills and tools you need will get you where you want to be. Architecture requires and fosters a vast range of skills; understanding the value of these and how they are perceived within the profession is central to making educated, intelligent and creative moves that will enable you to take control of your career.

Employers are looking for competence and versatility

> …everyone who comes into the office for an interview these days can use the computer to make high quality drawings. In fact, many are so competent in this area that they can create highly sophisticated software themselves. So how do I distinguish between one potential employee and another? It's what other skills, particularly hand drawing and writing, they possess.
>
> Peter Greensmith, Director at Haskoll

The pace of change is rapid. Twenty years ago no one could have predicted that computer skills would become essential for an architect. Developing an enterprising attitude, developing your skills, and being flexible and open to new ideas and new ways of working is key to remaining successfully and gainfully employed.

Developing skills is like keeping fit; learning and opportunities keep on evolving and you have to evolve with them, otherwise you end up out of touch and out of date. Energy thrives on energy. As architecture is a profession that covers such a wide spectrum of activity it is easy to contradict any suggested list of skills; the list below is an attempt to scope some of the key skills that are valued in the profession:

- Creativity
- Photography

- Presentation
- Procurement
- Hand drawing
- Surveying
- Detailing
- Computer-aided design
- Report writing
- Research
- Legal and contractual skills

To obtain the skills you need requires initiative. There are many short courses which can help you make time to develop skills in specialist areas. Attending a local evening class course in life drawing, for instance, can help develop hand drawing and presentation skills. A photography club can open up your eyes to a number of different techniques. Acting and drama will help verbal communication and confidence. Skills at using different computer-aided and presentation programmes are often developed by working with colleagues. There are usually lots of student clubs where skills can be learned and shared. The traditional place to find out about these is the Freshers' week fair, but if you missed that then just go to your student union and check out the list. If you find a number of your cohorts would like to develop a particular skill, you may be able to get a specialist to come to you and share their knowledge and expertise. This may be another student from a related discipline, a tutor, a technician or an artist/architect.

Think about how many of the following skills you can demonstrate to a high standard:

- Creativity and lateral thinking
- Hand drawing
- Model making
- IT/CAD
- Report writing
- Presentation
- Research

> So what if you can speak the language – are you making poetry? Are you a slave to a computer programme or is it your tool?

You can gain the skills technically, but, until you use them creatively, it isn't architecture. Any client can employ a builder to make a building. What is your added value? The secret is not to be discouraged by your first attempts, but to persevere and overcome early frustrations. Like learning a language, the more practice you have, the easier it gets. Listed below are a few tips on how to nurture your skills.

Creativity and lateral thinking

Architects solve problems. Do your research and be organised. Employers will be looking for technically knowledgeable people able to work in a team to solve difficult problems elegantly. This may require creative thinking and analysing problems from first principles. There is a time for refining a process but often there is a need for a step change. It is pointless installing data points when everyone has gone wireless.

Never work in a vacuum; never begin with a blank sheet. Creativity sounds glamorous, as though a great idea will come out of nowhere resulting in you becoming rich and famous overnight. Good stories are highly publicised and the hard work and graft that goes behind the success is glossed over. It takes hard work, determination and courage to succeed and be creative. It will mean researching and looking for inspiration, finding potential in a 'problem' or dissecting the familiar, to unlock something new. You will always be doing something original as every building is designed for a particular client in its own space and time continuum. As an architect you will be faced with complex problems at a global scale as well as the microscale of air molecules and microelectronics. By looking at the work of others you will inspire and liberate yourself and your work.

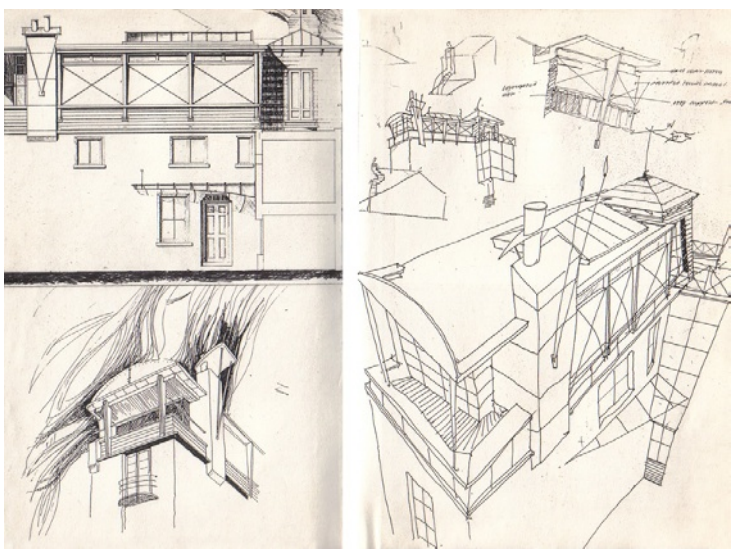


Figure 3.10 *Page from Steve Bowkett's sketchbook. Do not be put off by looking at sketchbooks of those who have been sketching for years – rather be inspired that if you do a little every day you will be able to draw like this in a few months!* © *Steve Bowkett*

The techniques of lateral thinking described above in the earlier chapters may help you solve a design problem. Large, creative, rapidly changing organisations such as Google and Microsoft are being transformed through collaborative working. The office spaces have large numbers of breakout areas and areas for socialising. Working out ways of working together will put you streets ahead of the rest!

Hand drawing

We can't say it enough…Keep a really good **sketchbook**. Used every day it will become a reflection of your interests, taste and individuality, and a record of the world as seen through your eyes. Create a personal library of edited information and inspiration.

As fewer people are able to draw by hand, so more practices want people who can. The relationship between the brain, hand and eye is very different to the one between the brain and the computer mouse. Hand drawing unlocks a different creative process to CAD. Use hand drawing as a design tool. Become an expert with pen and ink, pencil and graphite. Try 'drawing' with collage, montage and superimposition. Experiment. Become fluent in the tools that encourage creative, lateral thinking. Practice makes perfect.

Drawing pens: only use proper drawing pens. You should own at the very least a 0.18, 2.5 and 5.0 nib thickness. Experiment with line thickness, texture and shadow.

IT and CAD skills

All practices use drawing programmes and an employer will expect you to create drawings digitally. Rather than be reasonably proficient at a huge variety of drawing programmes, aim to be really expert in two or three key packages. Autocad, Microstation and Vector Works are basic requirements. 3D rendering packages are useful but not always essential. Knowledge of Sketch-Up is useful.

It is worthwhile developing a system which orders the information you can draw on for your CAD programmes. Knowing which textures work, how line weights and colours print out will save you lots of time and make you feel confident about the final output. The end result of a hard copy is still required, particularly for your portfolio. Do not assume that practices will want to see something digitally – assume that they will want to go through a hard copy of your work.

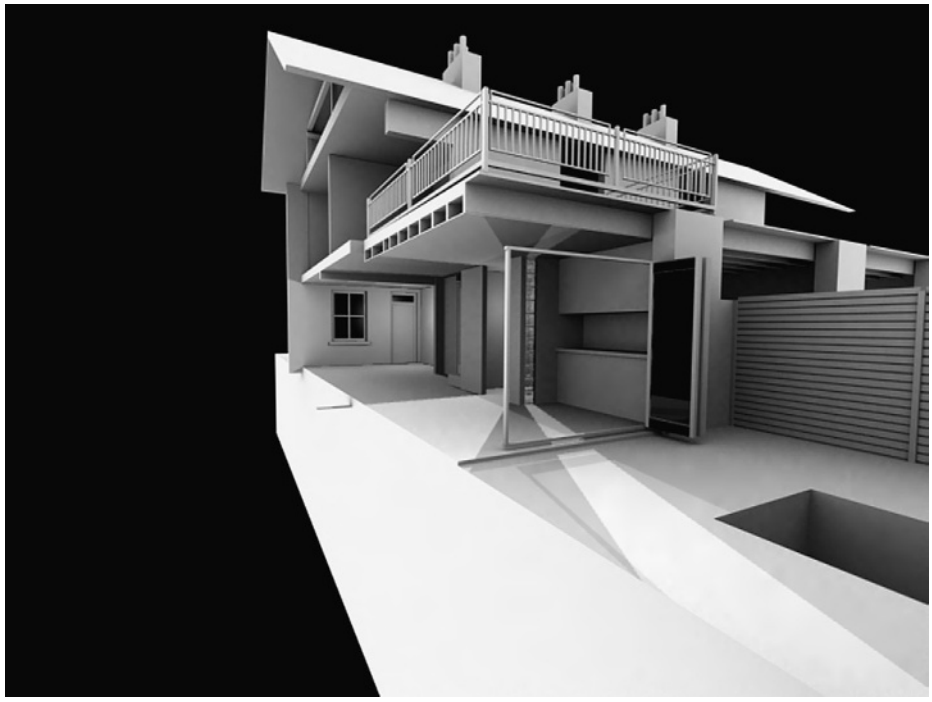


Figure 3.11 *Cross Street 3D Model: Dennis Sharp Architects. Different types of digital software are used for different purposes. This 3D model was developed in 3D Max as a marketing material for the practice. © Dennis Sharp Architects*

Figure 3.12 *3D rendering developed for marketing purposes (enhanced using Photoshop). © Dennis Sharp Architects*

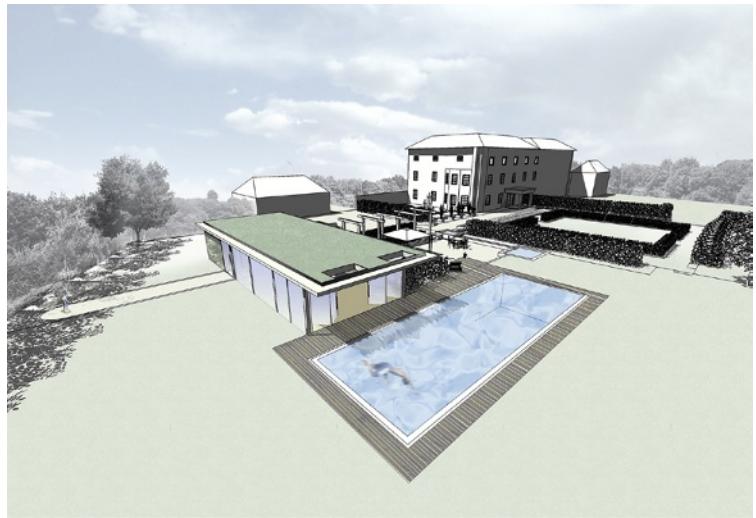


Figure 3.13 *Perspective of project developed for planning purposes. © Dennis Sharp Architects*

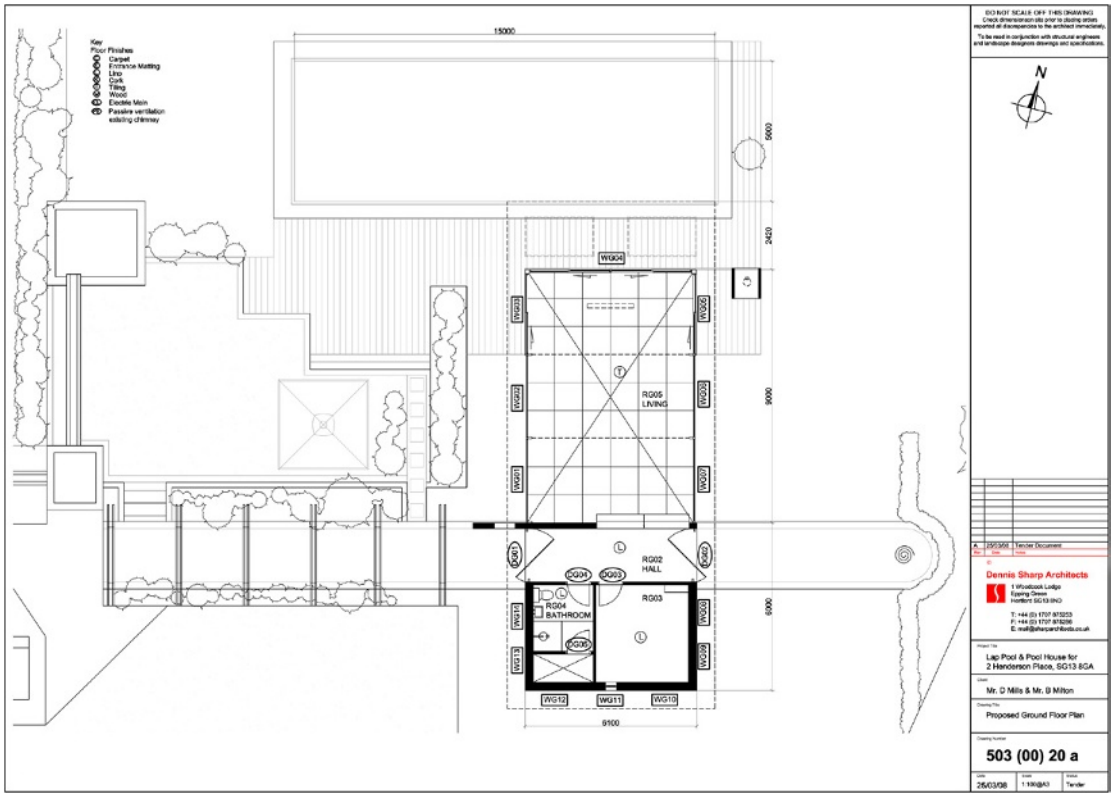


Figure 3.14 *Ground floor plan. This is a typical layout drawing which can be developed in Microstation, Autocad, Vector Works or similar CAD packages. Architecture students must get familiar with this way of representation and drawing format as this is standard in architectural practices.*

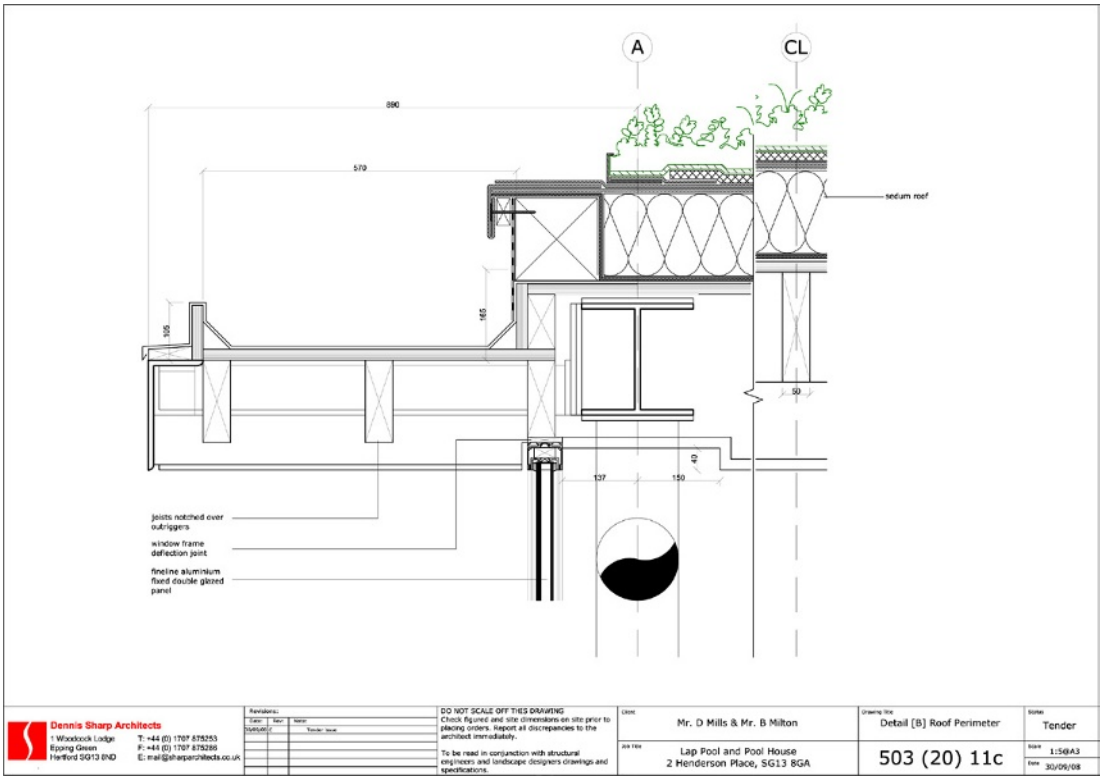


Figure 3.15 *Detail: Section. A typical detail through the building shows what elements are required, where the waterproof membranes are located, and how the elements come together.*

- Always allow for the translation in scale from screen to page.
- If you can read text on a computer screen, it will probably be far too big on a printed A1.
- Subtleties in line thickness can often be lost in the printing process. Developing your drawing skills by hand will help you understand how line thickness will appear on the printed page. This will also help you to develop an understanding of the detail relevant to a particular scale.
- As a drawing scale increases in size, so must the detail it contains. A plan drawing of a door at 1:20 will show the detail of the frame or housing, and how it is constructed and formed. At 1:100 it would show little more than a differentiation between door and wall. Students often make the mistake of including the same information and detail in a drawing at 1:50 or 1:20 that they would at 1:100.

