AKADEMIE DER KÜNSTE

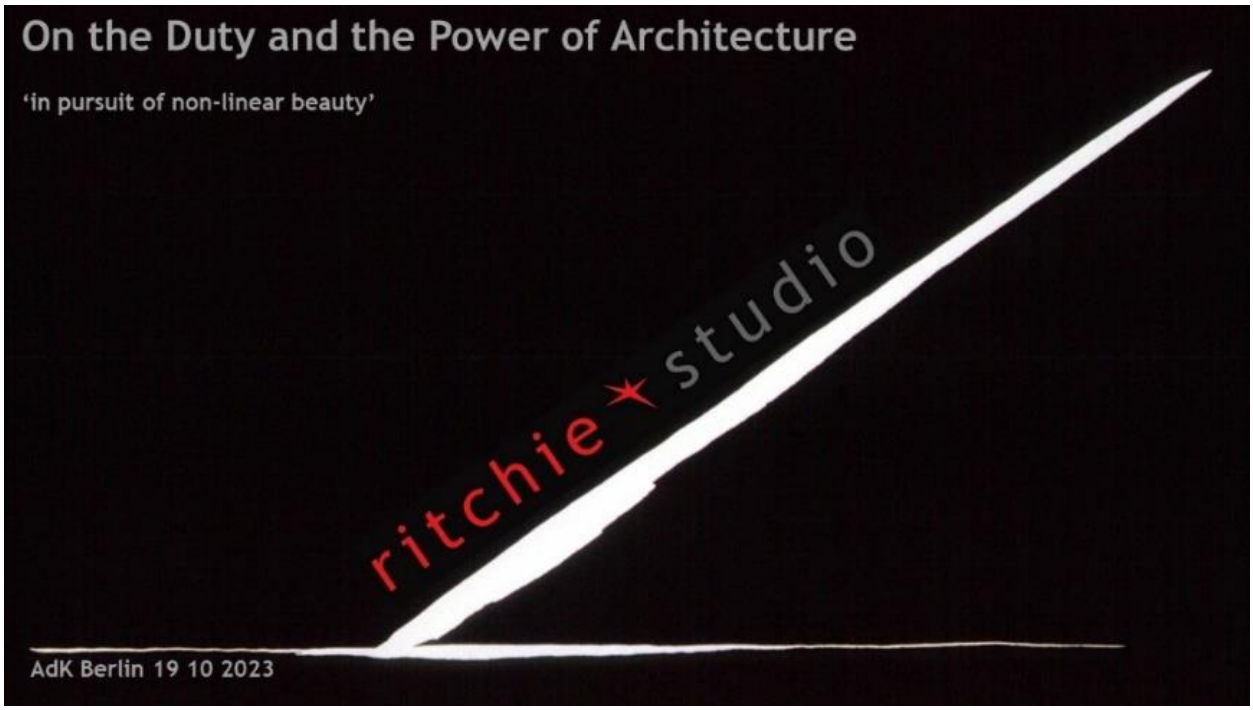
ON THE DUTY AND THE POWER OF ARCHITECTURE

In pursuit of non-linear beauty

19 OCTOBER 2023

IAN RITCHIE

1. Intro slide



2.

3. Resetting the Context

PROFESSIONAL RESPONSIBILITIES

Duty of Care - fundamentally about safety

Understanding legislation - knowledge

Understanding individual materials - knowledge

Understanding material assemblies - knowledge

Ability to do research - practice culture

Ability to check facts - practice culture

Ability to record discussions and decisions - practice rigour

The professional responsibilities of an architect.
To identify what is fact and not fiction.
To record discussions and decisions honestly and accurately.
I might say that on Grenfell a lot of these were absent, tragically absent.

Who am I?
I know I've been around a long time, but I'm like a ghost. I don't do marketing, but I do write books, but I don't necessarily sell them, although other people do! I like to stay quiet.

4.

An inventive, speculative and romantic architect with the mind of an engineer and cost consultant

© RFR [photo: Henry Bardsley]

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I am Scottish, and that part of my DNA 'automatically' makes me inventive, speculative and romantic, but with the mind of an engineer and a chartered accountant or quantity surveyor.

5.

I collaborate generously to reap new harvests.
© 2010 Ian Ritchie

writing & poetry

Leipzig Glass Hall

A framed emptiness
brings down the sky
to meet the earth.
Diaphanous shell
stretched taut over
squared silhouettes
of thin round metal.

Light chases darkness.
Shadows are holes
in light. Colours flow
throughout the space.
Sunlight and cloud,
the shadows come and go.

© 1993 IR

calligraphics

But I am an architect, sometimes a poet.
This is a poem I wrote when I first met Volkwin Marg, when he invited us to help his team put together a glass hall in Leipzig.

6.

Sometimes an artist.

7.

film

Sometimes a sculptor.

8.

CHANGE is inevitable, but is it always for the BETTER?

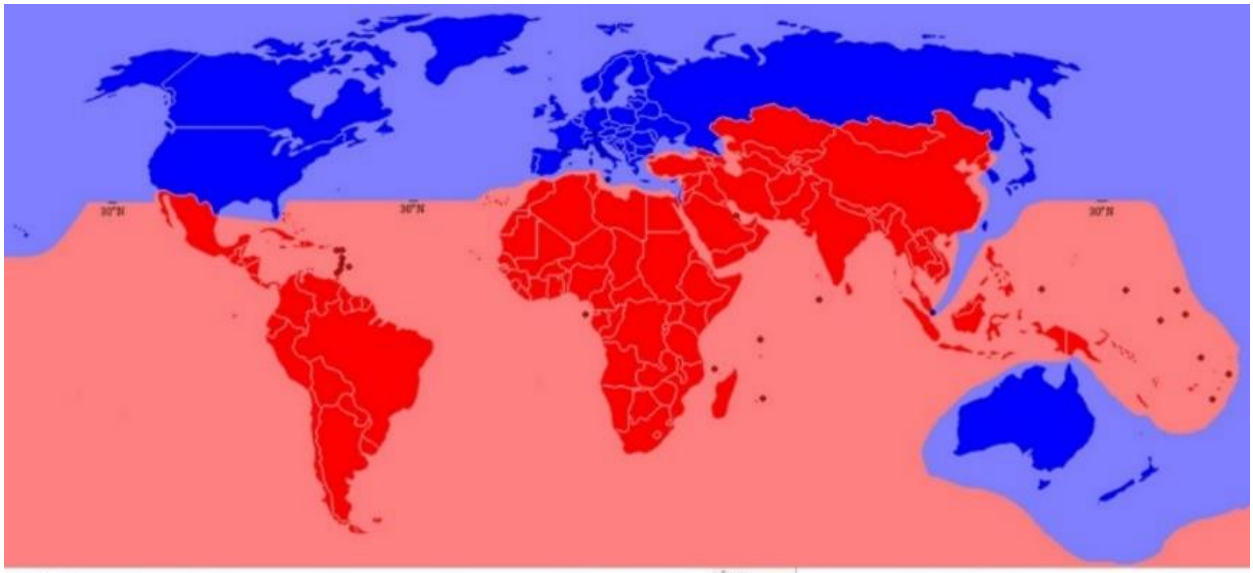
my architecture has always embraced CHANGE from nature's impact, human use and behaviour

Evaluating 'BETTER' is seeing the joy on the face of users and on architecture's spatial and materials longevity

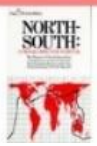
But I want to talk about change.

I love the idea of change; it is the one guarantee we have in life apart from being born and dying. Things will change. Yet how many architects embrace the idea of change as part of the culture of how they design? And that's what I would like to explain a bit more in my talk tonight.
I would like to add that the architecture my practices have produced is not sculpture. A difference between an architect and a sculptor, is that when looking at Michelangelo's David the architect will take a photograph while the sculptor will close his eyes and put his hands out to touch the stone.

9.



Our Common Future, also known as the Brundtland Report, was published October 1987 by the United Nations



North South Survival - Brandt Report 1963

From my beginnings 40 years ago in architecture, the Brandt Report of 1963 revealing the differences in the economic development between the Global North and Global South was very significant to me. Why? Because it brought home the social inequalities that existed not just in Liverpool when I was a student there, but throughout the world – in a very, very coherent way. And yet we had a wake-up call a few years later. One humanity, one nature, one biosphere — and it seems impossible to comprehend what is still happening today in this world when we have this iconic image as a reference point.

10.

The other thing that happened early on in my career was the oil crisis in the early 1970s. You will notice that the occasional aphorism is written on the top of these slides.

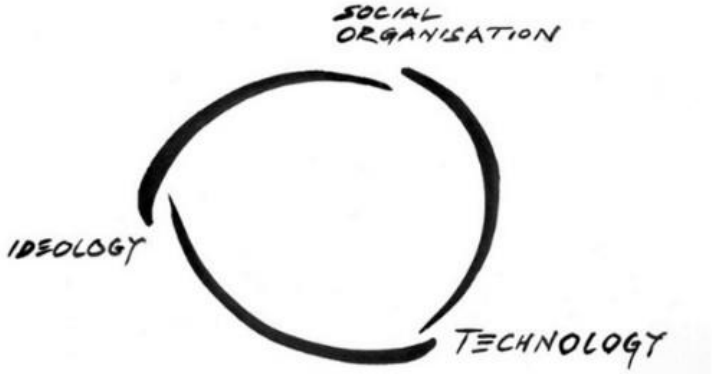
11.

This gave me a strong political context to add to the social one, which made me ask the question about progress, and whether progress always a good thing.

Stanley Diamond, an anthropologist in the 60s and 70s talked about the drivers of change.

12.

Progress is no longer the idea that just because we can, that means we should do it.



WHEEL OF PROGRESS

'that mankind with the new science and improved technology had entered on a road of necessary and unlimited progress.' Fontenelle, 1683, Great Idea of Progress

I have simplified them here as the ideas of social organisation, technology and ideology — they are never in 'sync'; one is always out of energy from the other(s). This is what drives progress. Searching for equilibrium or stasis, one might say. So, the question is, with this wheel of progress, how does one identify what is good move to make in one's own life, and for the other people we are working with?

And do we as designers know what is good anyway? How do we measure goodness? We could refer to (Jeremy) Bentham, and say it is about bringing 'joy'. Joy, fundamentally! The theory of utilitarianism.

I must admit that I have had a very happy time being an architect — all my life. And one reason is that when I get up every morning, I do not know what I am going to do. I certainly do not want to repeat the design of the building that we have just done, so I have no identity architecturally, other than perhaps that most of the work is very refined, quite elegant, quite well engineered, very economic, and capable of taking change.

So, what is the design context we always seem to be working in?

13.