Model making

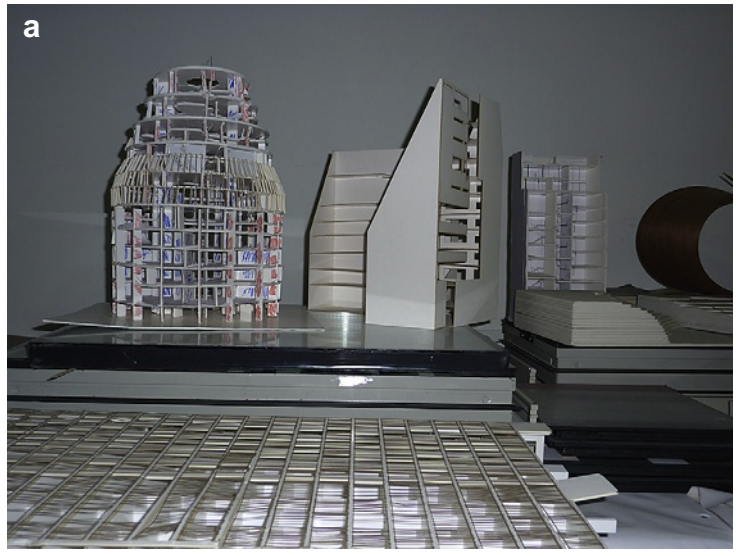
Physical models are a very important way of testing and exploring a design. Three-dimensional modelling on the computer does not replace making physical models. Use hand modelling to explore space and form. Do not confuse creative model making with the models produced by professional model makers for presentations. Experiment with different media. Try casting (e.g. resin, concrete) and carving (polystyrene, foamcore), laminating (cardboard, timber, fabric) and weaving. By exploring different media at different scales you will begin to engage in the creative process and allow yourself to explore architectural potential, in terms of space, form, structure and materiality.

Model making is an essential part of the design process for many architects from Lasdun to Gehry:

> I approach each building as a sculptural object, a spatial container, a space with light and air, a response to context and appropriateness of feeling and spirit. To this container, this sculpture, the user brings his baggage, his program, and interacts with it to accommodate his needs. If he can't do that, I've failed.
>
> 1980 edition of Contemporary Architects by Frank Gehry

Photography

Whilst one sketch may be worth a hundred digital images, photography is now an essential part of an architect's toolkit. Sketching and photography are two very different ways of



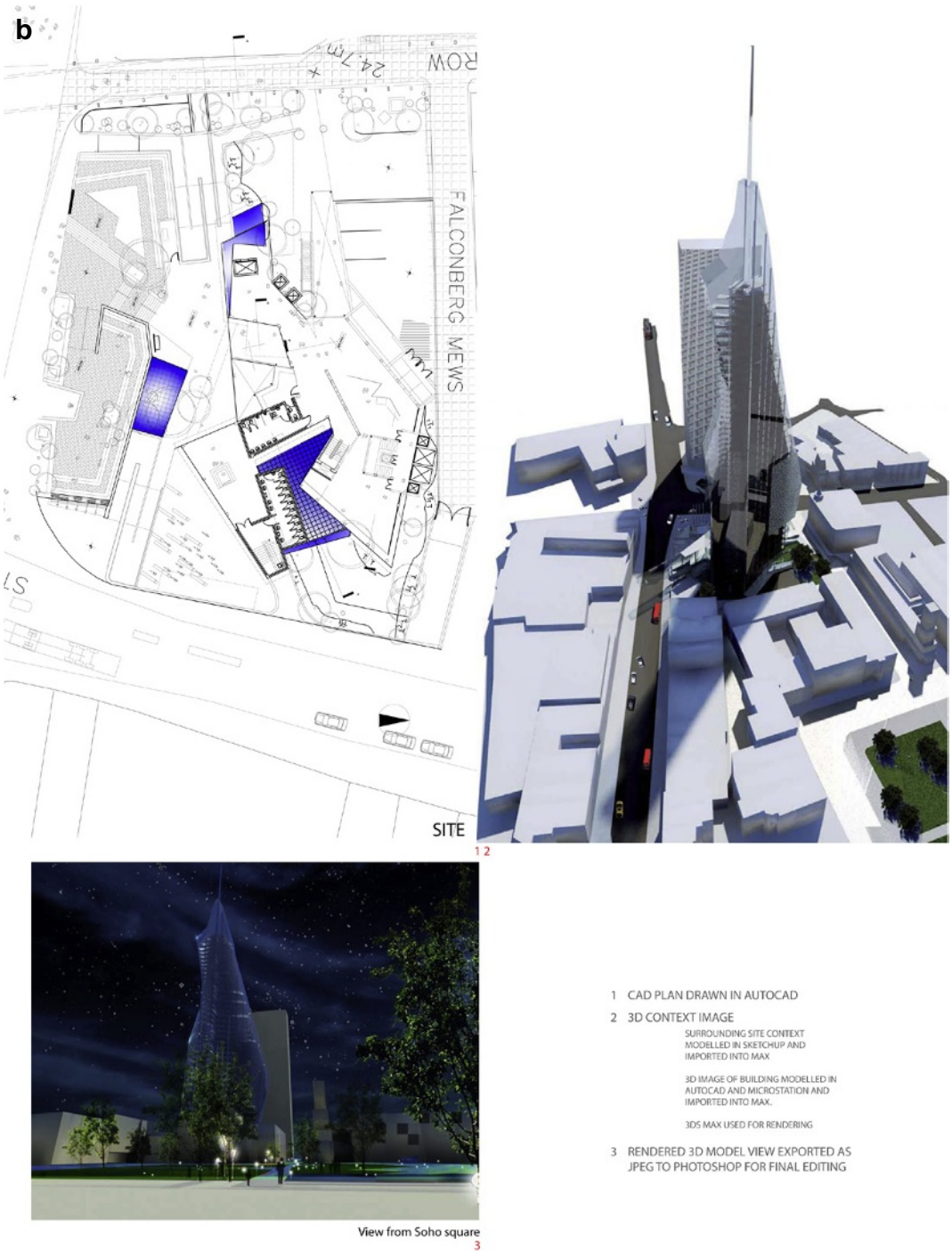


Figure 3.16a and b *Working models in Bernard Khoury Architects' office, Beirut, Lebanon.*

A student experience of model making:

The Making of the Gnostic Dynamo (GD) Model

1:200 Perspex model with a birch veneer base (Figure 3.17).

Model made by Mr Matt Rees of 3D Create Ltd

My tutor was excited by the complexity of the scheme I was creating and wondered how to achieve a model to do the scheme justice. The idea of professionally commissioning the model was dismissed because of expense. One of my architectural mentors suggested I speak to Mr Rees. Mr Rees is a professional model maker who has worked closely with the Richard Rogers practice.

To begin with I sent him an image of my Rhino concept model for him to consider whether he might be able to help. The complexity of how the tower hit the ground and the tower form excited his interest.

Next I sent the CAD plans of the floor plates and of the site and wider masterplanning so that we could discuss scale, context, materials, cost and labour for the model.

Then I sent him the working models of the tower. I sent the outline of each of the 50 floor plates and the final model in autocad. The model maker also looked at my blog to read my concept.

The model maker spent a week familiarising himself with my plans and the concept to determine the best approach to making the model. He proposed three working methods to construct the model to achieve what he called the 'jewel like character' of the tower. We also considered how 'professional/corporate' or how 'artistic' the final model should look. He sent images of various competition models he'd done before so that I could choose the look I liked best.

We decided to sculpt the model out of solid pieces of perspex to achieve the theme of 'translucency' set up in my original concept. Since the tower was a sculptural form to reflect its social agenda for housing the artisan – he believed that the process of hand sculpting the model was ideologically and philosophically appropriate to the social and programmatic intent of GD.

Finally, we met in his workshop to look at and discuss the small working model he made to test for final effect and presence of the model.

The final model took 1 week with 2 persons working on it all week to make.

Roxanne Walters, Oxford Brooks University, June 2009

investigating, recording and analysing the physical environment. The two are not mutually exclusive – taking a photograph can inform a sketch and vice versa. There are lots of different reasons for taking photographs in architecture. For an architect, photography is more than just recording experiences; it is an

Figure 3.17 *Student project paper and model representations.*
© Roxanne Walters

Figure 3.18 *Professional photograph by Morley von Sternberg of Canada House Installation by Dennis Sharp Architects in collaboration with Bing Tom Architects and Fast and Epp Engineers, Trafalgar Square, London.*
© Morley von Sternberg

Top tips to take a good picture

- Invest in a good camera that allows you manual shutter and aperture control. Look for a lens 18–70 mm or one that at least offers you a varied zoom range. A digital SLR is a good investment. Nikon D40 from a reputable second-hand camera store is a great student buy.
- Invest in some photography lessons or a good book. Your university may have optional photography courses throughout the year.
- A good picture takes careful thought and composition. It's not about pointing and shooting. Walk around your subject slowly. Look for interesting angles, views, positions. View your subject in different lighting conditions, different times of the day, or against different backdrops and in various composition arrangements. Think about the story or message you want to convey.
- Composition, composition, composition. A great picture does not require an exotic subject to be fascinating. The best pictures many times are of ordinary subjects. Follow the rules of picture making. Get to learn them. You can divide the elements in a picture into thirds or have strong diagonals. The subject should be off-centred either to the left or the right. Subjects placed in the centre of a photograph are not usually successful unless they are portraits. Pay attention to your horizon line and where it appears in your photograph. Think about whether a landscape or portrait format best supports the subject you wish to show.
- Make sure your picture has strong contrast/tonal composition. The best black and white pictures have an area of 'deepest black' and another area of 'pure white' with the full gradation of tone between the two extremes represented.
- Have some support when taking your picture. Either use a tripod or your body. You can make a tripod out of string and your foot. Or if using your body as a tripod, make sure to brace yourself and take a deep breath before taking the picture. Exhale after you've taken the shot. Don't lift your finger from the trigger until after the photo has been taken! In other words – avoid camera shake.
- Don't be afraid to Photoshop! Use Photoshop or similar software to edit and produce the final image. Think of it as your 'virtual darkroom'. So learn one software package very well.

Roxanne Walters, Oxford Brookes University, June 2009

artistic and exploratory tool. Before becoming trigger happy, think carefully about the reason for taking the photograph and what you hope to gain from it.

It is well worthwhile investing in a good camera and also in a course which helps you make the most of your equipment. A tripod enables you to consider shots better and you can learn a lot by looking at the work of photographers such as Cartier-Bresson and Dorothea Lange.

Photograph your models beautifully for your portfolio. Representing models in a two-dimensional format is invaluable for exploring and refining a design proposal. Photography can change scale, as can a title: 'detail' implies something very different to 'cityscape'. Never use titles that declare the obvious. 'Sketch model of …' or 'Proposed building at 1:50' are a waste of time and ultimately detrimental. Try and use a title that evokes an idea or challenges perception. The same model could be 'Cityscape 4 am' or 'Erosion' and suggest very different architectural notions.

Effective presentation

Essays and report writing

Reports tend to be more technical or specific in nature than essays, which may have a wider and more general remit. It is not difficult to produce a report or essay if you are well prepared and organise the information. Well-constructed reports give all the information needed in a clear well-organised format. They should be designed visually to be easy to read and refer to, with a high standard of graphic presentation.

Start with a plan. Organise information into a contents page with sections and sub-headings where appropriate. Decide who your audience will be and tailor it to them. Know the key information you are communicating. What is the context? What are the facts? Identify all relevant parties and their contribution/expertise/skills. Who are the key players (including government bodies and institutions)? What is the relevant legislation? How might this impact? Include all known information regarding budgeting and costs. Note key dates; especially where important decisions were made or strategies were agreed.

Don't be too wordy; if you can say it with fewer words, then do! Use illustrations and diagrams where possible. Learning how to use Excel spreadsheets for charts and graphs is an excellent way of graphically communicating ideas. Use a conclusion to summarise the key issues and findings identified. Use titled illustrations wherever possible: we are a visual profession. If you are able to use your sketchbook illustrations that will be impressive and it will show your ability to observe and analyse.

References and plagiarism. Your report will be taken much more seriously if you properly reference your sources. It takes a little effort to understand the system but it will be well worth the effort. It will also save you from being accused of plagiarism. You must acknowledge whenever you quote (cite)

from, or paraphrase work written by, another author. This citation should then be referenced, that is, state where the quote or paragraph you have used originates from. References are usually listed in alphabetical order (by author's surname) in a bibliography at the end of the report. Many tutors will determine your initial mark simply from looking at the contents page and the bibliography so beware of overlooking the bibliography – it could be the sting in the tail! Acknowledging your sources also demonstrates how widely you have read and if you are aware of the significant body of work in the area that you are researching. They can also be used to support your argument. Academic submissions at PhD level will usually also have a large number of notes which expand on the core text. There is software available that helps you manage and keep a record of footnotes, or end notes, and bibliographic references, such as RefWorks and EndNote.

Always include a bibliography: include books, documents and web sites, and always reference quotes. There are a number of web sites that can help you with the bibliography (referred to as citations by Americans). The two main systems in use are the author–date system, commonly referred to as the Harvard system, primarily used for the sciences and social sciences, and the author–title system, also known as the MLA style (Modern Languages Association), common in humanities and the arts.

To confuse matters the Harvard system is not officially affiliated to Harvard University and will not be featured on their web site. There are British Standards BS 5605:1990 and BS 1629:1998 for referencing published material using the Harvard style examples and BS ISO 6902:1997 can be consulted for guidance on details of referencing electronic sources (there is no British Standard for electronic resources in the Harvard style). Below are some examplex of typical formats for references using the Harvard author–date system:

Book

Family name, initial(s). (Year). *Title*. City of publication: Publisher.

Frederick, M. (2007). *101 Things I Learned in Architecture School*. London: MIT.

Web

Family name, initial(s). (Year). *Title*. web site address (date accessed).

Jowett, A. (2001). *Referencing Using the Harvard Method*. Available from: <http://www.nhgs.co.uk/technology/harvard.pdf> (accessed 24.05.09).

Thornes, S., owner (2008, October 2). *References and Citations Explained*. Available from <http://library.leeds.ac.uk/info/200201/training/218/references_and_citations_explained> (accessed 24.05.09).

Journal

Family name, initial(s). (Year). Title of article. *Journal title*. Volume (issue number), page number(s).

Nicholson, R. (2008). Top 10, *Architects' Journal*, Vol. 227, (19), p. 29–43.

Text references

In the body of the text, these are normally quoted briefly, e.g. Le Corbusier (1963, p. 53)

and the title is given in full in the bibliography at the end of the text.

Presentations

> If you can't explain your ideas to your grandmother in terms that she understands, you don't know your subject well enough.
>
> Matthew (2007), p. 48

Don't be a victim! Treat your crit like a kill – be a hunter not the hunted. A weak, underpowered student is easy prey for the critic. You will be easily crushed. It is easy for a critic to determine how much work you have done. Empower yourself with knowledge and use the crit to pirouette your talent. The critic wants to enjoy the show and share the delight you have enjoyed working on the project. *Do not make excuses*. Be professional. Stand up for yourself and the work you have done. You need physical and mental strength. Make sure you eat and sleep properly so that you have all your heightened senses at the performance of your presentation.

Design the stage-set for your ideas using the same creativity and ingenuity you employed on the project. Prepare what you are going to say and rehearse it. If you have a time limit, make sure you know how long it will take you to say what you want to say.

Remember, teamwork will enable you to move faster and cover a lot of ground quickly and more easily than going it alone. Start by working in a team to do the research and share experiences which will help you develop your project. Have fun in sharing the discovery and exchanging ideas about the design problem, including working out ways for presentation. Don't be afraid to experiment and disagree.

> There is hope in honest error, none in the icy perfections of the mere stylist.
>
> Charles Rennie Mackintosh

Visual and verbal presentation skills say a huge amount about you and your abilities. Think of 'crits' or 'juries' as a positive learning experience. Architects willingly engage in formidable and challenging crits on their work. Excellence evolves through rigorous investigation and informed debate.

Be assertive. Remember, assertiveness is the ability to communicate without aggression or, conversely, passivity. No architect wants to employ someone who is a timid mouse, but neither do they want someone who is bigoted and self-opinionated. Respect – both for your own work and opinions and for that of others – enables you to listen, persuade, gain valuable advice and ultimately develop your work with rigour.

Ask one of your fellow students to write notes whilst you are presenting: it is difficult to absorb everything your critics are saying in the heat of the moment. Make sure your 'scribe' takes note of any references made to the work of others, especially architects. Always read through and act on any advice given.