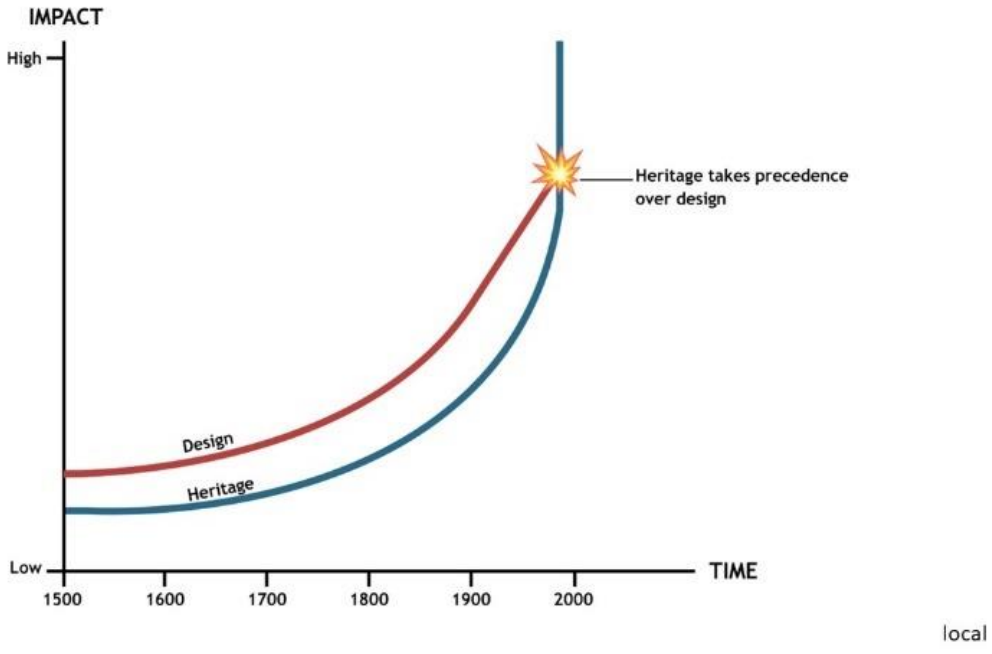
Architecture is not realised alone; it is a shared adventure.
© 1987 Ian Ritchie

To feel power is to be corrupted, to become influential releases a smile.
© 2015 Ian Ritchie

The global and the local: a fashionable quote. To the extent that architecture is global I have no real idea. I do not work globally. I have no desire whatsoever to work in China, though I have lectured and judged a Eurasian student design competition there — I do not know their culture — or in the Middle East, partly because of humanitarian reasons.

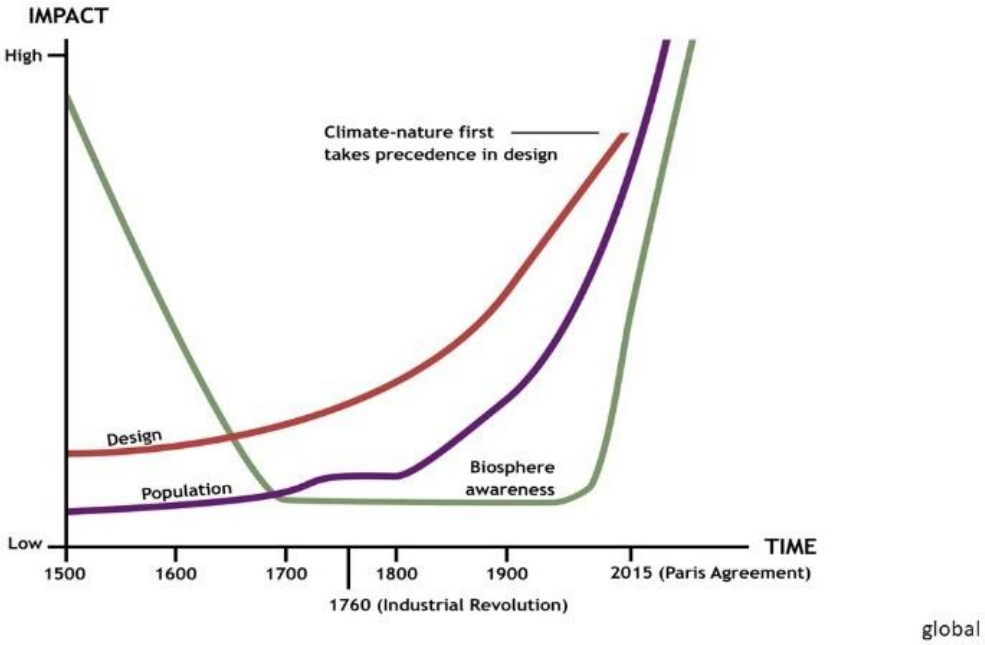
But the question is something which invades my thinking every day — these balances between what is equal, what is fair, and what is shared.

14.



In 2000 we suddenly realised that heritage had caught up with design, and the ‘freedom’ to design.
Heritage now is an equal part of, in fact, probably ahead of design. It becomes part of the very rich context within which we work.

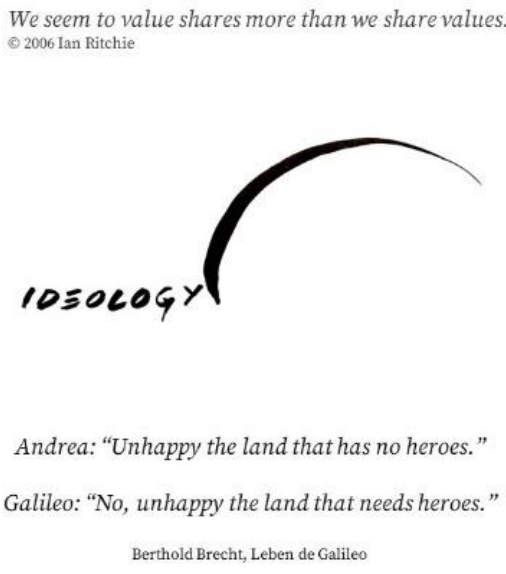
15.



And now, of course, the biosphere, concern for the planet, the climate emergency, have caught up with everything. What one is designing today is everything.

We have to take a lot into account when we design, and there is no reason not to. It is not that hard, but one has to work hard at it.

16.



Looking at ideology — one of my favourite aphorisms is: *'We seem to value shares more than we share values'*. But that is partly because I have grown up in a capitalist society.

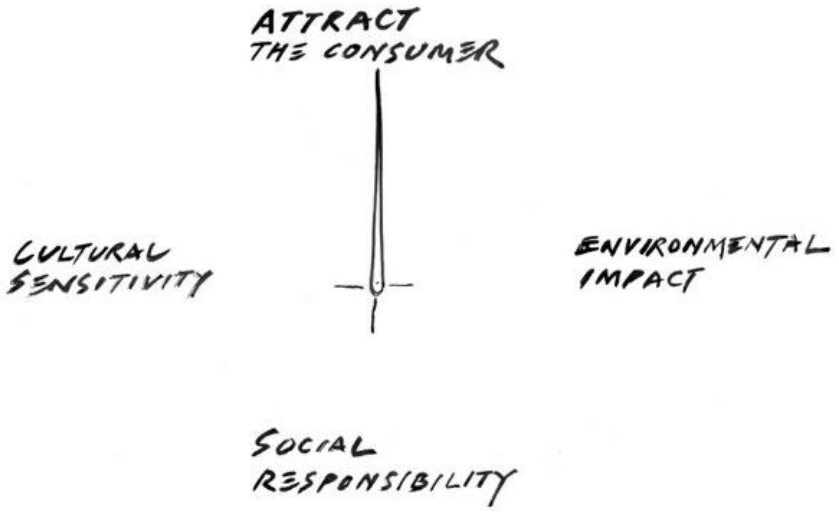
Berthold Brecht had a wonderful exchange between Galileo and his servant, a student, who was about to take all his knowledge off to Europe during his inquisition by the Catholic Church.

When Andreas said *'Unhappy the land that has no heroes'*, Galileo replied, *'pity the land that needs them'*. I subscribe to that.

I chose ideas! Not to chase money around the world. Not that I had money, but I chose values.

17.

Industrialisation led people to think that dominating nature, exploiting and transforming it into consumer goods and maximising economic production through markets was the *only* value.

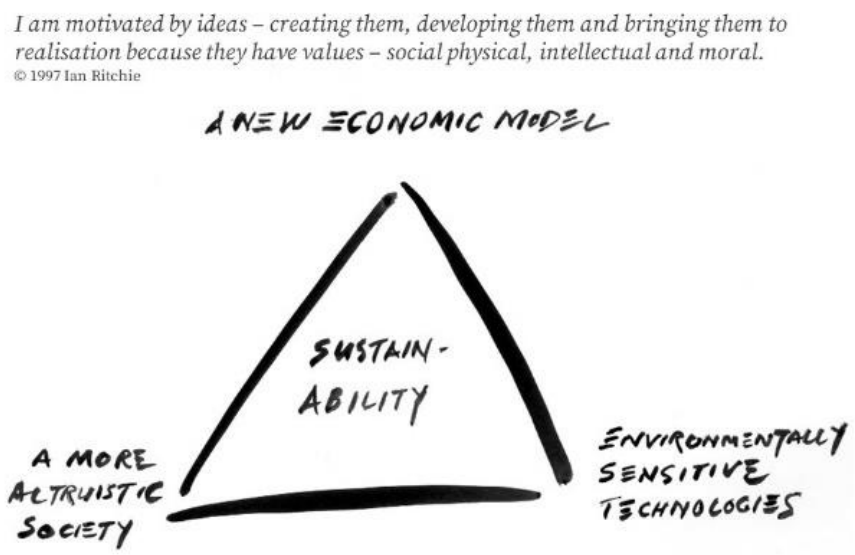


And that confronts us with the kind of equation of today — in fact what I've been up against all my career — which is what I call 'a well-designed wall'. It means, that what one designs or does: will it attract the consumer?

And that is the principle of how money moves. We have a commodity; it is called capital. We invest that and we make money, and that's capital, and then this money we put into production of some sort, and that's capital, and then it goes back to commodity.

That is a simple circle of what we have in our society. So, to bring in the idea of environmental impact, cultural sensitivity, and social responsibility are extremely difficult things in this equation that we have in the West.

18.



My belief in the power of ideas includes writing a new economic model, which I gave in a speech at Columbia University, after which a Nobel laureate neuroscientist came up to me and said, *"Out of the mouth of an architect comes a new economic model, would you like to come to the opera this evening!"*

Later, he became a member of the governing council of the Sainsbury Wellcome Centre for Neural Circuits and Behaviour.

19.

Hans Carl von Carlowitz, forester

WILD TREE CULTIVATION
PUBLISHED 1713

sustainability (Nachhaltigkeit) in the modern Western world

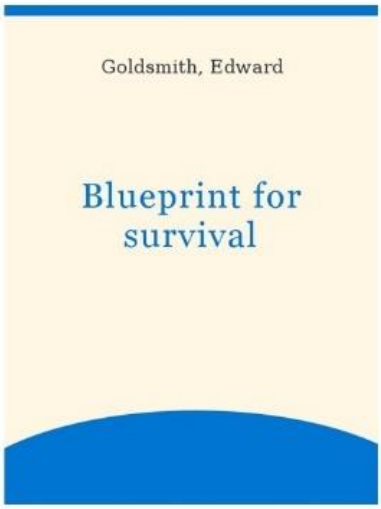

Mit GOtt!
SYLVICVLTVRA OECONOMICA,
Oder
Haußwirthliche Nachricht und Naturmäßige
Anweisung
Zur
Wilden Baum-Zucht,
Nebst
Gründlicher Darstellung/
Wie zu förderst durch Göttliches Bauedeyen dem allenthalben und insgemein einreissenden
Grossen Holtz-Mangel/
Vermittelst Säe-Pflantz- und Versetzung vielerhand Bäume zu prosperiren/
Alles zu mehrbesagter Versorgung des Hauß-/ Bau-/ Brau-/ Berg- und Schmeltz-Wesens/
Worbey zugleich eine gründliche Nachricht von den in Churfl. Sächs. Landen
Gefundenen Turff
Dessen Natürliche Beschaffenheit/ grossen Nutzen/ Gebrauch und nützlichen Verkohlung.
Von
Hannß Carl von Carlowitz/
LEIPZIG/
verlegts Johann Friedrich Braun 1713.

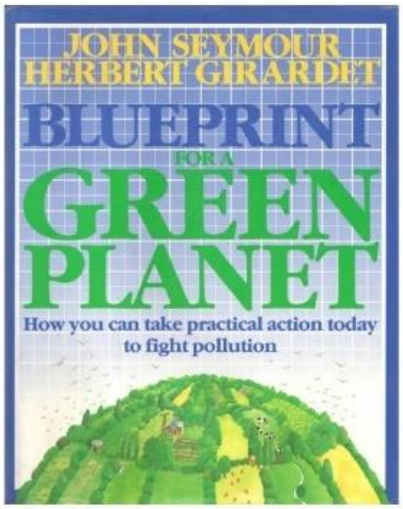
© wikipedia

This is where it all started — sustainability — in the West! Not just 20 or 50 years, but 300 years ago. A long time ago, and this was the first programme for management of woodland.

20.

We're not running out of energy, but out of atmosphere.



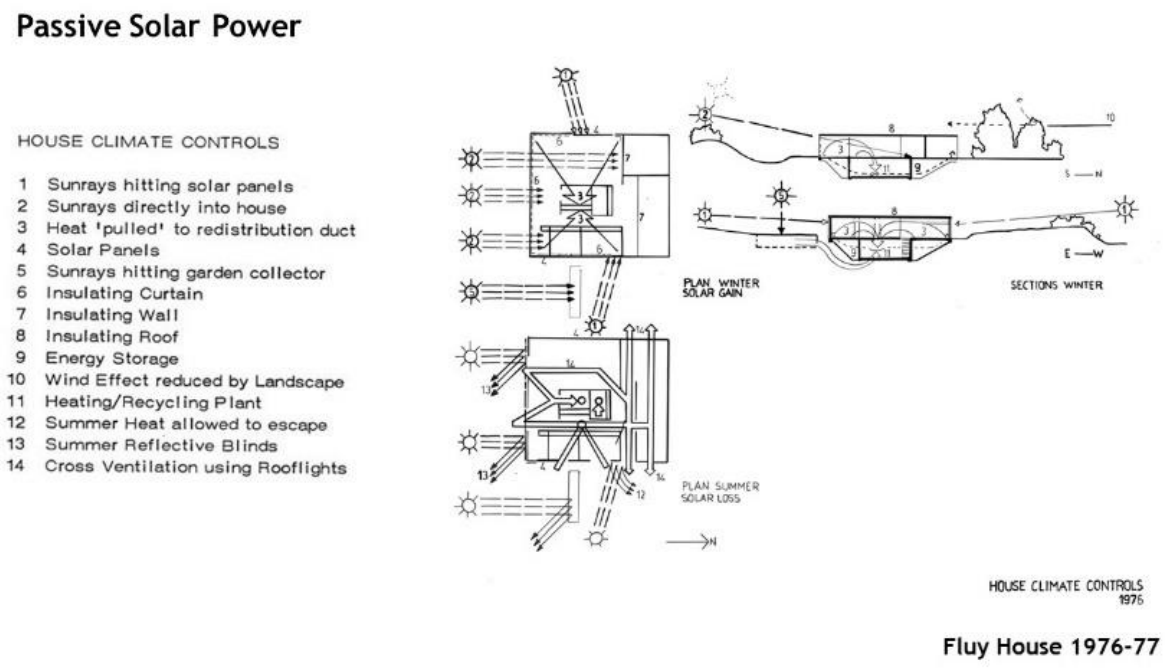


During my career, *Blueprint for Survival* came out, and 15 years later (1987) a model for a blueprint on how to behave on a green planet was published and I was asked to chair the launch of the book at the Ecology Centre in London. Why me?

21.

I had been to France, I tested myself as an architect and builder. I do not know how many of you know the French humourist, actor Jacques Tati — he was a genius, a genius with his physical body in terms of how to communicate. I built a house from a kit I had designed, and it is solar powered, passively.

22.



The energy bills averaged 7 euros a week over the first few years after it was built.

23.

It was 300 sq. metres and the total weight of the structure was 10kg/m2. So when someone says, ‘how much does your building weigh?’ I ignore them (I was concerned with the individual component weight that I could assemble).

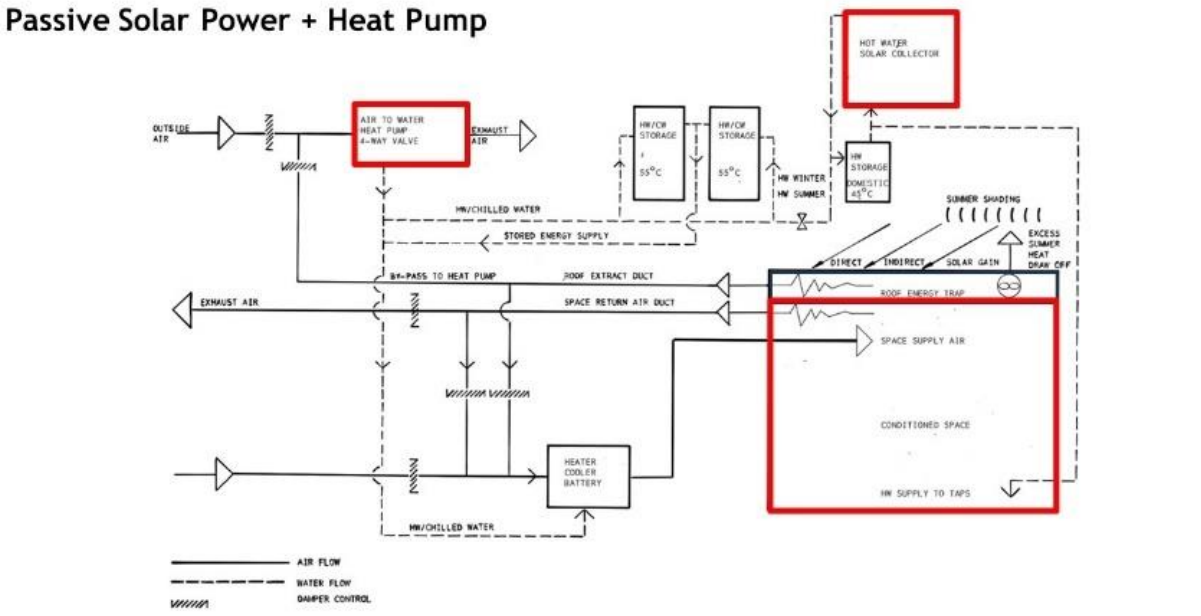
24.

It is also dealing with harmony using straight lines in landscape. And one of the things that is nice about a straight line in landscape is that you see the landscape. And one other thing - when designing a building in the landscape, never use white as a colour, use off-white, cream.

25.

Having tested myself once in France building the house with my girlfriend, I was now teaching at the AA (Architectural Association) so I thought I would try with students to build a house, in Sussex, for an elderly botanist. Peter Cook came down and could not believe that it was actually in England — it was more likely in California — and that we had obtained planning permission. But planning permission on both houses was given on the premise that you could not see them.

26.



Eagle Rock, England, 1981

The energy intelligence of this building was based upon solar energy and a heat pump, which are fashionable again today, forty years later.

This was a challenging building to do with students because of the health and safety risks, and I have to admit, although I had no accidents in France or here in Sussex, that health and safety were not at the top of my agenda when I was building them.

27.

Great architecture should connect technology to emotion, and space to the soul.

One of my objectives is an architecture which uses less material,
and that the materials used will perform better

not only technically and environmentally, but also aesthetically,
and requiring less or no maintenance.

I come to technology, one of the drivers of change. I have had a design focus, man and materials, because as we have discovered we are not homo sapiens— far from it. We are still homo faber. We make things. Everything in this room has been designed. That is what we do, make things. It is rare when we have wisdom. How we'll get to a shared wisdom on this planet, I have no idea.

28.

Science's progress is measured by finding better descriptions of the world and things in and beyond it.

MATERIAL AND PRODUCT RESEARCH + DEVELOPMENT
Boussois / PPG / Pilkington
Seele
Mero
EdF
British Steel
Brochier Aerospatiale
Lockerwire
Outokumpu
D3Wood

I work on the principle of the 'terror of error'. That is perhaps the engineering side of me — I do not want to make a mistake. An engineer would not design a bridge knowing that it might fall down.
How do get Earth and society together? That image from NASA of planet Earth.

One area I have specialised in is research into materials. We could have researched into 'pure space', or pure geometry, many other subjects, anthropology. One of the many benefits I have had over my career is working with people who are not architects. My wife is an anthropologist. We've worked with poets, musicians, doctors, scientists, artists for a long time. The reason we do that is because we are then out of our territory, and therefore we get asked questions we would not be able to pose ourselves.

29.