Don't be confused by differing opinions from a jury. Try and understand the differences in the light of the conversation as a whole. Ultimately, this is your work and you need to make the decisions on how you are going to proceed.

A really useful book that helps with the language used by architects, historians, theorists and academics is *Archispeak*: *An Illus-*

Architectural courses 4

Step 7: launch your career

> You must choose between making money and making sense. The two are mutually exclusive.
>
> Buckminster Fuller (1983)

Your career depends on you. You have to work out where you want to go and how to get there. If you want to be an architect in the UK you need to register with the Architects Registration Board (ARB). They have very specific requirements and you cannot assume that the course you are on is accepted by the ARB.

Becoming an architect is a long haul. It takes at least seven years. There are many paths but a typical route is a three-year undergraduate degree (Part 1) followed by a year's work experience, and then two years' post-graduate study (Part 2). To register you will need a minimum of another year of work experience whilst registered on a professional practice course (Part 3). In the UK the use of the word architect is protected by law (The Architects Act 1997). ARB are responsible for prescribing the qualifications and practical training experience required for entry onto the UK Register of Architects. The underlying framework for the criteria is Articles 3 and 4 of European Union Council Directive 85/384/EEC, the Architects' Directive. Only those on the ARB register can call themselves architects in the UK.

Where you study will have a huge impact, in terms of both your everyday experience and the connections you make with the profession.

Most architects, practices and architectural students in the UK are London based. There are approximately 30 000 registered architects and about a quarter are in the London area. Your choice of practice is very restricted if you are outside a city.

Working abroad will help you broaden your knowledge and experience. The Union of International Architects provides an excellent database of contacts – see www.uia-architectes.org. Some universities have exchange programmes and usually the first year of work experience can be outside the UK. Check the ARB web site to see if the experience you intend to gain abroad will count for registration.

Step 8: select a university

Courses in architecture across the UK vary enormously – don't get caught out in thinking that all architecture courses are accepted by the ARB when you want to register as an architect. Before making any decisions you need to find out if the course you are interested in is prescribed (recognised) by the ARB.

Which university

All UK recognised courses and institutions are listed at: arb.org.uk/education/schools_of_architecture_offering_prescribed_qualifications. If the course is listed then the qualification you gain will count towards registration. The web site also publishes annual reports on the university and these reviews give a useful insight into the institution's performance, particularly if you are able to read between the lines.

Architecture courses vary tremendously. They reflect the values and calibre of the Head and the tutors. It is a good idea to look at the structure of the degree course (is it a BA or BSc?), see what pathways or 'specialisms' are offered, what modules are taught, and whether field trips and work experience are organised. Looking up the tutors and investigating what they have achieved can also be inspiring.

At the end of the academic year, usually June–July, almost every architecture school will have an end of year exhibition. If you can get to an opening night you will be able to meet the tutors and ask the students first hand what they thought of their course and who they can recommend as tutors. Reviews of the exhibitions and work of the schools are generally found in magazines like *Building Design* and the *Architects Journal* in July. The media often rank the courses and give an overview of them.

Studying architecture and working in an office are not mutually exclusive. Many undergraduate students have part-time jobs in

supermarkets or restaurants to try and make ends meet, but the sooner you can get some architectural work experience the better. Getting a part-time job in an architects' practice is ideal. You don't have to wait until you have a degree. Not only does a job give you the opportunity to get a mentor, it enables you to gain the kind of experience you need to land a great year-out/post-part 2 position. Even in times of recession, many architects' practices are happy to employ students part-time on salaries. If your undergraduate programme offers work experience as part of the curriculum, apart from being a valuable experience in itself, it can be the foot in the door to get the job you want.

Think laterally. Work out where you want to go and how to get there, but serendipity may take you somewhere exciting if you allow it. Enjoying work is important. Architecture requires passion and dedication. Working in dead-end, uninteresting jobs is unnecessary. Be inventive and creative and you will find something you love. Aim high; look for relevant work experience. Invest in yourself as well as earning money. If you want to become a designer then get work experience in a designer's office. If you want to become a salesperson then retail experience is fine.

With increasing complexity and a variety of growing options it is even more important to manage the future rather than allowing it to 'happen'. It is easy to drift from one job to another, feeling frustrated and inadequate and losing confidence. If you do not enjoy your work it is hardly likely that you will be able to give projects the enthusiasm and energy they need to stand out from the mediocre and mundane. Managing your career will help you inform key decisions and enable you to deal with any bad experiences in a holistic manner.

The idea of a job for life is more or less a thing of the past. Short-term contracts and employment with firms for the span of a project are more common. The relationship between formal education and careers has also changed. It is no longer a sequential process, i.e. formal education followed by a career. More and more people take time out of their careers to take courses that can launch them into different opportunities or areas of interest.

The nature of architectural practice has drastically altered over the last 20 years. Local Authority departments have virtually disappeared and small practices are unable to compete for public work under the Private Finance Initiative (PFI) through which government tenders large projects or a series of bundled smaller

projects. As a result the relationship between user and architect is becoming increasingly distanced. Many public projects are now designed by contractor-led teams under PFI or 'Design and Build'. The consequence for aspiring architects can be devastating, with students being used as 'CAD monkeys'.

Select the type of practice that has a culture which stimulates and interests you. It is no good going to a practice which specialises in historic buildings if you are only interested in hi-tech installations. If you are not assertive and need a less aggressive environment then a large practice is probably not for you.

The type of experience you need in the first year of architectural practice is one which enables you to develop your technical as well as your social skills. You need to grow as a 'person' as well as familiarising yourself with damp-proof courses and contract administration. Inevitably there will be gaps, but with a 'game plan' you should aim for a wide range of experiences across the board.

Architectural practice

5

Architecture (Latin '*architectura*', from the Greek '*arkitekton*', ἀρχιτεκτονική – *arkhitektonike*, from ἀρχι *chief* or *leader* and Τεκτονική *builder* or *carpenter*) is the art and science of designing buildings and other physical structures.

Your career depends on you. Work out if you really want to practise architecture, where you want to go and how to get there, but serendipity may take you somewhere exciting if you allow it. Architecture is complex and it is easy to feel overwhelmed by what you have to learn and the experience you need to succeed.

- Take small steps, keep focused.
- Develop short-, medium- and long-term strategies.
- The more you do the more you are able to do.

A high-flying career means taking risks and being unique. Lead with style. CVs, portfolios and interviews are your sales pitch – what have you got to offer?

Step 9: research the market

We are now in a global economy and an understanding of the global context will help you find opportunities across a wider spectrum. Since 1998, the Association of Architects of Catalonia (COAC) has been conducting research into professional standards around the world under the auspices of the Professional Practice Commission of the International Union of Architects (UIA).

The research includes information from 91 countries in three main sections:

- Admittance to the profession, dealing with training and internships
- Professional practice, including details about various aspects of the profession in each country, and

- Trans-national practice, with regard to the exercise of the profession in other countries.

A visit to the COAC web site (http://www.coac.net/home/english/fhomeitineraris.htm) reveals some helpful trends and basic information on specific country requirements, and how many architects there are per head of population. The research has also been published (COAC International, 2005) and is available to download from www.coac.net/internacional_back/estadistiques

The research reveals some interesting trends highlighted in Figure 5.1.

Japan has the highest ratio of architects per head of population with approximately 308 000 architects and a population of 128 000 000, giving a ratio of over 2.4. Italy has the highest European ratio, just under 2, with 111 000 architects for a population of 57 000 000. Countries that have a low GDP and rely on more traditional low scale and low density development tend to have a very low ratio of architects per head of population. This is illustrated by Trinidad and Tobago which

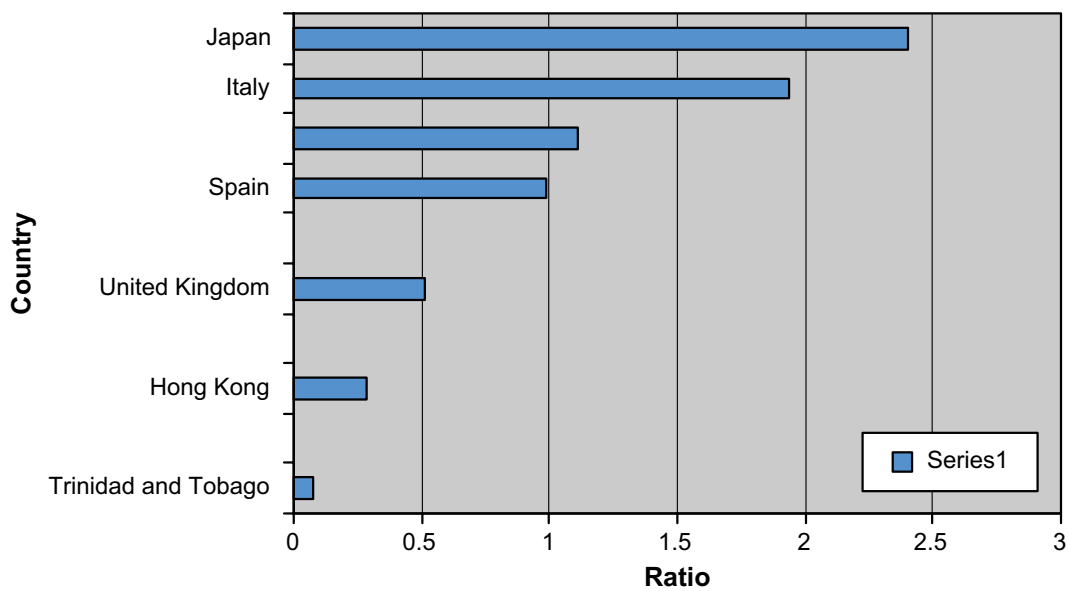


Figure 5.1 *Ratio of architects per head of population.*

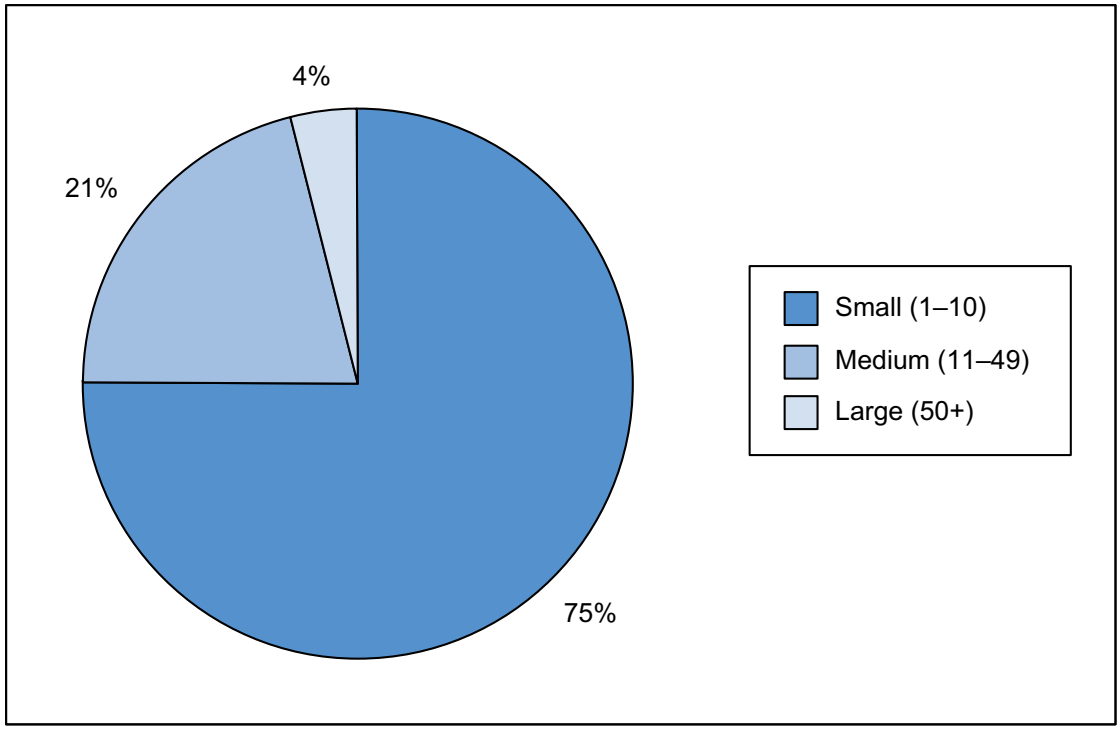


Figure 5.2 *RIBA chartered practices 2009.*

has a ratio of 0.076 – there are 100 architects for a 1 300 000 population.

Size matters

Architectural practices come in three main sizes: 45% small (under 5), 35% medium (6–30) and 20% large (over 31). They represent three distinct and different opportunities and experiences. Small is not always beautiful and big is not necessarily better. You should take into account your strengths and weaknesses as well as your character in determining which type of practice you want to focus on.

The size of a practice influences the types of clients, commissions and contracts used. It does not necessarily influence the size of team working on a project – large projects often have small teams working on them. Small practices tend to work on private commissions and use JCT Minor Works Contracts whilst

large practices could be involved in PFI and other partnering arrangements with large public and institutional clients. Medium sized firms fall in between the two and could perhaps be a good starting point.

In an office the most important fact to bear in mind is that you will probably learn most from last year's year-out student. It is well worthwhile doing some research and finding out the type of work they did and how they evaluated their experience.

Location

A third of UK architects are based in the Greater London region. A London-based student is well placed to find work but there is a lot more competition. You may also want to consider working abroad. Try not to drift into the easiest option but see where in the world you can get the most useful experience to give you the best start in your career.

Pay

As a general rule if a practice is not willing to pay you a decent fair wage then it is probably not worth your while working for them. If you are not certain what the appropriate salary should be do not feel you have to give an answer at the interview. Do some research and present a strong case for the salary you think you are worth. Leave room for negotiation.

A report published by the Cabinet Office (July 2009) 'Unleashing Aspiration: The Final Report of the Panel on Fair Access to the Professions' highlighted that architecture is the most socially exclusive profession in the UK, ahead of law, medicine and accountancy. The report shows that it costs more to qualify as an architect – over £60 000 – than any other profession. The panel also found newly qualified architects earned just over £20 000 a year, one of the lowest starting salaries in the professions, and it does not get much better – the average earnings for a registered, practising architect in 2008 were £50 000. Many architects become wealthy by doing their own developments. Foster and Rogers financially gained more from their office developments than probably any other job that came into their practices. The credit crunch has obviously affected architects' earnings considerably, but the market will revive. Will you be in demand when economics change?

Other employment

There is a wide range of work experience that you can enjoy and get well paid for which can inform and promote your architectural ambitions. Working on a building site or in a timber workshop will help you understand how buildings are put together. Estate agents and surveyors can introduce you to a network of future clients or even practices. Be creative in your approach. Do not get bogged down if you get nowhere using conventional methods.

Where do I find job opportunities?

The two most popular weekly magazines for the profession with job advertisements are:

- *Building Design*, and
- *The Architects' Journal.*

Do not be put off by the fact that there are very few adverts for year-out students. In fact it may be advisable to steer clear of such specific adverts for students because for many this could read as 'cheap office fodder'. If an office is advertising for architects it is likely they will also need assistants. If you are responding to an advert find out which project they need staff for so that you can do some homework.

Where can I find a list of the top 100 practices?

Issue no. 19, Volume 227, 15 May 2008 of the *Architects' Journal* lists the top 100 architectural practices in the UK by the number of qualified UK architects they employ. BDP International, who employ 244 architects, are top of the list and PRC are at the bottom of the 100 list with 30 architects. Most architectural practices (58%) employ fewer than 10 staff and the *AJ* top 100 list of practices offers a very different experience to most other architectural practices that rely on fewer than two architects.

Internet sources

RIBA	www.architecture.com
World Careers Network	www.wcn.co.uk
Experience Works	www.workbank.man.ac.uk

Other publications

RIBA Directory of Practices: published every year this directory lists practices registered with the RIBA. You can also access this information through www.architecture.com

RIBA guides for Part 1 students wishing to work in Europe. Leaflets for Spain, France and Germany are available from the RIBA.

Before you jump into letter-writing mode and contact a mailing list of 100+ practices you should try a strategy which will be the most effective and the least damaging to your self-confidence. Architectural practices are always on the look out for 'good' students. They may ask your tutors to make recommendations or show interest in your degree show.

There are an increasing number of internet sites for job searches. These will be particularly significant if you want to work abroad. You may want to contact an RIBA member abroad for help and advice. You may impress them so much they offer you a job themselves!

Step 10: select a practice

How do I find the right practice?

The type of experience you gain will depend largely on the type of practice you select and the people you work with. Finding a suitable practice should provide fertile ground for your talents to flourish, increasing your chances of getting other work and training opportunities. The more focused you are about the type of practice and experience you want, the easier it should be to find a placement. Being focused will influence the style and content of your CV, and the way you present yourself, and this in turn should make it easier for you to impress your prospective employer and improve your chances of obtaining work.