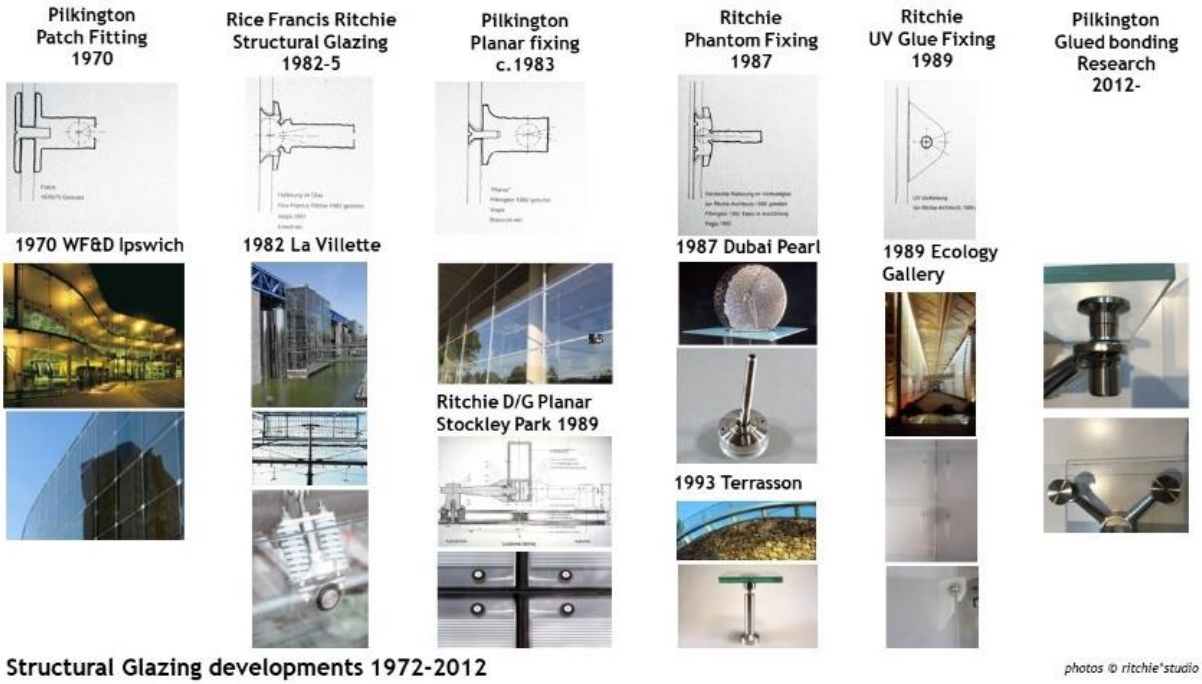
'hot spot free' uplighter 2018
cast aluminium folding screens 2015
structural cast glazing 2014
woven fibre optics + ss 1999
woven phosphor bronze cloth 1997
outdoor active acoustics 1997
stone – gabion 1993
VR fire escape simulation 1992
stainless steel mesh 1986
spherical geometries 1986
3D light forms 1985
structural glazing 1985

Virtual Reality 1992
Structural Glazing 1983 -
Fabric + metal weaving 1986 -
Geometry 1987 -
Light 1984 -

'World Firsts' - innovation

In terms of inventions, H G Mertz mentioned earlier that we have quite a few ‘World Firsts’. For example, every time you see a dot fixing on piece of glass, it came from 1984 when we had a world patent on the structural glazing concept which we invented, as RFR in Paris.

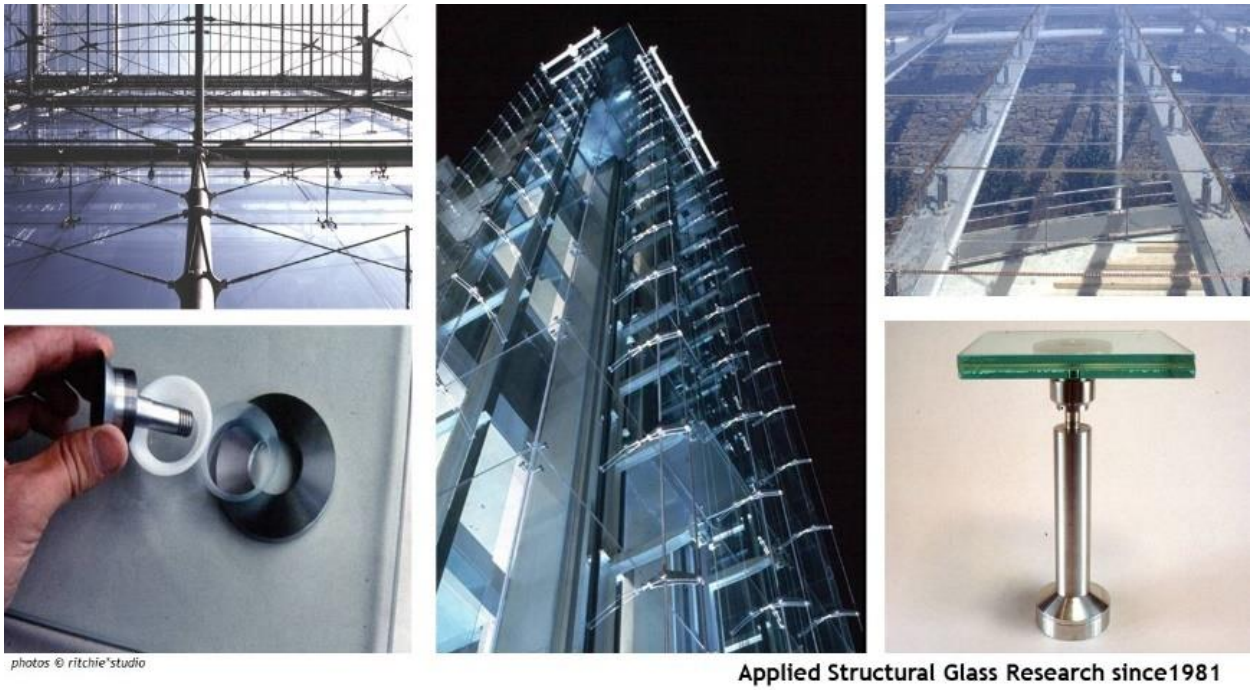
30.



And I carried on the glass evolution. Currently we’re at glue. Why glue? Because you do not have to expend energy drilling holes in glass or turn a glass sheet over to clean up the messy edge on the other side.

These techniques we develop are for the benefit of architecture that we produce as an end result.

31.

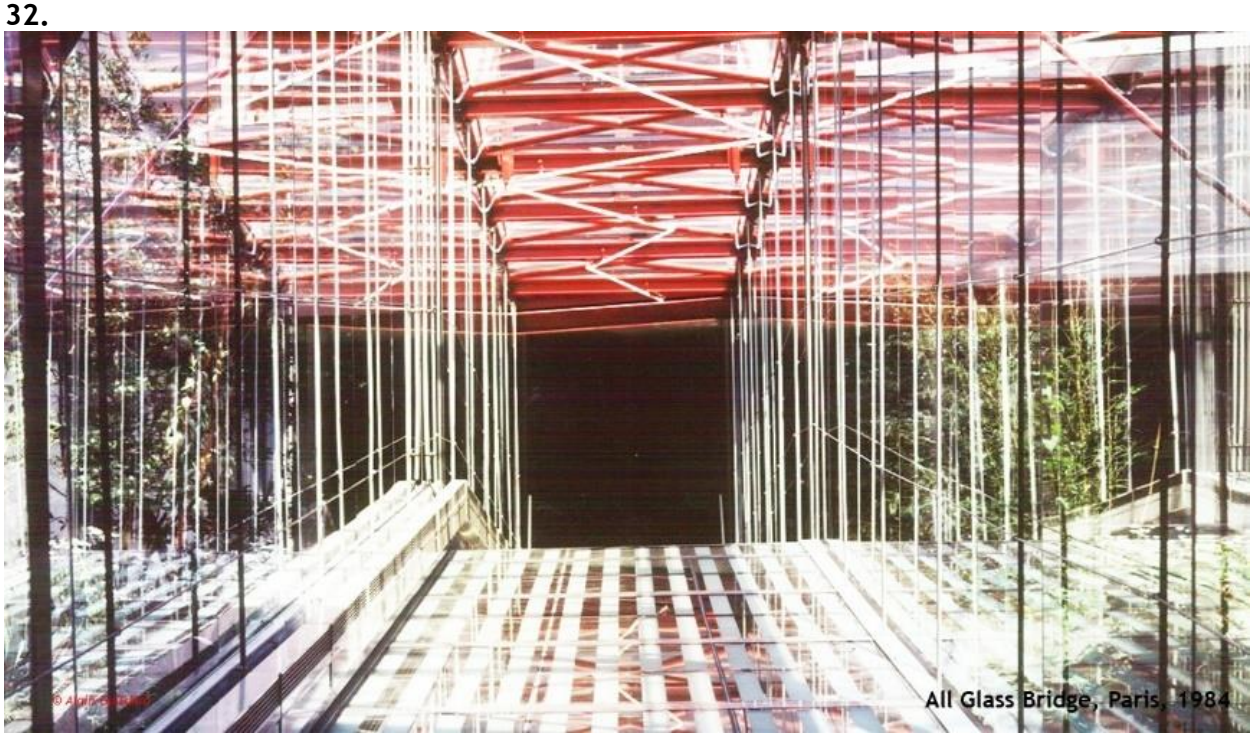


One of the fundamental reasons for the research with industry is to make things work better, more economically and use less material.

So, glass became the answer (for architects) but what was the question? I do not know if you remember Cedric Price's aphorism in the 60s: 'Technology is the answer, but what was the question?'

Architects stopped thinking. Everything was glass, glass, glass.

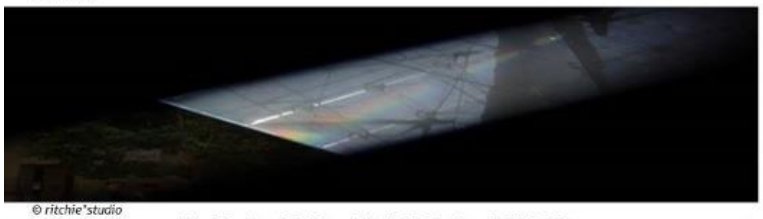
32.



Creating fashions: we did a bridge, not because we wanted to do a bridge, but because the client insisted on a bridge instead of moving his conference room nearer to the reception and the lift. No, he wanted a bridge, and as we were designing a lot with glass at the time, we designed an all-glass bridge. And that became another fashion; everyone (architects) started designing glass ramps and glass staircases all because of this one 'toy' we did in Paris.

33.

© wikipedia



© ritchie*studio

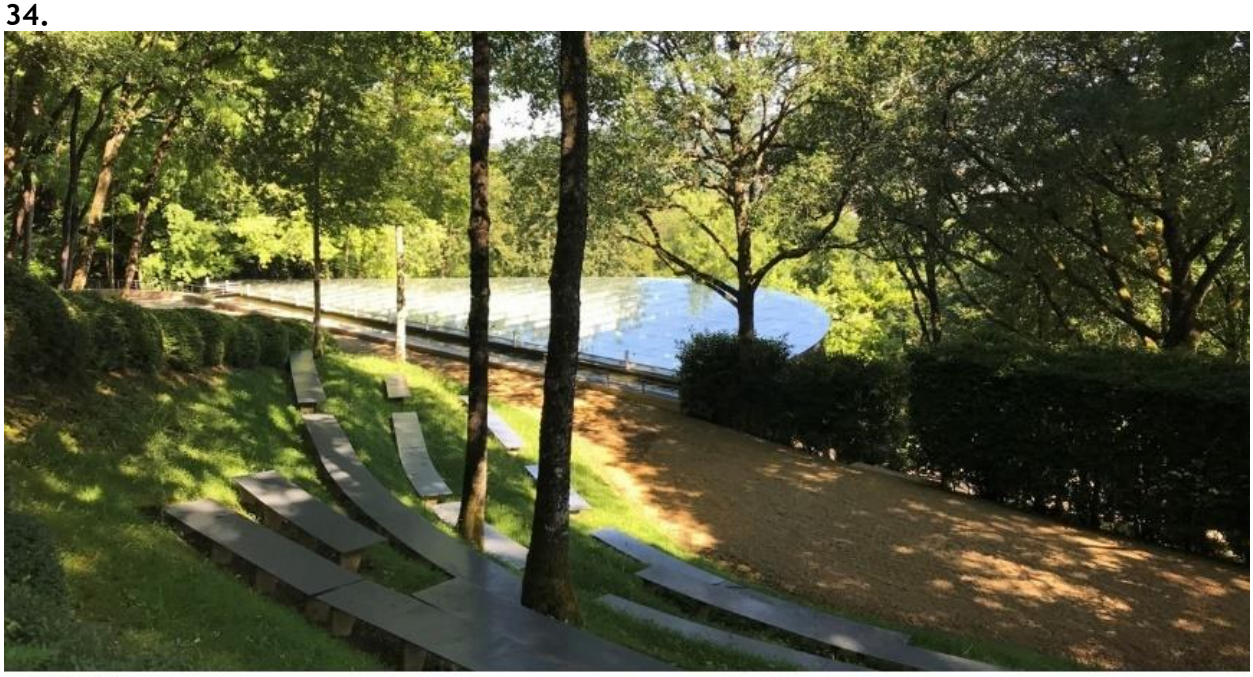
Louvre Pyramids Paris (RFR with I M Pei), 1984-93

© René de Wit

Applied Structural Glass Research since1981

What is its magic? Glass is transparent stone. And one can never predict its true behaviour. We still do not really know if it is a solid or a liquid in a solid state. It can be opaque when seen tangentially, or transparent when one looks perpendicularly. And of course, one can wrap it, bend it, shape it, colour it, etc.

34.



© ritchie*studio

Cultural Greenhouse, (ritchie*studio with K Gustafson) 1993

Applied Structural Glass Research since1981

These images are some of our applications from our research. In Terrasson (France) we could create a virtual ‘lake’.

35.

photos © rfr - Alain Guisdard

Research with Reel, Lyon, France, RFR 1982-4 Applied Robotics La Villette Paris, RFR 1985

In robotics we developed ways to play with sunrays at La Villette.

36.

© ritchie+studio © Leipziger Messe

Research Fraunhofer Inst. Magdeburg, 1993-5 Leipzig Messe Glass Hall, with gmp, 1993-95

Thinking about maintenance for the glass hall in Leipzig with 30,000 m2 of glass to clean. Well, we could rely on god and the weather. We had an idea, and the Leipzig client asked, “How much do you need Ian?” Sixty thousand Deutschmarks at the time.

Up the road in Magdeburg at the Fraunhofer Institute a couple of researchers were into robotics. I posed the question, “Can you make a couple of ‘biscuits’ to clean the outside of this building?” This institute is now the centre of European robotics. And, still on the front page of their web site, is an image of this little ‘biscuit’.
The irony is that the Leipziger Messe cannot really afford to use the biscuit robots, because they require deionised water — very clean water —and the last time I heard it was costing something

like 8 euros /m2 to use them to clean the outside of the building, so they're relying on god and rainwater. And the glass quality is so good it appears to stay clean, and the inside of the glass has never cleaned to my knowledge. It probably does not need to be.

37.

Gabion Research, France & UK 1993

Gabion, another product we first used for structural purposes in a building which then became fashionable and which more marketing-centred firms have used 'as wallpaper'. This project, the Terrasson Cultural Greenhouse, was a few years before other architects started to use it, and the testing undertaken in Bologna and then with France Gabion enabled us to design and to erect vertical cantilever walls of gabion rock-filled cages.

38.

Applied gabion Cultural Greenhouse, (ritchie*studio with K Gustafson) 1993

Yet this is a 6,000 year-old engineering technique, used in tributaries of the Nile and other great rivers using mud and stones in woven reed baskets.

All we did was to bring it to architecture. Here at the Terrasson Cultural Greenhouse it's quilted, horizontally, appearing like pillows.

39.

© ritchie*studio

Applied gabion London International Regatta Centre, 1994-98

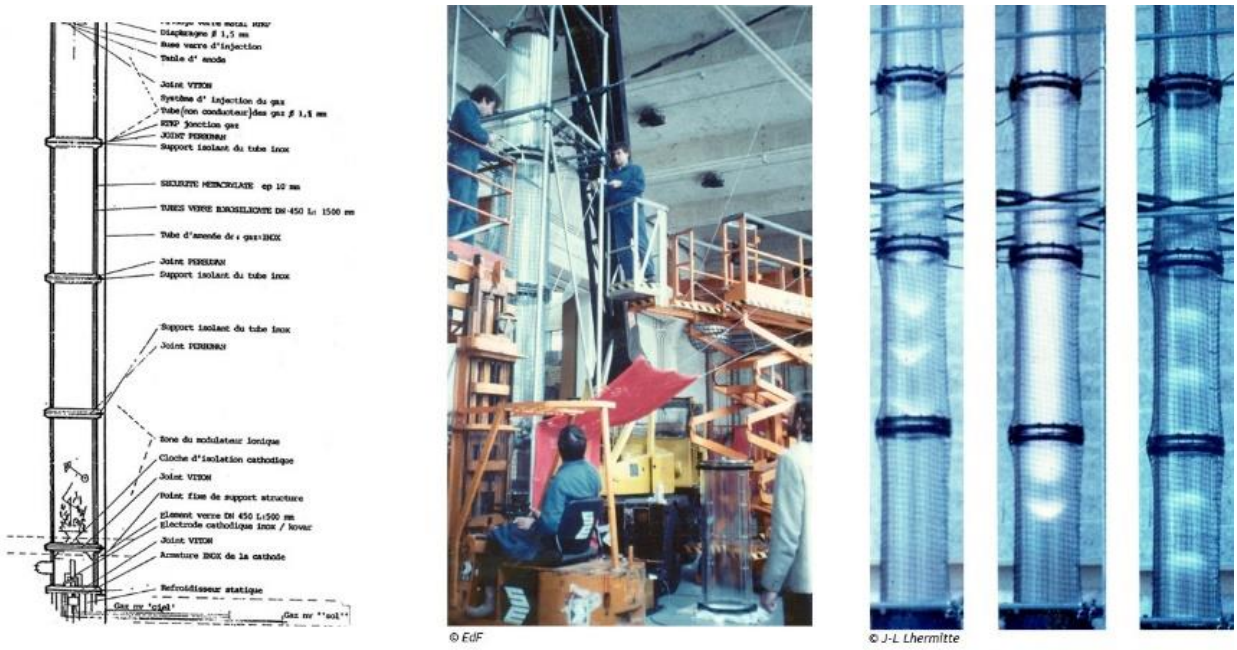
We then decided to try to form vertical pillows, again through testing to prove the principle.

We looked into light. Lasers are now at the foundation of society, but in 1940 they did not exist. Masers, yes.

Lasers are basically a point of light end-on travelling into infinity, notionally in a straight line until it meets something.

I had an idea of looking into 3D light. What would it do and how could one control it and its benefit?

40.



HV Discharge - 3D Light Forms with J-L Lhermitte, EdF, Paris, 1984

The EdF and the French government funded our research. You can see bird forms — which could be moved up and down in a vacuum tube — and we made some rings. Someone asked me towards the end of the research, what is the application? I answered that it may help grow tomatoes on the dark side of the moon — referring to the Pink Floyd album (1973).

41.

EDF Pylons, 1994 UK National Grid, 2010

It did give us a research base and the chance of working with the EdF, eventually designing pylons for them because today people object to the aesthetic of pylons. In 1930 everyone loved pylons coming (or at least did not object) because they got an electric light bulb in their house, electric light. But once they got used to having it they no longer liked the pylons! A bit like the Eiffel Tower, hated at the beginning, but now the first structure protected in France.

That is a national aesthetic shift that happens that is driven by time, and society.

42.

New Structural Fabric Trifluoroethylene with PTL, Lyon, 1982-86

We then explored structural fabrics. This is taking one 'F' away from your saucepan's coating — poly*tetra*fluorethylene (PTFE) — to create *tri*fluoroethylene (TrFE). TrFE is a film that can be cold-bonded to a woven glass fibre mat and it is structural, just as is PTFE coated fibreglass. It is more economic, as stable, and all the glass fibres are covered, which, at the time, PTFE-coated glass fibres were not.

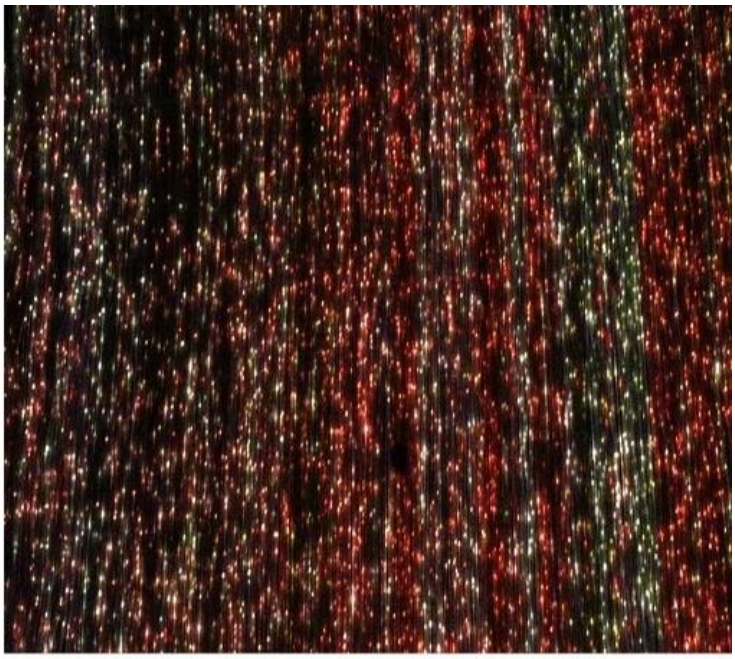
43.

The only reason we could do it was because there was an unused machine in Lyon that the French had fabricated for the joint French-Russian research programme (which was cancelled) to place balloons in the atmosphere of Venus. We applied it.

44.

photos and film © ritchie*studio

Phosphor Bronze wire cloth, 1997



Light Transmitting Fibre Optic + Stainless Steel woven cloth, 1999

film

We have also woven metal. If you take a normal copper cladding sheet it is usually 3mm thick. We thought that we would use 1/10th or 1/100th of the amount of copper if we could weave it with wire.

And to weave it such that we could, more or less, stop material (driving rain) coming through it, and we applied it.