Look at the journals and architectural publications (*BD*, *Architectural Review*, *AJ*, *Architecture Today*, *Domus*, *Blueprint*), and visit exhibitions. Identify a handful of practices whose work you like and you could imagine yourself working on. Do as much research as you can about these practices. Look at their web sites; look at their work as a whole (journals are the best place to do this). Do you know anyone who works or has worked there? Does your mentor have any contacts?

The shortlist for the BD Architect of the Year Awards 2009 below gives an indication of the leading architects in different sectors:

One-off House

- Eldridge Smerin Architects
- Niall McLaughlin Architects
- Paul & O Architects
- Stephenson Bell

Social and/or Private Housing (over 25 units)

- Richard Murphy Architects
- Riches Hawley Mikhail Architects
- S333 Architecture & Urbanism
- Stephenson Bell
- Waugh Thistleton Architects

Social and/or Private Housing (1–25 units)

- Duggan Morris Architects
- Pollard Thomas Edwards Architects
- Project Orange
- Stephen Taylor

Schools (Nursery, Primary, Secondary)

- BDP
- DSDHA
- Feilden Clegg Bradley Studios
- Nicholas Hare Architects
- Penoyre & Prasad
- Van Heyningen & Haward Architects

Education (Higher Education)

- Bennetts Associates
- Grimshaw
- Hawkins Brown
- Stanton Williams
- Van Heyningen & Haward Architects

Healthcare

- Allford Hall Monaghan Morris
- Nightingale Associates
- Penoyre & Prasad LLP
- Reiach & Hall Architects
- Toh Shimazaki Architecture

Interiors

- APA
- Project Orange
- Sheppard Robson
- Stiff & Trevillion Architects
- TP Bennett

Masterplanning

- Farrells
- John McAslan & Partners
- Lifschutz Davidson Sandilands
- Maccreanor Lavington
- Studio Egret West

Offices

- BDP
- Darling Associates
- Eric Parry Architects
- Make
- Squire and Partners

Read more at: http://www.bdonline.co.uk/story.asp?storyCode=3145732#ixzz0Z1igzcf2

Public Buildings

- BDP
- Farrells

- Haworth Tompkins
- Pringle Richards Sharratt
- Rick Mather

Retail (2008)

- 3DReid
- Adjaye Associates
- BDP
- Foreign Office Architects
- John McAslan & Partners

Sport & Leisure

- Dyer
- FaulknerBrowns Architects
- Marks Barfield Architects
- S&P
- Stephenson Bell

Transport

- John McAslan & Partners
- McDowell & Benedetti
- Pascall & Watson Architects
- Weston Williamson
- Wilkinson Eyre Architects

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Your application

6

It sounds a little odd that highly qualified applicants might need advice on filling in application forms, but according to feedback from employers, including academics and human resources staff, applicants often overlook even the most obvious points when applying for a job, and therefore can do with all the help they can get.

Dr Catherine Armstrong

Step 11: send in your agent

Getting noticed

You are an 'unknown quantity' – untried and untested in the work place. Different ways of getting a job have different chances of success.

Table 6.1

Advertisement	•Try and stand out from the crowd. •Find out which building sector (housing, schools, etc.) the advert is for. •Are there other practices in the same sector you could apply to?
Email	•Cold calling can work in an overheated market, particularly if it is targeted at an active sector (see above).
Contact	•A contact in the work place will make a big difference to your chances of success. •Try contacting a former student, or try and meet people by networking, going to seminars, etc.
Agency	•Try and get advice on who to apply to, and feedback on your CV and interviews.

Table 6.1 shows quite clearly that it is much better to get someone else to recommend you for a post than putting yourself forward. Your tutors and your family networks should not be underestimated or ignored. Frank Lloyd Wright got his first break through a friend of his uncle's. Rogers and Foster may not have got their careers off the ground had it not been for the first family commissions they received.

Step 12: lead with style

Exhibiting, publishing and competitions

Be creative in your approach to get noticed. You could do an exhibition in your local pub, town hall or library. Do something creative that will get you in the local papers or the architectural press.

Create a market niche and establish a practice and career for yourself. You don't have to start at the Tate or the *Times*. Think creatively about venues and publications that will respond to your material: the local shopping centre, school or library, or you could even do an exhibition that comes alive in a parked car or the entrance to an allotment. Make a stand at the local hospital or council offices – work hard at making contacts and getting people to help you.

Competitions, exhibitions or publication get you noticed. One of the most influential magazines of the late 1930s was *Focus* magazine by the AA student union, edited by Anthony Cox and others.

Many architects establish themselves by demonstrating their expertise in a particular subject through publishing a book or winning a competition. Richard Rogers' practice took off after winning the Pompidou Centre competition; Avanti Architects built their reputation largely on John Allen's authoritative work on Lubetkin; Utzon received world famous attention after winning the competition for the Sydney Opera House.

Step 13: write your CV

Your curriculum vitae, covering letter and the way you contact a prospective employer will be the most significant factors in getting shortlisted for a job interview. Your appearance and attitude at the interview will determine your success or otherwise. CVs and covering letters always go together. The covering letter is as

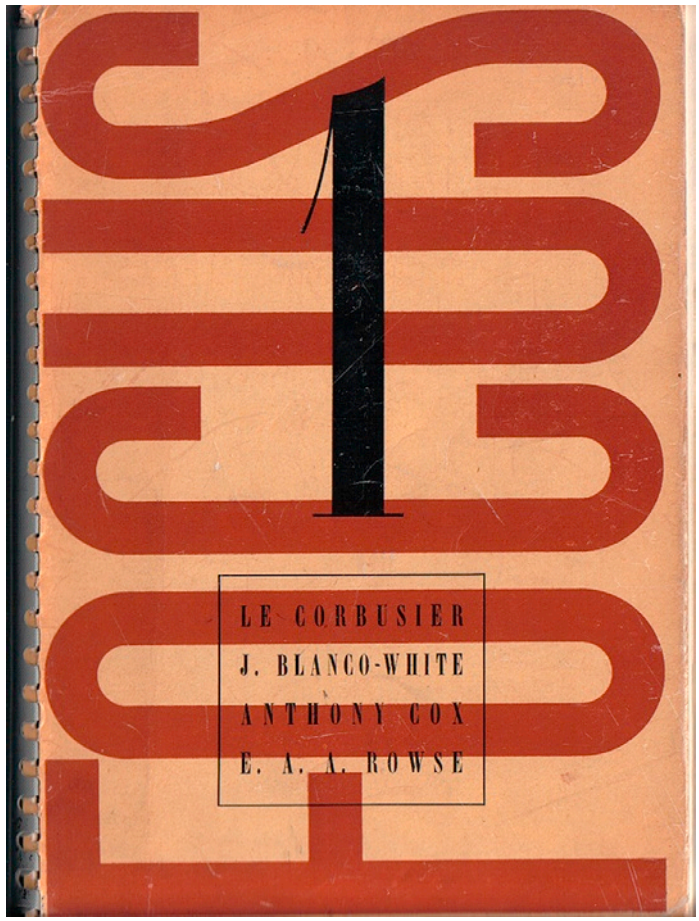

Figure 6.1 *Competitions, exhibitions or publications get you noticed. One of the most influential magazines of the late 1930s was* Focus *magazine by the AA student union, edited by Anthony Cox and others.*

much part of your marketing strategy as your CV. The following section answers some of the basic questions to help you develop high-quality material and to build your confidence.

CV is short for 'Curriculum Vitae', literally meaning 'course of life'. CVs come in many different shapes and forms. CVs for architectural jobs look and feel different to CVs for an accountancy or a legal position. Different types of architectural practice will respond differently to different kinds of CV. The font, design and layout of a CV will determine how it is received. An architectural practice working on classical buildings will respond to a classical font such as Times Roman in contrast to a modernist company that works on clean simple lines where fonts such as Helvetica are more appropriate.

A CV is an opportunity for you to sell yourself. A prospective employer will be looking for a match of your skills and experience with their needs. Each CV should be tailored to suit the requirements of different jobs and different employers. CVs should not be seen as a standard document issued to hundreds of companies. The chances of rejection using this strategy are high, and with every rejection will come a loss of confidence, but hopefully a determination to do better next time. If you have been rejected try and learn from the experience and move on. Individualise your next CV in a way that emphasises your suitability for the job, but remember that no matter how brilliant your CV might be there are other factors which you can influence to increase your chances. Personal contacts and networking are very important. Demonstrating your knowledge, ability and reliability are keys to success.

What should I include in my CV?

Putting a curriculum vitae together is very difficult. To make it short (no more than two sides of an A4 sheet), relevant, succinct, stylish, informative and appropriate, with a little flair of something special, is not easy and requires a lot of effort. It will take many trials before you get it refined and effortless in its presentation.

You have roughly *3 seconds* to make your mark before your CV gets binned. Your greatest challenge is to get the right person to see it and then stop it from being trashed.

Your CV should portray enthusiasm as well as your design talents. Does it look interesting? If you have done some exciting projects, or been on special courses or trips, include these details. Perhaps you have been taught by a well-known tutor or have written a fantastic thesis.

Treat your CV as you would a design project. Does it have style? The end result should not be over fussy but easy to read and, most of all, have impact (positive). Try it out on your friends before you try it out on a prospective employer. Send one in the post to your tutor, parent or mentor and ask them for their honest opinion. Show enthusiasm and be positive – if you can't sing your praises then who will? What do you have to offer? Avoid stating what you cannot do.

Your CV should include the following information:

1. Name, address and contact number.
2. Email address (make sure it is not a provocative address, e.g. romeo@balcony.com).

3. Education (do not mention low grades).
4. Qualifications.
5. Identify your key skills.
6. Computer skills should be at the top of the list.
7. Give examples of what you have done with your skills.
8. What are your achievements – study, work, leisure?
9. Previous work experience.
10. Hobbies and pastimes are not always necessary.

You will need to work out who the CV is aimed at and what it is for, but whoever the CV is aimed at here is some fundamental basic information that the CV will need to include.

Contact details

Name	Make it clear which is the first name and which is the family name. For English-speaking people names from China and other countries can be confusing.
Address	Ensure that this is a permanent address – applications at the end of year tend to be when students move.
Email address	This should be appropriate: 'romeo@verona.com' or 'juliette@theglobe.co.uk' is not going to make the right impression.
Telephone number	It is acceptable to use mobile numbers.
Date of birth and other personal details	You do not have to include this (or your gender or nationality) but you should make it known if you require a work permit.

Education

University	Name and address of university	Projects
Unit and studio tutor	Name of studio/tutor	List those projects you enjoyed and that you want to talk about
High school	Name and place	
A-levels and GCSEs with grades	List A-levels and grades if B and above	Omit grades if C and below

Work history

List the most recent first.

Dates, Employer, Project, Value, RIBA Work Stages, Contract, Responsibility	If you have worked in an architect's office you should be able to fill in the project name, size, value, and your role.
Other work	Do not bother to include bar/restaurant/retail work unless it is relevant to the practice you are applying to. Work experience in the construction industry is valued.

Skills

Computer packages	List the software and, if possible, illustrate this and give some description of how you achieved the graphics.

Other skills

Other skills	Employers will be looking for model making, photography and other interests related to architecture.

Referees

Name and contact details	You must include names. Ask the person you want to include if they agree to be your referee. **Do not put 'available on request'.**

Dos and Don'ts

Don't do a personal statement. Use your covering letter to highlight any positive personal points. There is no need to state you are hardworking or committed – you employer will judge that from the quality of the CV and covering letter you submit.

Do use good quality A4 paper that is clean and crisp.

Don't use off-white or photographic paper.

Do use different types of paper for your CV and your covering letter.

Do not say anything negative.

Do not lie.

Do make the content interesting and relevant.

Do take time to design the layout of your letter and CV, allowing for lots of 'white' space.

Do emphasise your CAD skills.

Don't use more than two sides of an A4 sheet.

Do make something beautiful.

Never send a CV without a covering letter.

Covering letter

The purpose of the covering letter is to attract attention and highlight your professional approach. The most effective way of doing this is to find out something special about the firm and to explain how your particular skills and interests are relevant. Avoid starting sentences with the word 'I'.

What should a covering letter include?

The covering letter accompanying your CV is perhaps more important than the CV itself. The letter will demonstrate your ability to write, your language skills and professional presentation. The covering letter introduces you and the CV. It should highlight significant points in your CV.

With a little detective work you can find out who the letter should be addressed to. The easiest way of getting information on practices is through the net. You could also call the office – get through the receptionist barrier by saying you are from the University of Westminster and you wish to talk to the project architect for a specific project. Alternatively you could ask the receptionist who you should send your letter to.

The letter should look professional and business like. Typically it should contain three main paragraphs:

- **1st paragraph:**

  Show interest in the company, for example: 'Your project…', 'Your article in…'

  You could visit some of the projects by the company and describe what impressed you.

- **2nd paragraph:**

  Get the reader interested in you, for example:

  'You will see from my enclosed CV that…'

  'Theatre and drama schools have been the subject of my main dissertation…'

  'Last year I won the student prize for…'

  'The virtual walk through my project design was done using…'

- **3rd paragraph:**

  Aim to get an interview:

  'Welcome an opportunity to discuss…'

- Sign off in a friendly and positive way: 'I look forward to hearing from you.'

Do not repeat the content of your CV. Highlight points of interest. Check for spelling and grammatical errors. Avoid starting paragraphs and sentences with 'I'. Be **positive**.

How to increase your chances of success

Research 1

Identify a practice you really want to work for and find out about their projects, style and clients. Most of this information is usually easily available on the web.

Action 1: design your CV in an appropriate style that will make your prospective employer feel you are already one of them.

Research 2

Work out who you should get to know.

Action 2: join organisations and societies, and go to events so that you can make contacts and network. Exhibition openings and seminars are a good way of networking and meeting people. Don't be shy to go up to a participant and share the enjoyment or displeasure of the exhibition.

You can do a lot of preliminary work before you make a formal application. Try and find out if you know anyone in the practice or anyone who knows someone in the practice.

Your mentor may be able to help you make the right contacts. Join a network or organisation that you know the practice belongs to and try and make a personal contact in that way. You could, for instance, join the RIBA and attend CPD courses, openings, award ceremonies, dinners and trips that put you in touch with the appropriate people. Many other organisations, such as the Company of Architects or DOCOMOMO, have student members.

Once you've been successful

If your CV has managed to capture the attention of the practice, the first thing they will want to do is to contact you. If your email address, telephone and mailing address are not easily readable then they may not bother. Assuming that they have contacted you for an interview, you now need to be aware of what they will be looking for.

Checklist for your covering letter

1. Make sure it is addressed to a specific person.
2. Your letter must be short and easy to read at a glance.
3. Demonstrate that you know something about the practice.
4. State something you can offer to the practice.
5. Show initiative, style and flair.
6. Try and be helpful and thoughtful, for example enclose a stamped addressed envelope.
7. Look at the style of web site the practice uses and write your covering letter in a similar style.
8. Make a preparatory call and a follow-up call.

Step 14: prepare for the interview

What should I do at the interview?

Your portfolio will be the focus of the interview, but your interviewer will already have formed an opinion of you from your CV, covering letter and the way you walk through the door.

If you turn up early, and dress and act in a professional and confident way, your interviewer will take you seriously. Being late is a disaster. Being tired is also a disaster. You could visit the office in advance of the interview. Know where it is, where the front door is. Don't drag your old, crumpled suit out of the back of

the wardrobe on the day of the interview. Prepare your clothes, shoes and accessories well in advance. If you wouldn't dream of going out on a date unless you had a new outfit to wear, why would you settle for second best at an interview that may be key to your future career? You care about line quality, colour, thickness when you draw, so make sure you have a selection of decent pens and pencils at your fingertips. Don't be afraid of sketching as a means of communicating your thoughts or explaining a project. These sketches can be very sketchy! What you are demonstrating is that you are not scared of putting pen to paper. It doesn't matter how good or bad the drawing is. Your drawing and presentation skills will be judged in your portfolio.

Translating drawings from wall to portfolio

Portfolio

Assembling your portfolio should be given the same attention, commitment and design input as an individual drawing or model might enjoy. Simply putting all your work in chronological order and hoping the viewer can see the quality in each piece of work won't work. You can't underestimate how much time it takes to put a really good portfolio together. Be strategic and organised.

Fix a format

Each page should have continuity with the last, e.g. set up a grid, border and title block, and stick to it. Remember 'less *really is* more'. Filling an A1 sheet will make a poster. Unless that is what you mean to do, don't do it! Every page should be graphically competent. Ask yourself: 'Is this sheet good enough to be exhibited in a gallery?' If not, then why not? Visiting exhibitions will help make you graphically literate.

Most architects hate plastic portfolio sheets

Think about the ease with which the viewer can look at your work. If there is a huge battle to get your drawings out of the portfolio, and in the process they are battered and crumpled, then you have got off to a very poor start. The same goes for putting it all back again. Designing a presentation means just that: design the whole process from the individual sheet to the choreography of how the work as a body is viewed.

Don't show your work to yourself!

Practise presenting your work upside down. It is usual for your interviewer to look at your work opposite you with the portfolio in between. Many architects report that they end up looking at

work upside down as the interviewee has not thought to turn the portfolio round to face its audience.

Confidence and poetry will never be lost on any potential employer

Don't over-scale drawings – drawings should be reduced as much as possible without losing any of the detail.

As a rule of thumb you should only ever complete drawings at the following scales: 1:1; 1:5; 1:10; 1:20; 1:50; 1:100; 1:200; 1:500; 1:1250; 1:2500; 1:5000; 1:25 000; 1:50 000; 1:100 000. Never use 1:25 or 1:75 – these are engineering scales.

Portfolios work best in landscape rather than portrait format. Placing a portrait image on a landscape sheet tends to work better than making the whole sheet portrait.

If you want to include detailed studies or areas of investigation that were tangential to the project as a whole, try making separate documents within the portfolio. This is particularly useful for studies that might have informed the work as a whole, e.g. a technical investigation, the process of making a model, or a materials study.

Lots of text is a total turn-off. No one is going to read an essay in a portfolio. Be extremely spare with your text, but choose your words carefully. Poetry and seduction are powerful tools.

Size matters, but which size depends on what you are describing. White space is important, so cramming as much as possible onto a sheet is not a good idea. Make sure the text is big enough to be legible, but not so big that you can read it across the room, unless that is a design intention.

Your portfolio should reflect the design through its presentation. If your project is a building which is handcrafted, then is machine-made paper appropriate for your drawings? Would it be better to use hand-made paper? You could have a go at making the paper yourself. Talk about it. Is paper even the most appropriate material to present on?

The design of the presentation is as much about the design as the proposal itself. Models are important. It may be appropriate to take one with you. But don't burden yourself so that your presentation is unwieldy. Most models can be photographed to make them look stunning and they won't be in danger of falling apart!

Check everything. Spelling mistakes are an absolute no-no. Poor printing will be detrimental. Paper quality matters although spending a huge amount of money on photographic gloss is usually an indication of cosmetics over content.

Work-place experience

Employers want to know if you have experience of the work place. They will be trying to find out if you have leadership qualities or can demonstrate ability to work effectively in a team. Can you answer the telephone in a professional manner, convene a meeting or meet a deadline? Are you an interesting, likeable person? Will you be a pleasure to work with? Will you fit into the office? Have you got a sense of humour? Do you really want the job? Will you be 'difficult' to deal with?

Interviews are not a matter of luck – work hard at communicating your enthusiasm and strengths. Preparation is key. Find out about the practice and the person who will be interviewing you. Have a (designer?) record card with some key points you want to mention and some questions you may want to ask. This can confirm that you have prepared for the interview, are organised and thoughtful. Make sure you focus on what is important to the practice. Flower arranging may be your current Saturday job, but it is unlikely that the practice will be interested and in fact talking about it will show you're not intelligent enough to realise that. The employer is investing money in you. Are you able to convince the employer that you are worth investing in? Will you contribute to the work and the office culture?

If you don't get the job try and find out why. Evaluate your performance so that you can use it as experience to get the next one. It is unlikely you will get the first job you try for. Do not get discouraged. Interviews are a two-way process. You are also sizing up the office to see if they can give you the type of experience you want.

You may get questions you cannot answer – be frank and truthful. Do not lie. Knowing your limitations is a strength to an employer – winging it suggests a liability and most people will see straight through you.

For advice on interview techniques go to: www.jobtosuityou.co.uk/job_interviewskill.jsp

Trial run

Test out your material before issuing it. Try and use someone you know and trust, but equally you may be able to get invaluable help from a recruitment consultant, a tutor or an architect. If you are a student member of the RIBA you could try contacting a corporate member through the regional office or ARCHAOS.

Step 15: accepting or rejecting an offer

How do I accept or reject an offer?

Confirm in writing any offer made with your future employer. If you do not want to accept the offer, write a short friendly letter in response so that you can approach the employer in the future if the need arises.

If you are rejected, it is worthwhile asking for feedback, but don't make a nuisance of yourself.

What is important is understanding your shortcomings so that you don't make the same mistakes again. Your mentor might be able to help in this process.

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Registration 7

> Architecture is organisation. You are an organiser, not a drawing-board stylist.
>
> Le Corbusier (1938), *Focus 1*, p. 12

You cannot call yourself an architect unless you are registered with the Architects Registration Board (ARB). You do not need to be registered in the UK to do anything an architect does. There are thousands of architectural students who practise architecture but have never registered, including Alex Lifschutz (Lifschutz Davidson), John Pawson (John Pawson LLP) and David Green (RIBA Gold Medal winner).

Step 16: work out if you want to get registered and what it takes

If you intend to practise as an architect in the UK and use the title 'architect', you will need to comply with the requirements of the ARB to enable you to register. In order to fulfil its duties, the Board publishes the criteria that qualifications and associated courses must meet.

There are several routes to registration as an architect in the UK. The most common is completion of a prescribed course leading to the award of Part 1 and Part 2 qualifications in architecture, and completion of a period of practical training experience leading to an award of a prescribed Part 3 qualification.

Students must be clear and knowledgeable about the course they are on, i.e. whether it is prescribed by the ARB or not. Many students have been caught out and fail to register because they were not on a prescribed course. Check the ARB's web site (www.arb.org.uk) to confirm that you are on a prescribed course.

There are alternative routes to registration, but these are very difficult, costly and usually take a much longer time.

The ARB[1] works with the Royal Institute of British Architects (RIBA) in the validation and recognition of Part 1, 2 and 3 courses. The practical training record is organised by the RIBA and you will have to comply with the requirements of the RIBA if your training is recognised as part of the qualification for Part 3 professional practice.[2]

The ARB's guidance for registration can be found in Appendix A of this book.

Step 17: get some professional training

Why do I need work experience?

A two year practical training experience is required to gain a Part 3 qualification and it is advisable that the first year of this training is organised after the degree year.

Why should I do a year out after third year?

It is highly recommended that students take the opportunity of experience in an architect's practice after a degree course, for many reasons. Committing time and energy into the next phase of an architectural career should not be done lightly. Just because you may have signed up to an architectural degree course three years ago does not mean that you have to continue on this path. The world is your oyster and anything is possible. There are bound to be many interesting and exciting opportunities ahead.

Architecture requires passion and a full-time commitment. It is not a nine to five job. There are many careers[3] which do not require you to register with the ARB. There is nothing to prevent you from doing everything an architect does in the UK, provided you do not call yourself an architect.

Your first job placement in an architect's office will give you a useful insight into how architecture is practised, including an

[1]ARB requirements for registration and training can be found at www.arb.org.uk
[2]These requirements are listed on the www.pedr.co.uk web site.
[3]The UK is the only country in the world where only the use of the title 'architect' is protected by law but there is no protection of function. The effect of this anomaly is that unskilled and untrained people take on the role and function of architects and the UK has comparatively high construction costs.

introduction to building, planning law and regulations. Working in a practice should familiarise you with the more technical aspects of design and specification, and increase your skills and confidence. This initial office experience can be a significant first step in enabling you to unlock your talents and develop your career path. It is therefore important that you give yourself the best possible chance of getting a suitable job and making the most out of it. If you manage your career actively and consciously instead of letting things drift you will have a better chance of doing more fulfilling and interesting work.

How can my office experience and practical training qualify for Part 3 Professional Training?

If you wish to register with ARB to use the title 'architect' you have to ensure that you meet the requirements set out by ARB. These require you to register on the RIBA's Professional Experience Development Record web site (www.pedr.co.uk) and maintain a log of your experience. A Professional Studies tutor and a supervisor in the architectural practice have to monitor your progress and help you gain relevant experience. You must not forget to register with your chosen university and the RIBA web site otherwise your office experience may not qualify as part of your Part 3 training. The office supervisor must be an architect. Both your tutor and office supervisor have to sign your record sheets on a regular basis. Experience shorter than three months does not usually qualify as part of your training.

In summary the three main requirements are:

1. registration on the www.pedr.co.uk web site.
2. supervision by an office supervisor who is an architect.
3. supervision by a tutor who is your Professional Advisor.

Your tutor and advice on the PEDR web site should guide you on the length and type of training experience that qualifies as part of the Part 3 requirements.

How can I check if my office supervisor is an architect?

If your office supervisor is not on the ARB register (www.arb.org.uk) then this person is not an architect and should not be supervising your practical training.

How do I deal with difficult situations?

You will face many difficult situations in the work place. These can range from personal to technical problems. The most important things you should bear in mind are that:

1. You are not the first.
2. Someone can help you.
3. Don't hide problems – deal with them as soon as you can.
4. Discrimination is a fact of life.
5. 'Fair' is 'rare'.

Communication is vital.

Try and resolve disputes amicably. Resorting to the legal process is difficult and costly.

Suggested steps to resolve problems are:

1. Don't act on impulse. Sleep on it.
2. Put yourself in the shoes of the person you have a problem with.
3. Be positive. How can the problem be resolved?
4. Timing is everything.
5. See if you can resolve the matter informally.
6. Don't launch into a barrage of emails.
7. Never be personal; be professional. It is of no consequence whether you like someone or they like you.
8. If this doesn't work, set out the facts in a non-confrontational way. Perhaps your mentor can help you with this. Work out what the worst case scenario is. Are you prepared to resign over it?
9. If you want to stay, you may have to bite your lip and put up with the problem.
10. But between resigning and putting up with the situation there is a lot of middle ground. It is up to your skills as a negotiator to get the best outcome for you. Another thing to consider is what is the right thing to do in the long term for you. Tolerating bullying, racism or sexism can erode your self-confidence and you need to be in a context where you can flourish.

New beginnings

8

> Look for an occupation that you like, and you will not need to labour for a single day in your life.
>
> Confucius

Step 18: take care of yourself

Staying up all night, not eating properly, staying in your room on your own and not enjoying yourself is a recipe for disaster. It is a myth that architects have to resort to this behaviour to be successful. In fact the reverse is true. It is simply about being organised and committed.

- *Avoid overload* and make sure you don't get caught up in unnecessary tasks.
- *Use your time effectively* and get healthier and happier.

Streamline your workload

Be *efficient and effective* – get a list of priorities and deadlines.

Avoid *unnecessary time pressures*.

Working all the time probably means that you are not working effectively:

- Say *no* to unnecessary work.

Building up your skills and knowledge is a long, continuous, slow burning process. You can't fake it and you can't stay up 24 hours before a presentation and hope that it all falls into place. The most effective way of working is to establish some good habits, a routine and self-discipline. Keeping a diary and of course a sketchbook is a good starting point.

Most offices meet on Monday morning, programme the week and review progress on Friday. They fill in weekly timesheets

and use them to analyse how much time is spent on projects and activities. Using this system is very helpful. Set up a weekly timesheet (we have included one we have used in the past; it can be adapted for work or college) and refer to it whenever you refer to your diary. Plan your leisure as well as your work. There are only 24 hours in the day, so when possible overlap the two. Keeping fit and healthy will help you work more efficiently and to a better standard. People who are exhausted and unwell are permanently underachieving.

Step 19: work and play

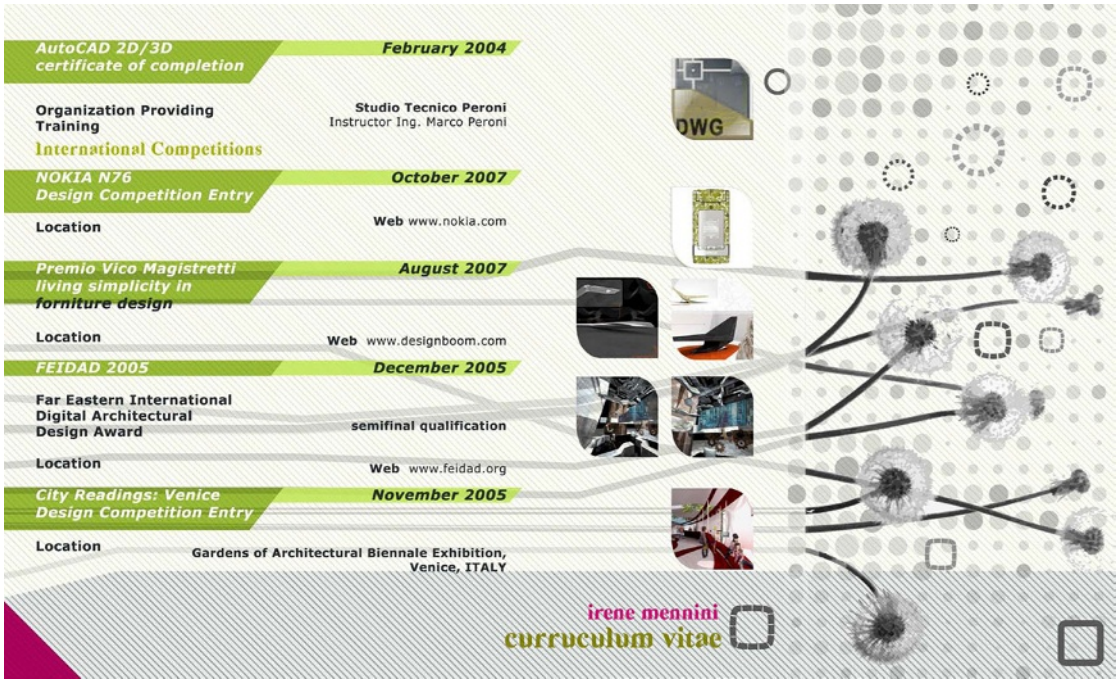
Being an architect is much more than simply having a profession. It is in fact a preoccupation that should engulf your body and soul for the rest of your life. You have a choice about where you go and what you do. Where you play is as important as where you work. If you are really good at it you will be playing while you work and working while you play!

> Do you keep your eyes open? Have you been trained to keep your eyes open? Do you know how to keep your eyes open? Do you keep them open continually and usefully? What do you look at when you go out for a walk?
>
> Le Corbusier (1938), *Focus* 1, p. 11

Buildings, books, films, people and places can change your life. Some you will encounter by serendipity, but you have the power to make things happen. You can build a powerful body of knowledge by designing your leisure. Having an enquiring mind can lead you into all sorts of wonderful adventures.

Visiting the following places changed the lives of the authors below:

Brion Cemetery, Italy; Carlo Scarpa (1970–1972)
Therme Vals, Switzerland; Peter Zumthor (1996)
German Pavilion, Barcelona; Mies van der Rohe (1928–29, rebuilt 1986)
Medical faculty housing, Louvain, Belgium; Lucien Kroll (1970–76)
Seinajoki Library, Finland; Alvar Aalto (1963–65)
Piamio Sanitorium, Piamio Finland; Alvar Aalto (1932)
Sir John Soane Museum, London; Sir John Soane (1809–12)
Adalaj step well, Ahmedabad, India; (1499)
Millowners' building, Ahmedabad, India; Le Corbusier (1954)
Unité d'Habitation, Marseilles, France; (1947–52)



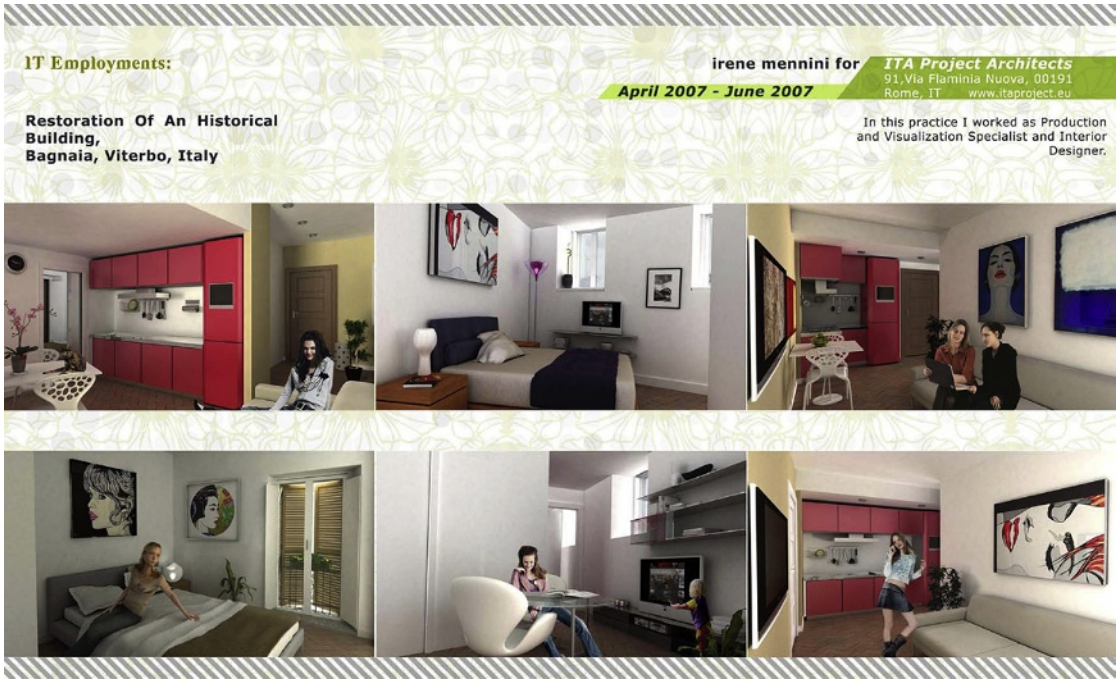


Figure 8.1 *Examples of student CVs*

Kimble Art Gallery, Texas; Louis Kahn (1972)
Taliesin West, Scottsdale, Arizona; Frank Lloyd Wright (1937)
Bauhaus, Weimar, Germany; Walter Gropius (1925)
Case Study House No 8 (Eames House), Los Angeles, California; Charles and Ray Eames (1949)
Robin Hood Gardens, East India Dock, London; Alison + Peter Smithson (1972)
Arcosanti, Scottsdale, Arizona; Paolo Soleri (started 1970–)
St Peters Church, Klippan, nr Stockholm, Sweden; Sigurd Lewerentz (1966)
Desert Hot Springs Motel, Palm Springs, San Diego; John Lautner (1947)
Casa Battlo, Barcelona, Spain; Gaudi (1905–7)

One of the best ways of visiting buildings is with a group of architects. There are lots of opportunities to go on organised trips if you join relevant interest groups, e.g. Docomomo, Company of Architects.