45.

photos © ritchie*studio + L'Arca

Fibre Optic + Stainless Steel woven cloth Alba di Milano Light Monument 2000-02

We also looked at weaving fibre optics with stainless steel wire to make a stable light-transmitting cloth. We used the material in a competition-winning design in Milan for a Light Monument at the dawn of the Millennium.

However, two years after it was up, the Italian Ministry of Culture had it taken away — I believe, as the artist, illegally. I was quite proud as I had now joined a few other artists who have had their public work removed or demolished.

46.

photos © ritchie*studio

Applied woven bronze Plymouth Theatre Royal Production Centre TR2, 1998

The woven bronze was used in Plymouth at TR2. It receives wind driven salty rainwater from the sea, and strong winds. It is a traditional and simple manufacturing technique and cheaper than a brick wall to build.

47.

© John McLean

Plymouth Theatre Royal Production Centre TR2, 1997

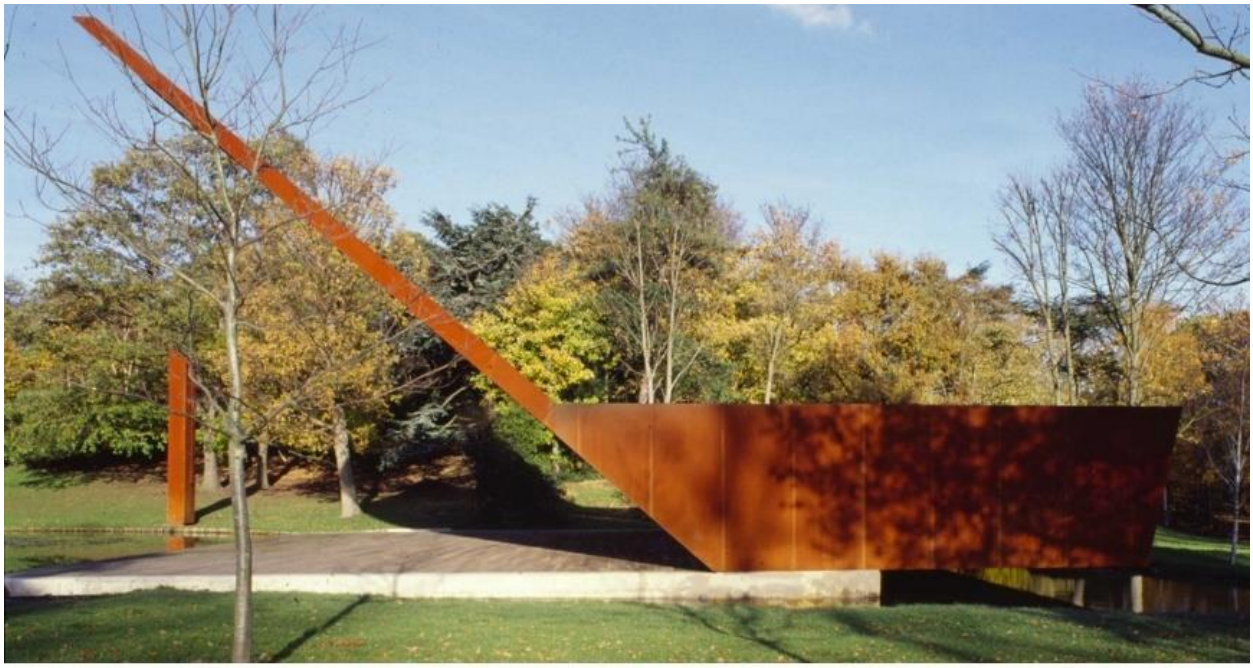
It is soft, and there is a public walkway, so that the public can touch it, and the building gives, yet it is metal, and of course it patinates with the salt from the sea.

48.

In fact, I asked the client not to clean the bronze — and it is the only time I have ever asked a client not to change something. This is because the seabirds' guano streaks across it like a Jackson Pollock painting, and it is very beautiful.

So it is the acceptance of change in the material, understanding the material, that can give a lot of joy.

49.



Crystal Palace Concert Platform, London, 1996

This building is in Corten, but it is not the Corten that is important other than it was graffiti-proof. If someone sprays graffiti onto this building it can be ground off, and the Corten will oxidise again. It just required an extra one millimetre thickness of Corten.

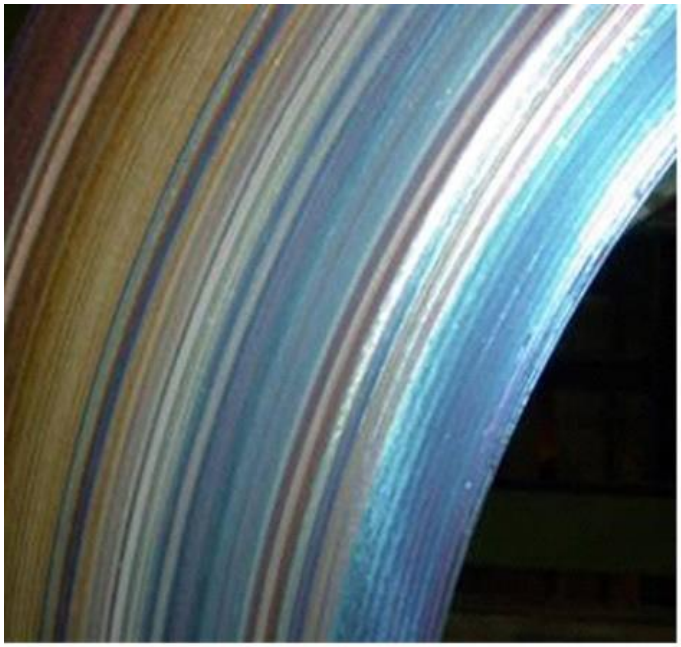
50.

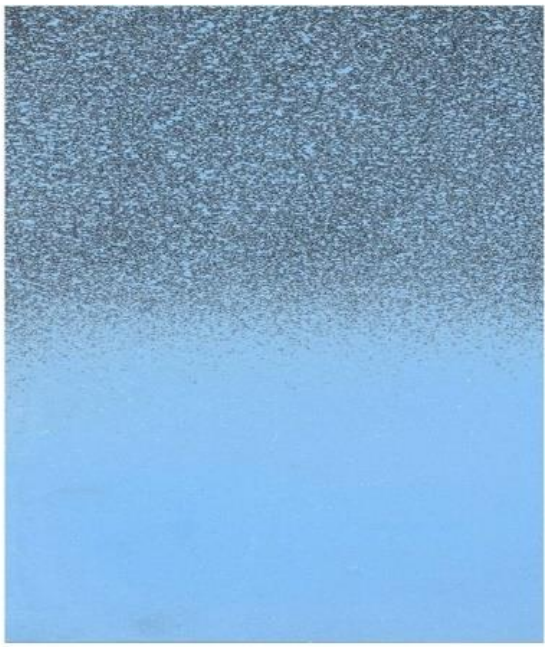
© ritchie*studio

© CPPT Crystal Palace Concert Platform, London, 1996

But what one does not expect is the skateboarder on the roof — but a somewhat nice surprise.

51.





photos © ritchie*studio Copper 'blue' Pre-patination R&D with Outokompu, Finland, 1997-99

And colouring materials is reflected in the work we did with Outokumpu in Finland, although they have now given up on copper and focused on stainless steel. At the time, in the late 1990s, we explored building new colours out of natural processes. And after about six years they produced a blue — which they wanted to call 'Ritchie Blue', but unfortunately it was not the right wavelength and it is known as Nordic blue. My 'blue' is 480 nanometres, precisely.

It is the wavelength that wakes you wake up in the morning by starting your biorhythms.

52.

© ritchie*studio [photo: Adam Scott]

Royal Academy of Music, London, 2018

Twenty years later we used a Nordic Blue copper on a building, but we did not use rainwater pipes from the roof, and we let rain run down the walls to a lower gutter and enjoyed the inconsistences in the copper surface. You may ask why we did not use the woven copper —the bronze cloth — here.

53.

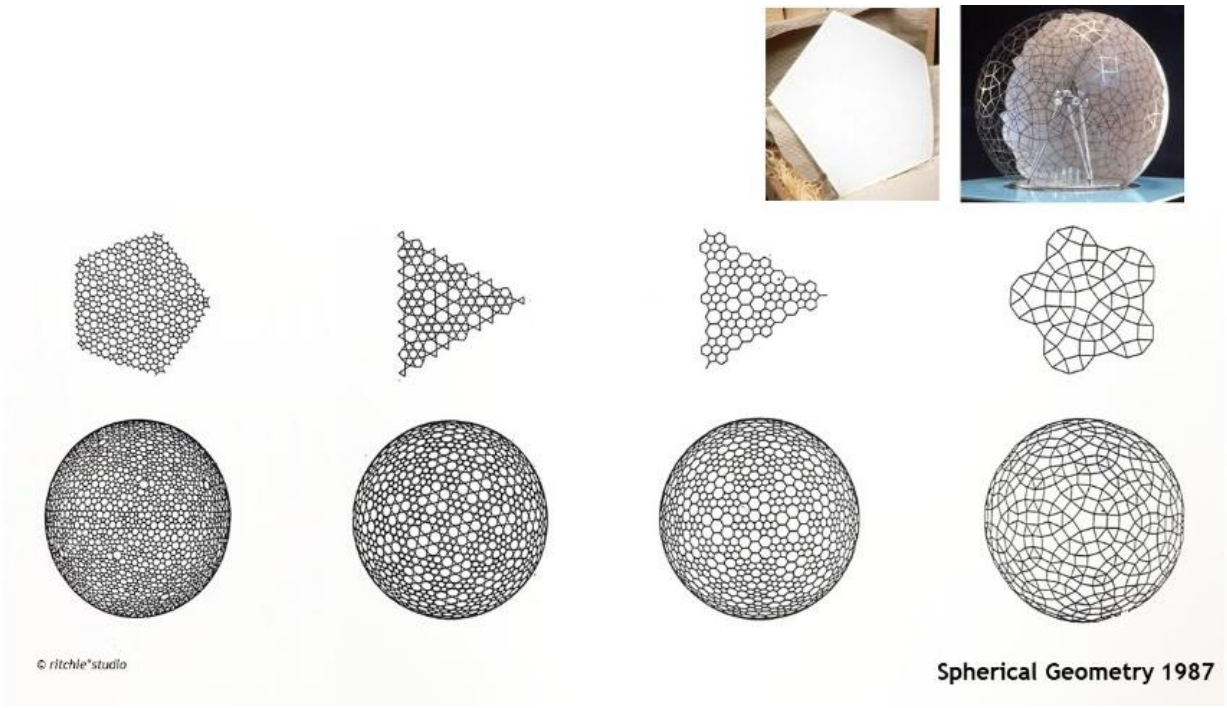
photos & film © ritchie*studio

Royal Academy of Music, London, 2018

film

Well, we were enclosing sensitive acoustic environments of recital halls and musical performance inside the buildings.