Figure 8.2 *Therme Vals, Switzerland; Peter Zumthor (1996). © Jane Tankard*

Do your homework to get the most out of the experience. Appendix C has a list of some of the key architectural writings. (This is a European list that reflects western culture.)

Other sources of inspiration are included in the appendices and include films and artists, many of whom have collaborated with architects.

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Glossary

ARB Architects Registration Board: an independent body set up by statute (an act of parliament) in 1997 as an independent regulator for the architects' profession in the United Kingdom. It has a dual mandate:

- to protect the interests of consumers
- to safeguard the reputation of architects.

Architect a person (in the UK) who is on the register of the Architects Registration Board (www.arb.org.uk)

Architectural assistant a student undertaking professional experience and development as part of the RIBA Examination in Professional Practice and Management (Part 3) is normally addressed as an architectural assistant.

Chartered architect a person who may be a corporate member of the Royal Institute of British Architects.

CPD Continuing Professional Development

Employment the mentor architect who directly supervises a student's professional training is often described as the 'office supervisor'.

Professional studies advisor/tutor (PSA) a member of staff at a RIBA-recognised school of architecture who has responsibility for professional studies.

RIBA Royal Institute of British Architects: was granted a royal charter in 1834 to advance the art of architecture.

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References and further reading

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Lees, J. (2003). *How to Get a Job You'll Love.* London: McGraw-Hill Business, 4th edn.

Tobmazis, A. (2007). *Letter to a Young Architect.* Athens: Libro.

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Cruickshank, D. (2008). *Banister Fletcher's A History of Architecture.* Oxford: Architectural Press, 20th edn.
Sharp, D. (Ed.) (1991). *The Illustrated Encyclopedia of Architects and Architecture.* New York: Whitney Library of Design.

Vernacular architecture

Vellinga, M., Oliver, P. and Bridge, A. (2007). *Atlas of Vernacular Architecture of the World.* London: Routledge.

Travel in the UK

Pevsner Architectural Guides
Phaidon Architectural Guides

Guides to the profession

COAC International (2005). *Architectural Practice Around the World.* Barcelona: COAC. Available at: http://www.coac.net/internacional_back/estadistiques/index_v.php
Web site for the Architects Registration Board: www.arb.org.uk
Web site for the RIBA: www.architecture.com

Creativity guides

Bono, E. de. (2000). *Six Thinking Hats.* London: Penguin (revised and updated edition).
Buzan, T. (2006). *Mind Mapping.* Harlow: BBC Active.
Middleton, J. (2006). *Upgrade Your Brain.* Oxford: The Infinite Ideas Company.

Appendix A

ARB criteria

Legal requirements

There are professional training requirements set out by registration bodies such as the Architects Registration Board (ARB) in the UK. These requirements vary from country to country and are influenced by trade agreements.

In order to get onto the register and practise as an architect it is essential to meet the required criteria; details can be found on the ARB web site

(http://www.arb.org.uk/education/arb-criteria/introduction.shtml).

There are a number of ways of meeting the criteria set out by the registration body. The most common is a five year education in a recognised university or similar higher education institute, and a two year monitored practical training period. Some institutions are not recognised and you need to ensure that, if you want to register, your course/institution is registered. The ARB and the Royal Institute of British Architects (RIBA) have agreed to hold these criteria in common and it is important to understand that the RIBA is a membership body and the ARB is the registration body responsible for the register. You do not have to belong to the RIBA to practise as an architect but you do have to be on ARB's register. You can check on the ARB web site (http://www.arb.org.uk/education/schools-of-architecture-offering-prescribed-qualifications.shtml) to see if the institution and course you are on are recognised by the ARB.

ARB requirements for admission to the register

There are three main routes to registration as an architect in the UK:

UK qualifications

- Completion in the UK of the examinations leading to the award of Part 1 and Part 2 qualifications in architecture prescribed for registration purposes; and
- Completion of a period of practical training experience in architecture, and the award of a prescribed Part 3 qualification in professional practice.

Other European qualifications

- Certification by the Competent Authority of a Member State of the European Union or the European Free Trade Association that a national of that state holds a qualification listed in the Directive for the purposes of mutual recognition within Europe; and
- Certification of completion of a two year period of post-graduate practical training experience, subject to certain conditions.

Other overseas qualifications

- Qualifications in architecture awarded outside Europe which are deemed by ARB, after examination, to be equivalent to prescribed UK qualifications; and
- Completion of a period of practical training experience in architecture in the UK and a Part 3 examination in professional practice prescribed by ARB.

This factsheet sets out the registration procedures for applicants with UK qualifications. The examination application for applicants with qualifications gained outside Europe can be obtained on request from ARB, or on the ARB web site (www.arb.org.uk) in the 'Registration section'.

Applicants with UK qualifications

Applicants for registration must hold:

- A prescribed Part 1 degree or diploma awarded on completion of the first stage of an approved course of architecture; and
- A prescribed Part 2 degree or diploma awarded on completion of the final stage of an approved course of architecture; and
- A prescribed Part 3 qualification in professional practice.

Approved courses and examinations in architecture

In the UK, courses of architecture leading to the award of prescribed qualifications are conducted in two stages. Currently, over 30 universities and other tertiary institutions offer approved courses and examinations, which are of five years' duration or the equivalent in part-time study.

The qualifications awarded at completion of each stage of an approved course of study are individually and separately prescribed by ARB for registration purposes.

A list of all Part 1 and Part 2 qualifications and professional practice examinations prescribed for registration in the UK is available in the 'General Rules' section of the web site (www.arb.org.uk).

Practical training experience and the professional practice examination

In addition to the Parts 1 and 2 qualifications, applicants for registration are required to complete a minimum period of two years' structured and recorded architectural experience in a range of activities. Detailed practical training requirements are available separately from ARB. They are also available on ARB's web site.

Admission to a prescribed Part 3 examination in professional practice is subject to completion of the Parts 1 and 2 qualifications and the required practical training experience.

How to apply for registration as an architect

Application form. If you have satisfied the requirements for registration set out above, you can obtain an Application for registration form from ARB. It is important that you complete the form carefully and legibly, and supply all the documents required to accompany the form. Remember that the address and other details you provide on the application form will be recorded on the Register, which is a public document and is also searchable online.

Please ensure that you have entered the correct title of each qualification you hold. Applicants can only be accepted if they hold the exact qualification awarded by each institution for which prescription has been given.

Declaration. By signing the declaration at the end of the application form, you confirm that all information you provided is true in every respect.

Registration fee. An initial registration fee is to be submitted with your application, and ARB will inform you of the current amount payable. This fee covers the admission process only, and you will be required to pay the annual retention fee when it falls due on 1 January in the following and subsequent years, unless you resign from the Register.

Notification of admission

Registration applications are considered by the Registrar on a regular basis, and applicants will be notified once decisions are made. This can take up to six weeks.

Maintenance of registration

Registration as an architect is the point of entry into the architects' profession. It carries with it certain responsibilities and obligations:

- To maintain registration, architects must pay an annual retention fee. This falls due on 1 January each year, with the cut-off date for payment being 31 March. Payments not received by this date will result in your name being removed from the Register.
- Architects must notify ARB immediately of any change in name or business address. You can send the information either by fax, email or letter, or by accessing the secure online 'Registrants' Services' section. Details of this service are available from ARB.

- Architects are bound by a code of conduct – Architects' Code: Standards of Conduct and Practice – and are liable to be held accountable for any failure to comply with it. The obligations imposed by the Code can be found on the back page of this leaflet.

Statutory provisions for registration

The provisions in the Architects Act 1997 establish the statutory basis for admission to the Register of Architects, and are complemented by the 'General Rules' made by the Board.

Please visit the ARB web site (www.arb.org.uk) for further information, or write to them at: 8 Weymouth Street, London W1W 5BU.

An architect's obligations

Under the Architects' Code, an architect's obligations are to:

- act with integrity at all times
- provide adequate resources when undertaking professional work
- promote their professional services in a truthful and responsible manner
- carry out their work faithfully and diligently, with due regard to the relevant standards
- have regard both to their clients' interests and to conserving and enhancing the quality of the environment
- maintain their professional service and competence in areas relevant to their work
- execute the requirements of any contract with due care, knowledge and attention
- ensure the security of monies entrusted to their care
- hold adequate and appropriate professional indemnity insurance
- manage their personal and professional finances prudently
- organise and run their professional work responsibly, and have regard for the interests of their clients
- deal promptly and appropriately with disputes or complaints relating to the professional work either of themselves or their practice
- promote the standards laid down in the Architects' Code.

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Appendix B

RIBA professional experience regulations

The RIBA Professional Experience and Development Record is a mandatory element of the RIBA Examination in Professional Practice and Management (Part 3) – the final examination of an architectural student's training leading to chartered membership of the RIBA, RIAS and RSUA. A person may apply to join the Register of Architects if they hold Parts 1, 2 and 3 as prescribed by the Architects Registration Board (ARB).

Professional experience in architectural practice has two objectives:

a. To enable architectural students preparing for the RIBA Examination in Professional Practice and Management (Part 3), to put into practice the knowledge and skills gained during their architectural education in the broad setting of general architectural practice.
b. To enable architectural students to demonstrate, on completion of their architectural training, that they have gained the experience to discharge the duties and responsibilities of a Chartered Architect and have completed the mandatory periods of professional experience in an appropriate environment.

Professional experience is an integral part of an architect's education, a continuum of undergraduate education and a foundation for continuing professional development. During the period of professional experience, prior to sitting the RIBA Examination in Professional Practice and Management (Part 3), the student should have increasing responsibility for delivering architectural services under the direct supervision of an architect. Whilst architectural students are learning to become architects by working in a practice, due regard must be paid by the practice and the Employment Mentor to the educational objectives of the Record and to the needs of the student.

Regulation 1

The minimum period of professional experience is 24 months, which must be completed after the start of an architectural course and before sitting the RIBA Examination in Professional Practice and Management (Part 3). Normally 12 months of professional experience must be undertaken in the United Kingdom, under the direct supervision of an architect, after passing or gaining exemption from Part 2 of the RIBA Examination in Architecture and prior to sitting the RIBA Examination in Professional Practice and Management (Part 3).

Notes

A period of less than 3 months' continuous duration in an architect's office will not normally be accepted as part of the required 24 months' professional training.

Part-time employment of less than 20 hours per week is inadequate for training purposes and is therefore not acceptable as part of the minimum 24 months' professional experience. Normal leave should be counted as working time.

Guidance notes on possible exemptions from Regulation 1

Stage 1 experience ('year out')

Part-time students working more than 20 hours per week during their course of study may apply for exemption from the first 12 months of professional experience, provided that immediately prior to the start of, or during, an architectural course leading to, or recognised for exemption from, Part 1 or Part 2 of the RIBA Examination in Architecture, they have had not less than 6 years' experience in architects' offices involving activities appropriate to the RIBA Professional Development and Experience Scheme. Whether or not exemption is granted will be at the discretion of the applicant's Professional Studies Advisor who will have regard to the quality of the previous experience for the purposes of practical training.

Stage 2 experience (post-Part 2)

Mature students with extensive professional experience may apply for exemption from the post-Part 2 (Stage 2) year of professional experience. Successful candidates are unlikely to have had less than 8 years' experience of working under the direct

supervision and guidance of an architect involving activities appropriate to the current RIBA Outline Syllabus contained in the RIBA ARB Criteria for Validation document. Applications should be made to the RIBA Professional Examinations Co-ordinator using Stage 2 Professional Experience Application Pro-Forma No.1 and carry the supporting recommendation of their Professional Studies Advisor, whose guidance has been sought on this matter.

Candidates with post-Part 2 experience gained outside the UK under the direct supervision and guidance of an architect on activities appropriate to the current RIBA Part 3 Outline Syllabus (contained in the RIBA ARB Criteria for Validation document), and with 12 months of previous post-Part 1 experience gained in the UK under the direct supervision and guidance of a UK registered architect, may apply for exemption from the requirement to complete a further 12 months of UK professional experience post-Part 2. Applications should be made to the RIBA Professional Examinations Co-ordinator using Stage 2 Professional Experience Exemption Application Pro-forma No.2 and carry the supporting recommendation of their Professional Studies Advisor, whose guidance has been sought on this matter.

Regulation 2

Within the period of professional experience, a maximum of 5 working days may be spent engaged in professional or community activity, under the direct supervision of a person engaged in that activity.

Notes

The work must be with a properly constituted and reputable organisation, such as an educational charity, professional body or community association. Undertaking a taught course will not normally count for the purposes of this regulation.

The maximum of 5 working days may be spread over a period of time, provided that the student's commitment is sustained on a regular basis, for example, one evening a month for 10 months. Professional or community activity may be undertaken as part of paid or unpaid employment or as voluntary activity in the student's spare time. An office is under no obligation to release a student during normal working hours to participate in this activity.

A Professional Experience and Development Record should be completed for each engagement of professional or community activity and an Employment Mentor identified, even if the activity is undertaken on a voluntary basis.

Regulation 3

Within the two minimum 12 month periods of professional experience, a minimum of 10 working days each period must be spent pursuing approved activities and study leading to the RIBA Examination in Professional Practice and Management (Part 3).

Notes

At the post-Part 1 stage employers should provide a minimum of 10 working days for students to gain stage 1 experience. This is likely to involve job shadowing and accompanying job architects on site visits and to meetings, and offices should ensure that students are given these opportunities in addition to the more formal studies provided by short recall days most universities arrange for their students.

At the post-Part 2 stage students are likely to need to use the 10 paid working days to attend courses, examinations, undertake revision or private study in preparation for the RIBA Examination in Professional Practice and Management (Part 3).

Regulation 4

Within the period of professional experience, a minimum of 35 hours a year must be spent on continuing professional development.

Notes

Architects have a professional duty to undertake 35 hours' monitored and recorded development each year. Students should begin to become accustomed to this process in their first weeks in architectural practice. CPD should be undertaken under the RIBA's CPD requirements and regularly monitored and recorded. Some activities that the student will undertake as part of his/her professional experience, for example reviewing

past project files in the student's spare time, can count also as valid CPD.

Regulation 5

Experience gained in agency employment will count as training for the purposes of professional experience only if the principal of the office in which the work is done accepts the responsibilities of the Employment Mentor, and the work is of such a nature and quality to enable the architecture student to fulfil the learning objectives of the RIBA Professional Experience and Development scheme.

Regulation 6

Other forms of professional experience are admissible under the regulations of this scheme. The location and duration of acceptable professional experience is described in the chart in the guidance notes. Cases where it appears that the application of any rule may bear unduly harshly on the student concerned may be referred to the RIBA's Head of Professional Education and Curricular Development.

Notes

A new Professional Experience and Development Record should be completed for each 3-month period of professional experience, or lesser period in the case of professional and community activity. In each work setting, a mentor should be identified who can comment on the student's performance and is willing to undertake the duties and responsibilities of an Employment Mentor.

Regulation 7

Professional Experience should be fully recorded in the RIBA Professional Development and Experience Record.

Notes

The record must be completed fully by the student, and signed by the Employment Mentor and the Professional Studies Advisor before it can be submitted for the RIBA Examination in Professional Practice and Management (Part 3).