54.



Looking at parametric design in 1987: that has been around since about 1980, as has AI, and I was introduced to a young mathematician, Keith Laws, at Imperial College, London, in order to develop new geometries to break up the surface of a sphere. I had worked at Arup, but they could not do it for me at the time, as they did not have the software, but on Keith's laptop he did. He produced these. We then tested it to see if we could make a sheet of glass, a 3D pentagon formed only using heat and gravity without machines, and yes, it was possible, and within acceptable tolerances.

[note: 1988 was also the year Parametric Technology Corporation (founded by mathematician Samuel Geisberg in 1985) released the first commercially successful parametric modelling software, Pro/ENGINEER (Weisberg 2008, 16.5). Pro/Engineer was the industry's first rule-based constraint (sometimes called "parametric"). Perhaps the real provenance of parametrics was a few decades earlier, in the 1940s' writings of architect Luigi Moretti (Bucci and Mulazzani 2000, 21)].

55.

Here are some ellipses, playing with Platonic solids, in our office where we were not trying to be 'clever' and warp everything, but you can warp it anyway.

56.

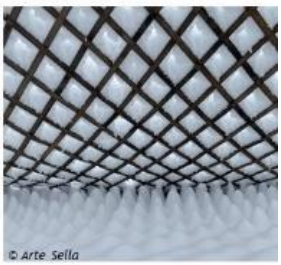
© ritchie*studio

Levitas, Arte Sella, Borgo Valsugana, Italy, 2019

And this, looking very simply at a cone, the geometries that you can then combine. We did an exercise recently in Italy, at an environmental sculpture park where we were invited to do a sculpture — and where the park's artworks embrace entropy! You could place some coloured petals or leaves on the ground and within a five minutes the wind may take the work away, which is fine by the organisers. They wanted the entropic qualities to happen in the work.

57.

© Arte Sella



© Arte Sella

© ritchie*studio

Levitas, Arte Sella, Borgo Valsugana, Italy, 2019

I took two squares of timber battens which made about 400 'windows' in each square, and then lifted them from adjacent corners up into the air. They distort, not as a pure hyperbolic parabola because each piece of timber batten is not circular in section, like a wire or bar. The timber sections are rectangular, and depending upon the rectangle's profile, they will warp differently. We undertook a design synthesis between physical testing at 1/3rd scale in a workshop in Italy and running it on a computer at the Politecnico di Milano. The latter could not pick up the subtle

frictional differences of the timber battens rubbing against each other. I think it was quite difficult to programme that into the software.

And there were differences, and this is nature's dance through the seasons. You can see in the bottom right-hand corner the 'snowcastles' (not sandcastles) which demonstrate that each square is in fact a 'window' to nature. When you are inside this non-space you can look out through each window and see a different perspective of the Dolomites — the southern Alps.

58.

Scotland's Home of Tomorrow, Glasgow, 2000

We designed social housing in Scotland, having won a competition, yet we have not been invited to do any since. I do not know why.

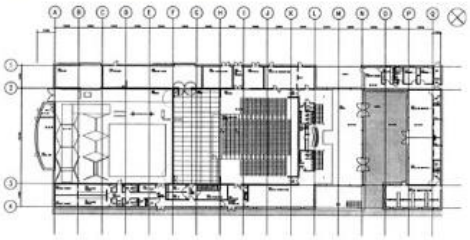
There are 12 flats in total, 6 on each side. In one side of the building, inside 6 flats, there is an area, a space, that does not exist on the other side's 6 flats. We understood that in family social housing there is very rarely enough space, or any space into which to escape the living room where the children usually have the PlayStation or another machine controlling the television. So, the young child who wants to do his homework, or the mother or father who wants to play cards with a friend or neighbour, has no place to go,.

This space we created — Andromeda, or the 'Black Hole' — is only 1m wide and 3m long (with a door at each end) and I argued for it on the grounds of avoiding increasing divorce rates in Scotland!

An additional element we introduced is the 'Outdoor Room'. No balconies on the front of the building because people do not like to be seen sitting there by passers-by and this is the reason they get filled with 'dead' things like bicycles, machines, and rugs. The balcony is public facing. I can understand it in Italy because they love to chat, have sunshine, but they are culturally different to Scots!

The balcony is thus placed to the side and we made it big and generous, more private, and safe for children to learn to cycle, grow plants and to the north for washing to dry. Simple, yet how often do we see this in social housing, or in housing?

59.



photos @ ritchie*studio

Architects and Construction Managers **Albert Cultural Centre, France, 1992**

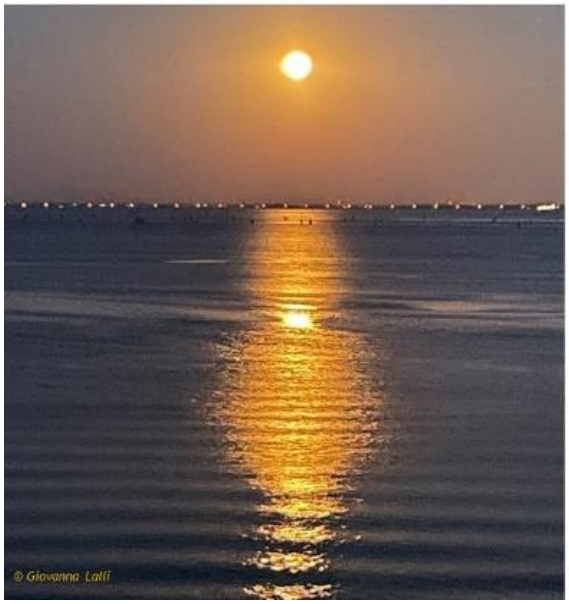
A real test of construction: having won a design competition for a cultural centre with 600-seat theatre, an Olympic gymnasium, art gallery and small conference centre, we were asked if we would build it!!

This request came from the French government because of our (RFR) work in Paris. Would we demonstrate how to build well to French industry? We did, and it was completed in ten months for 3 million pounds.

I now come to the theme of my architecture. (films + sound)

60.

'I am convinced that beauty is nature's non-linear dance with light.'



film

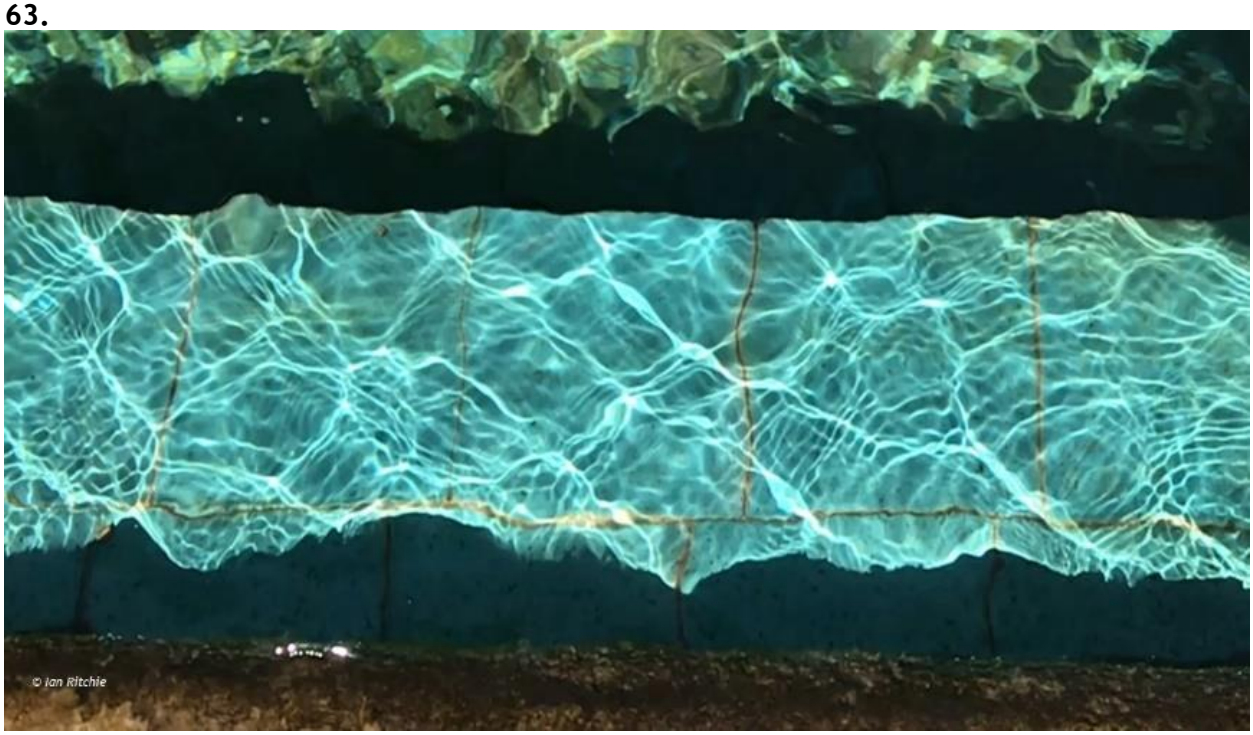
61.

film

62.

My pursuit of beauty: depth, listening to snow falling on snow; and it is very beautiful, and this is sound too, but not sound — listening to time.

63.



film

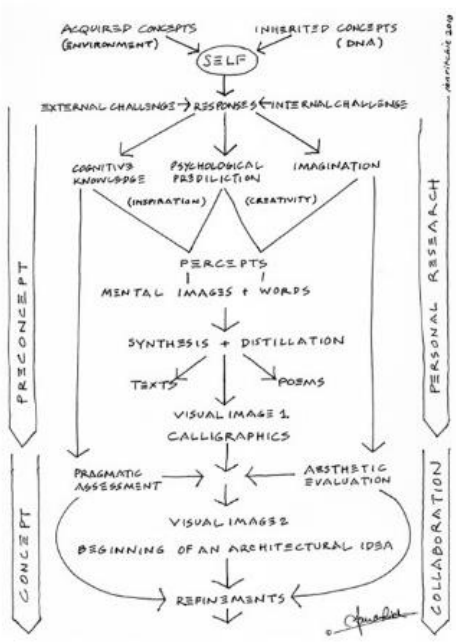
Time to dwell with water and light — which is what people do in architecture: dwell. People spend a lot of time in architecture, in buildings.

64.

film

Then there is the magic — scintillating light, and again 3D depth and quality one can experience.

65.



Percepts and concepts

human senses (32)

Who are we in this big contest between nature and humanity? Well, obviously the contest has to stop. At last, most people, particularly the younger generation, have understood that.

Who are we? We stand upright. That makes us human. We also inherit through our DNA classic traits, such as the ability to see red, green, blue. There are lots of things we inherit though our DNA — emotions, emotional expressions, the senses and there are a lot of them.