Guidance notes on possible grounds for exemption from using the RIBA Professional Experience and Development Record

Students with lengthy experience, who have reached a degree of responsibility in their offices which gives them supervisory functions for which the Professional Experience and Development Scheme does not cater, may apply to their Professional Studies Advisor for permission to use the RIBA Certificates of Professional Experience in lieu of the Professional Experience and Development Record sheets, provided that they can satisfy the following conditions:

- They are over the age of 30.
- They have had at least 6 years' experience in architects' offices.
- They are working at a sufficient level to be capable of taking responsibility for small jobs or of acting as a team leader in charge of a number of assistants engaged on either a large project or a series of smaller projects.

If, for reasons considered valid by the Professional Studies Advisor, a student has not been able to maintain an RIBA Professional Experience and Development Record, such a student may instead submit a Certificate of Professional Experience.

Because a Certificate of Professional Experience is of limited value to the Professional Practice Examiners in assessing the quality of experience, it must be accompanied by a report (of approximately 2000 words) and supplementary evidence, giving the student's own appreciation of the value of each employment to date.

Each school of architecture has appointed a member of staff as a Professional Studies Advisor who has responsibility for professional studies and the monitoring of students undertaking professional experience. The Professional Studies Advisor (PSA) works with employers and students in a joint effort to ensure the best possible professional development and experience for students. Professional Studies Advisors can advise employers and students on all aspects of professional experience, including commenting on matters such as salary levels and student capabilities. Professional Studies Advisors welcome details of any likely vacancies and as much information as possible about the office and its work.

The Professional Studies Advisor is also responsible for reviewing the PEDR sheets every quarter and commenting on the breadth, scope and adequacy of the professional experience gained by the student. In exceptional cases it will be necessary for the PSA to advise that the student's current experience is likely to prove inadequate for the RIBA Examination in Professional Practice.

The Professional Studies Advisor should be the first point of contact if any difficulties or concerns arise. If the advisor is unobtainable, the RIBA Centre for Architectural Education is ready to advise on any problem regarding professional training. Telephone 020 7307 3629.

Under section 4(1)(a) of the Architects Act 1997, the Architects Registration Board (ARB) prescribes those qualifications and practical experience which can lead to entry onto the UK Register of Architects. In order to fulfil this duty, the Board publishes criteria which qualifications and associated courses must meet in order to be recognised by the Board for the purpose of entry onto the Register of Architects. The ARB has mechanisms in place to ensure that all qualifications recognised by the Board meet these criteria and continue to do so.

The Board recognises qualifications awarded at universities, institutions or colleges at first degree level or equivalent (Part 1), diploma or second degree level or equivalent (Part 2), and examinations in professional practice (Part 3). Candidates for registration should have successfully completed these sequentially.

In addition to having recognised qualifications as above, candidates should have completed at least 2 years' practical training experience working under the direct supervision of an architect registered in the European Union, 12 months of which must be undertaken in the UK, under the direct supervision of a UK registered person. The Board, from time to time, publishes guidelines whereby this requirement in relation to the supervising person, at the Registrar's discretion, can be varied. Further details on such guidelines can be obtained from the ARB.

Those admitted to the Register of Architects are, by definition, competent to practise independently in the field of architecture and use the title 'architect' in the pursuit of their professional work.

For more information on the ARB visit their website (www.arb.org.uk).

To meet the requirements of the RIBA Professional Experience and Development Record, and to have direct experience under supervision of the duties and responsibilities of professional practice which will become the student's upon qualification, the RIBA specifies certain mandatory minimum requirements to be achieved by the student within this time period. These are:

a. A minimum of 24 months of recorded professional experience, 12 months of which must be after passing or gaining exemption from Part 2 of the RIBA Examination in Architecture, under the direct supervision of an architect in the United Kingdom. (Regulation 1)
b. A minimum of 10 working days' approved study leading to the RIBA Examination in Professional Practice and Management (Part 3). (Regulation 3)
c. A minimum of 35 hours a year continuing professional development. (Regulation 4)

Although it is not mandatory, the RIBA advises that a minimum of 3 months' experience of professional architectural practice under the direct supervision of an architect outside the United Kingdom provides useful experience for architectural students as part of their educational and professional development.

The RIBA Professional Experience and Development Record records professional experience in 3-month periods. A period of less than 3 months' duration will not normally be accepted as valid professional experience. (Except, of course, for CPD, professional and community activity, and study for the RIBA Examination in Professional Practice and Management (Part 3), which are subject to maximum time limits of less than 3 months.) Professional Experience and Development Records should be used to record each 3-month period of professional experience.

The following table describes the various professional environments in which a student may gain professional experience, and the minimum or maximum number of months admissible in each environment. Please note that the practical training requirements of the ARB for registration in the UK differ slightly from those of the RIBA. For more information on the ARB's requirements please select the option to the left, 'The ARB's Requirements'.

Location of professional experience and minimum and maximum admissible duration of professional experience

Type	Location	Duration
A	Experience of architectural practice under the direct supervision of an architect in the United Kingdom, where the student's work is mainly or wholly inside the United Kingdom	Minimum of 12 months post-Part 2
B	Experience of architectural practice under the direct supervision of an architect outside the United Kingdom	Recommended 3 months Maximum of 12 months
C	Experience of architectural practice under the direct supervision of an architect in the United Kingdom, when the practice's work is mainly or wholly outside the United Kingdom	Maximum of 12 months
D	Experience directly related to architectural practice under the direct supervision of a Chartered, Structural, Civil, Mechanical or Electrical Engineer, Landscape Architect, Quantity Surveyor, or other suitable qualified chartered professional in the field of building construction in the United Kingdom	Maximum of 12 months
E	Experience indirectly related to architectural practice under the direct supervision of a person engaged in that activity, such as architectural journalism, building construction, public relations, exhibition design, writing, or acting as a planner or client in the United Kingdom	Maximum of 3 months
F	Experience of voluntary or community activity under the direct supervision of a person engaged in that activity	Maximum 5 working days (can be combined with Category E)
G	Teaching an RIBA/ARB validated course in architecture or engaged in architectural research directly related to the professional architectural practice in the United Kingdom	Maximum of 12 months
H	Experience of specialist architectural practice under the direct supervision of an architect, where the student's work is mainly outside the broad setting of general practice, in the UK	Maximum of 6 months
I	Attendance or related study leading to an RIBA/ARB recognised Professional Practice qualification	Minimum of 10 working days
J	Continuing Professional Development	Minimum of 35 hours a year

During professional experience, whilst the status of the student is that of an employee first and foremost, the office should also create an environment where the student can learn new skills and develop his/her professional abilities within a structured setting. As a guide, there are four undertakings that should be regarded as setting a minimum standard when engaging a student completing professional experience:

- To give a student reasonable opportunities to gain an adequate breadth and depth of experience from the range described in the Professional Experience and Development Scheme.
- To nominate an experienced architect (or other professional in non-architectural work settings), who will be personally responsible for directing the student's work, and supervising and guiding the student's professional experience so that the range, quality and depth of activities undertaken shall be such as to satisfy the objectives of professional experience. This person is known as the Employment Mentor.
- To allow up to 10 paid working days per annum for professional activities, which have the educational objective of broadening the student's professional experience.
- To sign, date and comment upon the student's Professional Experience and Development Record in a fair, accurate and timely manner at the end of each 3-month period of professional experience.

The following box describes what is expected of the Employment Mentor, with support from the office, during a student's professional experience, and what you can expect from the student in return for providing a suitable work placement.

Duties and Responsibilities of the Employment Mentor

The Employment Mentor is responsible for:

1. Establishing an organisational framework which will facilitate the provision of high-quality professional experience.
2. Overseeing the educational and professional development of the student in the work place, supervising his/her daily work and reviewing the student's achievements for each professional development period.
3. Ensuring that the student employee is not overburdened by responsibilities inappropriate to his/her experience, or overwhelmed by tasks of limited or repetitive educational value.
4. Discussing with the student employee at the start of each 3-month period of professional experience, the work objectives and learning opportunities within that period.

5. Providing systematic professional training which should include first hand experience of a range of general procedures and tasks as well as some which are speciality specific.
6. Ensuring that the student employee is not routinely expected to undertake tasks of no educational value or required to work hours that are in excess of their contract.

In addition, the Employment Mentor must:

1. Provide the student employee with a detailed job description and contract of appointment providing information about hours of work, the time allocated for study and opportunities for educational and professional development.
2. Ensure safe working arrangements for the student employee and proper supervision of the student at all times, including arrangements for cover in times of absence.
3. Sign, date and comment on the student's achievements for each 3-month period of professional experience, within a reasonable time frame (not unreasonably withholding permission to include work produced in the office to supplement the PEDR).
4. Ensure that the student employee is obtaining the necessary experience of practical procedures and contractual arrangements to complement studies for the Part 3 Examination.

The Employment Mentor can expect the student to:

1. Comply with the code of professional conduct set by the RIBA to contribute fully to, and take responsibility for, his/her own work within the office, subject to supervision by the Employment Mentor.
2. Complete the Professional Experience and Development Record in a fair, open and timely manner, agreeing with you in advance the inclusion of any material generated in the office.
3. Take responsibility for their own learning, so that by the end of their period of professional experience the student will be ready to accept the responsibilities of a registered architect and continue with CPD.

RIBA work stages

The following information is taken from 'Services Supplement: Design and Management' from the RIBA publication *Standard Form of Agreement for the appointment of an architect* (SFA/99) available from RIBA Bookshops (http://www.ribabookshop.com/) – you should refer to the whole document.

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Appendix C

Sources of inspiration

The following are some of the authors' favourites.

Architectural films

David Byrne (1986) *True Stories*
Francis Ford Coppola (1983) *Rumblefish*
Salvador Dali, Louis Bunuel (1929) *Un Chien d'Andalou*
Sergei Eisenstein (1925) *Battleship Potemkin*
Terry Gilliam (1985) *Brazil*
Peter Greenaway (1996) *The Pillow Book*
Nathaniel Kahn (2004) *My Father, My Architect*
Stanley Kubrick (1968) *2001: A Space Odyssey*
Fritz Lang (1927) *Metropolis*
Ang Lee (2001) *Crouching Tiger, Hidden Dragon*
Stephen Lisburger (1982) *Tron*
Terrence Malick (1973) *Badlands*
Chris Marker (1963) *La Jetée*
William Cameron Menzies (1936) *Things to Come*
Powell and Pressburger (1946) *A Matter of Life and Death*
Godfrey Reggio (1982) *Koyaanisqatsi*
Ridley Scott (1982) *Bladerunner*
Mel Stuart (1971) *Willy Wonka and the Chocolate Factory*
Tarkovsky (1982) *Stalker*
Quentin Tarantino (1994) *Pulp Fiction*
Jacques Tati (1958) *Mon Oncle*
Hiroshi Teshigahara (1962) *The Woman of the Dunes*
Andy Wachowski, Larry Wachowski (1999) *The Matrix*
Robert Wiene (1920) *The Cabinet of Doctor Caligari*
Terence Young (1962) *Dr No*

Artists

Annette Messager
Pablo Picasso
Christo Vladimirov Javacheff

James Turrell
Tracy Emin
Jean-Michel Basquiat
Louise Bourgeois
Barbara Hepworth
Patrick Heron
Henry Moore
Richard Wentworth
Gerhard Richter
Antonio Tapies
Joseph Beuys
Cornelia Parker
Richard Wilson

Architects

Below is a selected alphabetical list of historically significant architects, which is heavily biased in relation to the British context. This is not an exhaustive list but something to get you started. Any student of architecture should be familiar with this list of names. There are few living architects included as it is assumed that students are part of the current culture that will naturally bring to the forefront significant architects of the day. The aim of this list is to arouse your inquisitiveness and encourage you to find out more.

Alvar Aalto (03.02.1898 Kuortane, Finland – 11.05.1976 Helsinki, Finland)

A contemporary of Le Corbusier, Aalto's 'modern' style is characterised by the use of natural materials, particularly stone and wood in contrast with Corbusian concrete. The Villa Mairea and the Paimio Sanatorium are two of his most famous designs. His work continues to have a strong influence on British architects.

Robert Adam (03.07.1728 – 03.03.1792)

In 1754 he went to the continent to study architecture under Charles-Louis Clérisseau and Giovanni Battista Piranesi. On his return to Britain, he established a practice in London, where he was joined by his younger brother James. Here he developed the 'Adam style', and his theory of 'movement' in architecture, based on his studies of antiquity. Adam is considered by many to be the greatest architect of the late eighteenth century; his work influenced the development of Western architecture, both in Europe and in North America. He was leader of the first phase of the classical revival in England and Scotland from around 1760 until his death.

C. R. Ashbee (1863 London, UK – 1942 Sevenoaks, UK)

Ashbee was a designer and entrepreneur who was a prime mover of the English Arts and Crafts movement that took its craft ethic from the works of John Ruskin and its co-operative structure from the socialism of William Morris. C.R. Ashbee was born in London in 1863. In 1888 Ashbee founded the Guild and School of Handicraft in the East End of London. In addition to his own designs, he is notable for drawing attention to the work of the Greene brothers and to Frank Lloyd Wright in America. He also wrote an essay 'Should we stop teaching art?' that drew attention to the changing nature of industrial patronage and client organisation.

Mackay Hugh Baillie Scott (23.10.1865 St Peters, Ramsgate, UK – 10.02.1945 Brighton, UK)

Baillie Scott joined the Arts and Crafts movement, alongside William Morris and John Ruskin; he developed his own unique style however, which progressed towards a simple form of architecture, relying on truth to material and function, and on precise craftsmanship.

Sir Charles Barry (23.05.1795 Westminster, London, UK – 12.05.1860 Clapham Common, London, UK)

Barry's travels to Italy inspired him to become an architect well versed in classicism. He won a competition in 1824 to design the Royal Manchester Institution and worked with Pugin on the Houses of Parliament in 1836. Whilst the Italian influence was strong in Barry's designs, he was skilled in a variety of design styles to suit his clients' leanings, from Greek Revival to Italian Renaissance, Gothic to Elizabethan.

Le Corbusier (Charles-Edouard Jeanneret-Gris) (06.10.1887 La Chaux de Fonds, Switzerland – 27.08.1965 Cap Martin, France)

The most significant architect in the modern world. Every architecture student should try and understand his buildings and writings. His ideas about urban planning and modern architecture have heavily influenced the architecture of the twentieth and twenty-first centuries. Do not be put off by the prejudices of those who have not bothered to understand or read Corbusier's work, and confuse developer opportunism of low-quality high rise with the utopian ideas behind high-density living in sun, light and air. Read Corbusier's work and visit his buildings and then judge for yourself. It is not a matter of styles.

Thomas Cubitt (1788 Buxton, Norfolk, UK – 1855 Denbies, Surrey, UK)

Cubitt's first major building was the London Institution in Finsbury Circus, built in 1815. After this he worked primarily on speculative housing at Camden Town, Islington, and especially at Highbury Park, Stoke Newington (now part of Islington). He was commissioned in 1824 by Richard Grosvenor, 2nd Marquess of Westminster, to create a great swathe of building in Belgravia centred around Belgrave Square and Pimlico, in what was to become his greatest achievement in London. His work in Belgrave Square was helped by the architect Philip Hardwick (1792–1870) who designed Sefton House. His white stucco classical style buildings still dominate vast swathes of the capital.

Charles (17.06.1907 Saint Louis, Missouri, USA – 21.08.1978 Saint Louis, Missouri, USA) and **Ray** (15.12.1912 Sacramento, USA – 21.08.1988 Los Angeles, USA) **Eames**

For architectural students the Eames's house and studio, Case Study House No. 8, is perhaps the most significant. The Case Study houses were experiments in American residential architecture sponsored by the *Arts & Architecture* magazine for postwar housing. (A similar parallel can be drawn with the Ideal Home projects sponsored by the *Daily Mail* in the UK). The house embodies the ideas of prefabrication and industrialisation. Their work extended to product, furniture, film and exhibition design, and the Eames chair is an iconic office chair.

Richard Buckminster Fuller (Bucky) (12.07.1895 Milton, Massachusetts, USA – 01.07.1983 Los Angeles, USA)

Buckminster Fuller, famous for his geodesic domes, embarked on 'an experiment to discover what the little, penniless, unknown individual might be able to do effectively on behalf of all humanity.' His work is fundamental to climate change and sustainable design.

Antoni Gaudí (25.06.1852 Catalonia, Spain – 10.06.1926 Barcelona, Spain)

Gaudi was inspired by Moorish architecture and his buildings are adorned with highly crafted metalwork and broken ceramic tiles which form imaginative decorative creations. Gaudi and Barcelona have become inextricable. His buildings are part of the tourist trail and the Cathedral (still unfinished) has become a symbol of his artistic influence.

Frank Gehry (28.02.1929 Toronto, Ontario, Canada –)

Early in his career, Frank Gehry designed houses inspired by modern architects such as Richard Neutra and Frank Lloyd Wright. Many buildings by Frank Gehry have become tourist attractions, drawing visitors from around the world – the Guggenheim Museum in Bilbao, Spain, being the most well known. His amorphous structures are in direct contrast to the rectilinear simplicity of the Modern movement.

Eileen Gray (09.08.1878 Ireland – 31.10.1976 Paris, France)

Neglected for most of her career, Gray is now regarded as one of the most important furniture designers and architects of the early twentieth century and the most influential woman in these fields.

Marion Mahony Griffin (14.02.1871 Chicago, USA – 10.08.1961 Chicago, USA)

One of Frank Lloyd Wright's first employees (1895), Marion Mahony worked with Wright for over 15 years designing furnishings, light fixtures, murals, mosaics and leaded glass for many of his houses. She married Walter Burley Griffin in 1911 and drew watercolour perspectives for the prize-winning town plan for Canberra.

Walter Burley Griffin (1876 Maywood, Chicago, USA – 11.02.1937 Lucknow, India)

Best known for his role in designing Canberra, Australia's capital city. He has also been credited with the development of the L-shaped floor plan, the carport and the first use of reinforced concrete. For much of his career Griffin worked in partnership with his wife Marion Mahony Griffin. In the 28 years of their architectural partnership, the Griffins designed over 350 building, landscape and urban-design projects as well as designing construction materials, interiors, furniture and other household items.

Walter Gropius (18.05.1883 Berlin, Germany – 05.07.1969 Boston, Massachusetts, USA)

Walter Gropius was recommended by Henry van der Velde to head up the Grand Ducal School of Arts and Crafts in 1919. This was the foundation of the Bauhaus school, which became a dominant force in architecture and the applied arts in the twentieth century. Gropius trained under Peter Behrens and his first major project, the Fagus Factory near Hanover, with its

concern for worker conditions and innovative use of curtain-walling, proved to be a strong exemplar for the Bauhaus buildings that followed.

Nicholas Hawksmoor (probably 1661 – 25.03.1736)

From about 1684 to about 1700 Hawksmoor worked with his teacher, Christopher Wren, on projects including Chelsea Hospital, St Paul's Cathedral, Hampton Court Palace and Greenwich Hospital (London). He was named Clerk of the Works at Kensington Palace (1689) and Deputy Surveyor of Works at Greenwich (1705). He then worked for a time with Sir John Vanbrugh, helping him build Blenheim Palace for John Churchill, 1st Duke of Marlborough, where he took charge after Vanbrugh's final break with the demanding Duchess of Marlborough, and Castle Howard for Charles Howard, later the 3rd Earl of Carlisle.

Henry Holland (20.07.1745 Fulham, London, UK – 17.06.1806)

Holland was an architect to the English nobility who trained under Capability Brown and later married his daughter. Best known for his design for Brighton Pavilion, Holland began his practice by designing Brooks's Club, St James's (1776–78), and went on to work on the Theatre Royal, Drury Lane, and the Royal Opera House. In 1777, he began the Hans Town development on 89 acres (360 000 m^2) of open field and marsh leased from the Cadogan family. There he laid out parts of Knightsbridge and Chelsea, including Sloane Street and Sloane Square, and Hans Place, Street and Crescent. These developments quickly became some of the most fashionable areas in greater London.

Arata Isozaki (23.07.1931 Oita, Kyushu, Japan –)

Apprenticed with architect Kenzo Tange, Arata Isozaki is known for using bold, exaggerated forms and inventive detailing. He has always seen himself as a descendant of humanists in the Western tradition, and he has chosen a career of thinking about architecture through his practice of it. At one point, he became inspired by the multi-talented Bunjin of Sung Period China – the scholarly men of letters who practised calligraphy and painting.

Philip Johnson (08.07.1906 Cleveland, Ohio, USA – 25.01.2005 Canaan, USA)

Johnson toured Europe and met Mies van der Rohe when he was designing the German Pavilion in Barcelona in 1928. He arranged for Corbusier's first visit to the USA in 1935. Johnson

lived until he was 98 and was a major force on the American architectural scene. His own work incorporated diverse influences such as the neo-classicism of Karl Friedrich Schinkel and the modernism of Ludwig Mies van der Rohe. He collaborated with Mies on the Seagram Building in New York.

Inigo Jones (15.07.1573 Smithfield, London, UK – 21.06.1652, London, UK)

Inigo Jones brought Italianate Renaissance architecture to England and like Vanborough also made valuable contributions to stage design. Jones's best known buildings are the Queen's House at Greenwich, London (started in 1616, his earliest surviving work) and the Banqueting House at Whitehall (1619). He was an influence on a number of eighteenth century architects, notably Lord Burlington and William Kent.

Louis I. Kahn (20.02.1901 or 1902 Arensburg, Governorate of Estonia, Russian Empire – 17.03.1974 New York, USA)

The Salk Institute and the Dhaka Parliament buildings are two of Kahn's most famous buildings. He was a highly regarded teacher and taught at the University of Pennsylvania from 1966. He travelled extensively in Europe and developed a distinctive style with strong geometric forms and dramatic use of space and light.

William Kent (c. 1685 Bridlington, Yorkshire, UK – 12.04.1748)

Kent revived the Palladian style in England. Lord Burlington's patronage secured him the following commissions: the Royal Mews at Charing Cross (1731–33, demolished in 1830), the Treasury buildings in Whitehall (1733–37), and the Horse Guards building in Whitehall (designed shortly before his death and built 1750–59). These neo-antique buildings were inspired as much by the architecture of Raphael and Giulio Romano as by Palladio.

Adolf Loos (10.12.1870 Brno [Brünn], now in the Czech Republic – 23.08.1933 Kalksburg, near Vienna, Austria)

Adolf Loos was nine when his father, a stonemason, died. To his mother's grief, Adolf Loos refused to continue the family business. His mother disowned him when he was 23. He went to America for three years and did odd jobs in New York, somehow finding himself in that process. Returning to Vienna in 1896 a man of taste and intellectual refinement, he immediately entered the fashionable Viennese intelligentsia. His friends included Ludwig Wittgenstein, Arnold Schönberg and Karl Kraus. He

quickly established himself as the preferred architect of Vienna's cultured bourgeoisie.

Sir Edwin Lutyens (29.03.1869 London, UK – 01.01.1944)

Best known for his grand imperial designs for New Delhi, Lutyens worked closely with Gertrude Jekyll, the famous landscape designer, and Sir Herbert Baker. Married to aristocracy, Lutyens managed to secure a number of commissions for large country houses prior to landing the prestigious commissions in India where his father-in-law was the former Viceroy. Lutyens managed to combine the Arts and Crafts style with the Palladian, and his work with Jekyll produced spectacular gardens and settings for the architecture.

Charles Rennie Mackintosh (07.06.1868 Glasgow, Scotland – 10.12.1928 London, UK)

Mackintosh is one of Scotland's most famous architects and designer of the Glasgow School of Art. During his time at the Glasgow School of Art, Mackintosh was part of 'The Four' – a group of designers that included the sisters Margaret and Frances MacDonald and fellow artist Herbert McNair.

William Morris (24.3.1834 Walthamstow, UK – 03.10.1896 Hammersmith, London, UK)

William Morris is considered a pioneer of the Arts & Crafts movement. Morris is best known as a designer of wall coverings, stained glass, carpets and tapestries. He was also a painter, poet, political publisher, typeface designer and furniture-maker.

Richard Neutra (08.04.1892 Vienna, Austria – 16.04.1970 Wuppertal, Germany)

Born and educated in Europe, Richard Neutra introduced the International style to America, and also introduced Los Angeles design to Europe. His firm designed many office buildings, churches and cultural centres, but Richard Neutra is best known for his residential architecture, particularly the Kaufmann House in Palm Springs and the Lovell House in Los Angeles.

Andrea Palladio (30.11.1508 Padua, Italy *Andrea Di Pietro della Gondola* – 19.08.1580 Vicenza, Italy)

Palladio's *Four Books of Architecture* was widely translated, and his ideas spread across Europe and into the New World.

Ieoh Ming Pei (26.04.1917 Canton, China –)

Pei and his firm have won numerous architecture awards including the prestigious Pritzker Prize in 1983. He tends to use large, abstract forms and sharp, geometric designs characterised by the pyramid structures at the Louvre, Paris.

Renzo Piano (14.09.1937 Genoa, Italy)

Piano was in partnership with Richard Rogers (1970–78) when they won the competition for the Pompidou Building. Piano went on to form the Renzo Piano Building Workshop and continues to be responsible for many significant buildings, including Kansai airport.

Richard Rogers (23.07.1933 Florence, Italy –)

Rogers set up 'Team 4' with Foster and respective partners. In 1967 the practice split up and Rogers joined Renzo Piano and won the Pompidou Centre competition in 1971. He championed design under the mayorship of Ken Livingstone and produced a seminal document for sustainable development 'Towards an Urban Renaissance', the report of the Urban Task Force published in 1999.

Mies van der Rohe (27.03.1886 Aachen, Germany – 17.08.1969 Chicago, USA)

Like Loos and Gropius, Mies began his career in the office of Peter Behrens and became one of the key figures of modern architecture. Mies was director of the Bauhaus School of Design from 1930 until it disbanded in 1933. He moved to the United States in 1937 and for 20 years (1938–58) was Director of Architecture at the Illinois Institute of Technology. His weekend house for Dr Edith Farnsworth and the high-rise towers in Lakeshore Drive, Chicago, are iconic designs.

John Ruskin (08.02.1819 London, UK – 20.01.1900 Brantwood, Coniston)

John Ruskin rebelled against formal, classical art and architecture and championed the asymmetrical, rough architecture of medieval Europe. Like William Morris and other Arts & Crafts philosophers, John Ruskin opposed industrialisation and rejected the use of machine-made materials.

Eero Saarinen (20.08.1910 Kirkkonummi, Finland – 01.09.1961 Ann Arbor, Michigan, USA)

TWA Flight Center at JFK Airport, New York, NY is probably the best known of Saarinen's work. Eero Saarinen was also a product designer. Whether designing furniture, airports or grand monuments, he was famous for innovative, sculptural forms.

Sir John Soane (10.09.1753 Goring-on-Thames, Reading, UK – 20.01.1837 London, UK)

Soane trained as an architect, first under George Dance the Younger, and then Henry Holland, while also studying at the Royal Academy schools, which he entered in 1771. Soane's house in Lincolns Inn is a must for every architectural student. The design of the house reveals a masterly use of space, light and mirrors. With a museum complete with sarcophagi and his office with paintings of proposals in ever extending layers, the house is a real treasure trove of ideas, idiosyncrasies and ingenuity.

Louis Sullivan (03.09.1856 Boston – 14.04.1924)

Louis Sullivan is widely considered America's first truly modern architect. Instead of imitating historic styles, he created original forms and details. He was a mentor to Frank Lloyd Wright and an inspiration to the Prairie School. His book, *The Autobiography of an Idea*, was highly influential.

Jørn Utzon (09.04.1918 Copenhagen, Denmark – 29.11.2008 Denmark)

Sydney Opera House has immortalised Utzon and much is owed to Saarinen who was one of the competition judges. Utzon is also noted for his courtyard-style housing in Denmark. He acknowledged that Aalto, Asplund and Wright were all major influences.

Sir John Vanbrugh (24.01.1664? – 26.03.1726) was an architect and dramatist, best known as the designer of Blenheim Palace and Castle Howard, working with Hawksmoor. He wrote two argumentative and outspoken Restoration comedies, *The Relapse* (1696) and *The Provoked Wife* (1697), which have become enduring stage favourites but originally occasioned much controversy.

Robert Venturi (25.06.1925 Philadelphia, PA, USA –)

Venturi worked for Eero Saarinen, and then in the Philadelphia offices of Louis I. Kahn and Oscar Stonorov. Since 1960 he has collaborated with his wife, the architect, planner, author and educator Denise Scott Brown. They are known for architecture steeped in popular symbolism. Kitsch becomes art in designs which exaggerate or stylise cultural icons. Mocking the austerity of modernist architecture, Venturi is famous for saying, 'Less is a bore'. Their publications, *Complexity and Contradiction in Architecture* (1966) and *Learning from Las Vegas* (1972), remain significant texts for students.

Philip Webb (12.01.1831 Oxford, UK – 17.04.1915 Worth, Sussex, UK)

Philip Webb was a close friend of William Morris. They were among the founders of Morris, Marshall, Faulkner & Company in 1851, which specialised in stained glass, carving, furniture, wallpaper, carpets and tapestries. Webb and Morris also founded the Society for the Protection of Ancient Buildings in 1877. Webb's first commission was the Red House (1859), William Morris' eclectic country house that became a gathering place for the Pre-Raphaelites.

Clough Williams-Ellis (28.05.1883 Gayton, Northamptonshire, UK – 08.04.1984 Portmerion, Wales, UK)

Williams-Ellis is best known for his work on the resort village of Portmeirion, Wales, where he attempted to prove that it was possible to build beautiful – and colourful – housing in Britain. Portmeirion was used for the cult 1960s' TV series *The Prisoner* and is now owned by the National Trust and is a tourist attraction. His work on cob and low-cost housing is well worth reading.

Christopher Wren (20.10.1632 East Knoyle, Wiltshire, UK – 25.02.1723 London, UK)

Christopher Wren became a Professor of Astronomy at Gresham College in London and later at Oxford. As an astronomer, Christopher Wren developed exceptional skills working with models and diagrams, experimenting with creative ideas and engaging in scientific reasoning. Christopher Wren began designing buildings when his uncle, the Bishop of Ely, asked him to plan a new chapel for Pembroke College, Cambridge. His most famous building is St Paul's Cathedral.

Frank Lloyd Wright (08.06.1867 Wisconsin, USA – 09.04.1958 Talliesen, Wisconsin, USA)

Frank Lloyd Wright is without a doubt America's most famous architect, and yet he never attended architecture school. As a child, he worked on his uncle's farm in Wisconsin, and he later described himself as an American primitive – an innocent but clever country boy whose education on the farm made him more perceptive and more down-to-earth. During his 70-year career, Frank Lloyd Wright designed 1141 buildings, including homes, offices, churches, schools, libraries, bridges and museums.

Twentieth century modern architecture books

Every architectural student should have some knowledge of the following selection of books. These publications can act as a springboard for you to develop your own ideas and theories of architecture in the twenty-first century. Having a firm grasp of the immediate past will help you be more confident and informed about the future.

Banham, R. (1960). *Theory and Design in the First Machine Age.* London: Architectural Press (subsequent pb editions).

Banham, R. (1962). *Guide to Modern Architecture.* London: De Van Nostrand (see later 1975 version *Age of the Master: A Personal View of Modern Architecture.* London and New York).

Bayer, H., Gropius, W. and Gropius, I. (1938). *Bauhaus 1919–1928.* New York: MoMA (re-issued 1952) (see also Wingler, H. M. below).

Berman, M. (1982). *All That is Solid Melts into Air.* Harmondsworth: Penguin Books.

Curtis, W. (1997). *Modern Architecture since 1900.* London: Phaidon, 2007 pb.

Frampton, K. (1980). *Modern Architecture: A Critical History.* London: Thames & Hudson.

Giedion, S. (1941). *Space Time and Architecture.* Cambridge, Mass.: Harvard University Press.

Gropius, W. and Moholy-Nagy, L. (1925). *Bauhausbücher 1 – Internationale Architektur.* Munich:

Hitchcock, H. R. and Johnson, P. (1932). *The International Style, Architecture since 1922.* New York: W. W Norton & Co.

Joedicke, J. (1959). *A History of Modern Architecture.* Stuttgart, Praeger: London, New York.

Joedicke, J. (1969). *Architecture Since 1945: Sources and Directions.* Translated by J. C. Palmes. London: Pall Mall Press.
Johnson, P. (1974). *Mies van der Rohe.* New York: MoMA.
Le Corbusier (1927). *Towards a New Architecture.* Translated by F. Etchells. London: John Rodker.
Roth, A. (1948). *The New Architecture.* Zurich: Les Editions d'Architecture.
Sharp, D. (1966). *Modern Architecture and Expressionism.* London: Longman and New York: George Braziller.
Sharp, D. (2004). *Twentieth Century Architecture: A Visual History,* 4th edn. London: Images Publishing Group.
Sharp, D. (1991). *The Illustrated Encyclopedia of Architects and Architecture.* New York: Whitney Library of Design.
Wingler, H. M. (1969). *The Bauhaus.* Cambridge, Mass.: MIT.
Wright, F. L. (1939). *An Organic Architecture* (The RIBA lectures). London: Lund Humphries.
Wright, F. L. (1945). *An Autobiography.* London: Faber & Faber and the Hyperion Press.
Zevi, B. (1950). *Towards an Organic Architecture.* London: Faber.

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