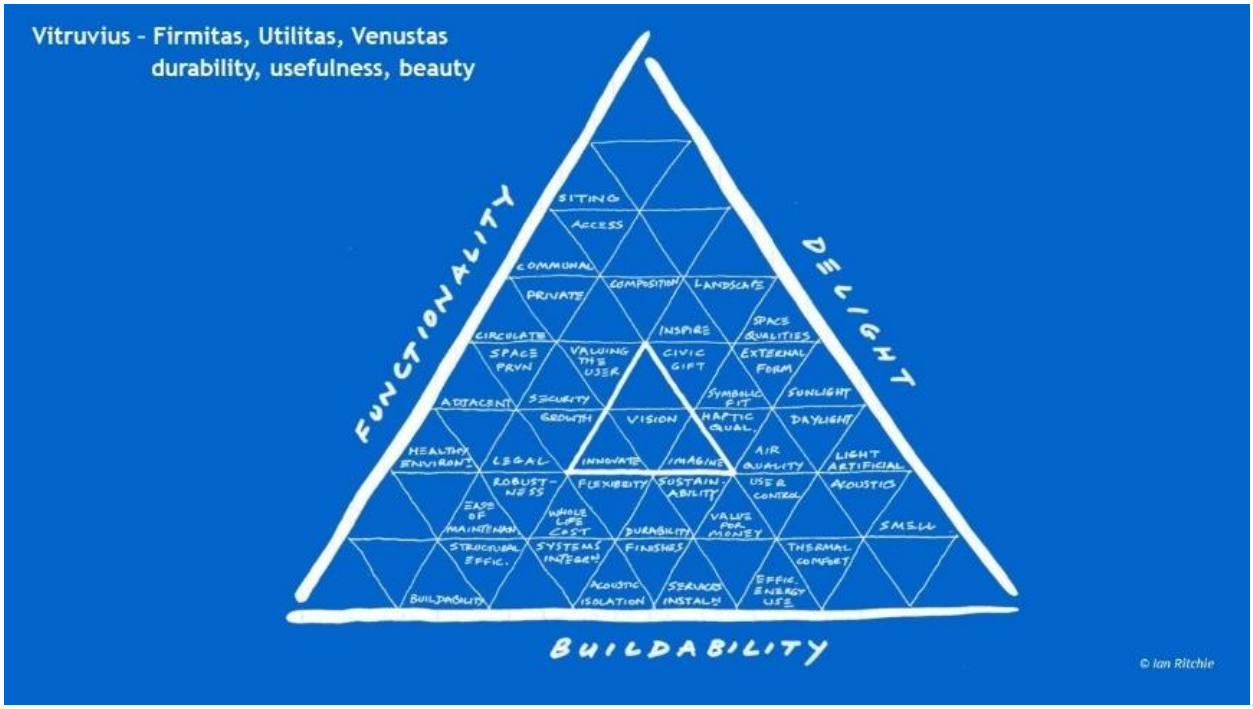
These are the inherited concepts, and the ones that we receive from the environment are the acquired concepts, shown on the left — your friends, the work you do, where and the way you

live, and it all builds up, such that when, as a designer, you are confronted with a nice challenge from a client to “design for me a hippopotamus going up a mountain upside down” that is a bit of challenge. But you have these preconcepts, initially precepts, and the stuff that is already there, and you start juggling.

This is why I do not draw first. I use language because the client understands language — words, everyone understands language — and therefore it is an easier way to discover and have a discussion.

If I just draw, I am communicating something which he or she may not understand, and usually far too early. And the other phenomenon is that when you draw something it goes into your brain and you cannot get rid of it. Words you can juggle, a bit like an archaeologist moving earth with his brush; you can move the words around, and eventually you can find the poetry. At which point I will do a calligraphic sketch.

66.

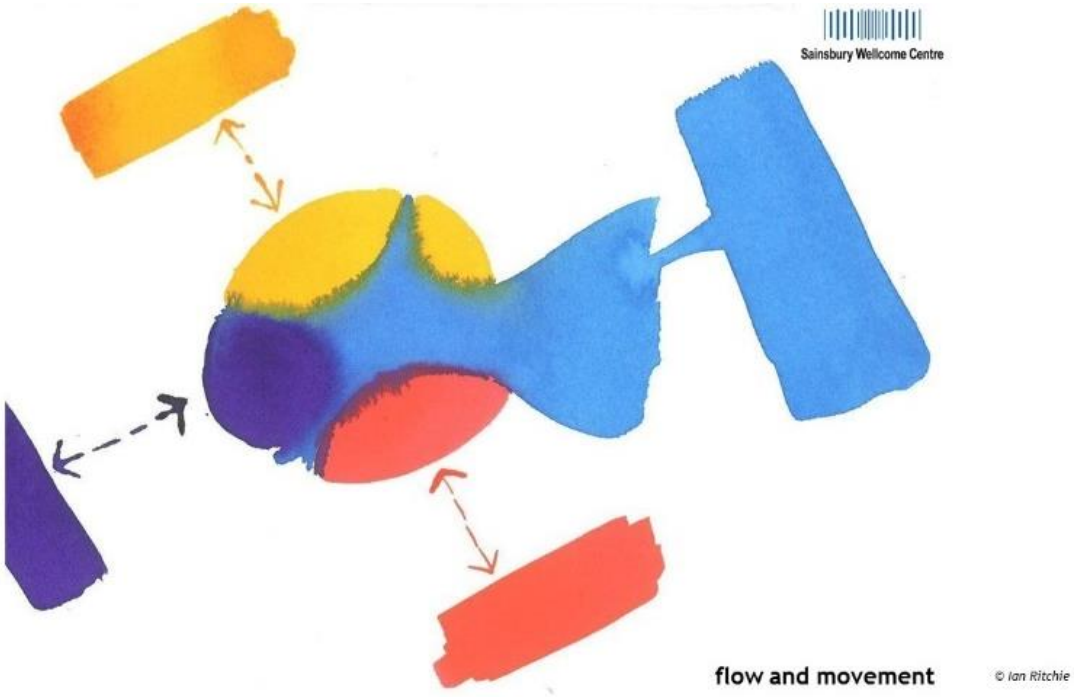


To give you an example, one of our clients wanted a new generation of neuroscience laboratories to last a minimum of 60 years.

Vitruvius – Functionality, Buildability and Delight.

We analyse all the functionalities. These are scientists and they want it to function well. It is a classical starting point. It is not art, but art comes along quite quickly.

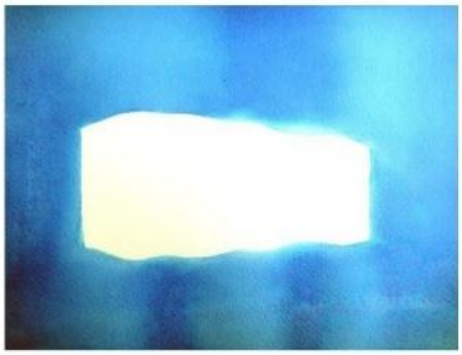
67.



We get to an understanding that they wish to share space between theoreticians and experimentalists, and that meant breaking rules of the Home Office and reconciling health and safety issues — pathogens and antigens, etc. — and some of the scientists wanted their living biological material in the lab with them, and not returned to the biocentre at the end of the day. And yet the people that look after the material — mice, rats, and fish — say, "No, no, scientists do not know how to look after them."

The challenge is air, the quality of the air, not the physicality of the flowing space but how you control air such that there is no migration of organisms that should not be migrating.

68.



IR inking concept

The metaphorical concept, which is how most of us have ideas, often presented visually as metaphors: mine came from having come back from the Arctic, with scientists looking for microplastics aboard a Russian research vessel, and where I saw no sea ice. A few years later they did find microplastics. The reason I am off down a side avenue is to explain that there are five gyres in the oceans — in the north and south Atlantic, north and south Pacific and one in the Indian Ocean. The Arctic, a frozen sea most of the time, has its own 'gyration' and does not mix

much with the other waters. In 2018 they found microplastics there too. There is a fog of microplastics throughout the oceans, sadly.

69.

© ritchie*studio [photo Grant Smith] Sainsbury Wellcome Centre for Neural Circuits + Behaviour at UCL, 2010-14

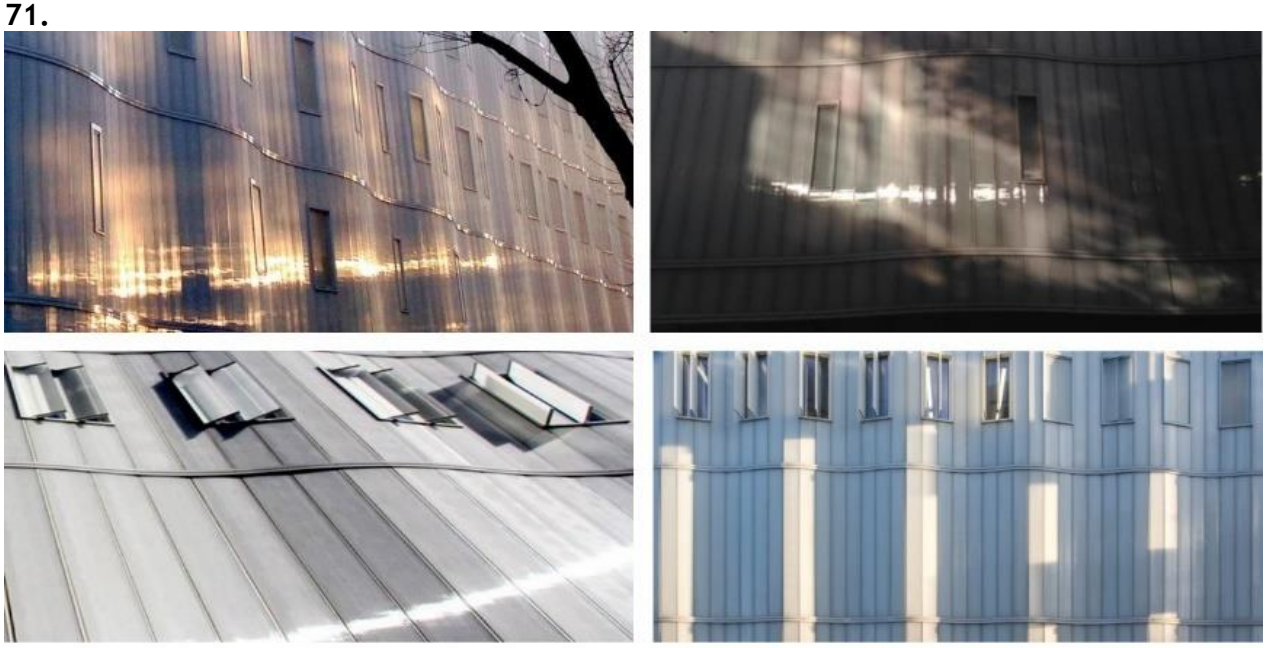
Translating the metaphor and the practicalities into a building, architecture, in a Georgian listed part of London while achieving flow and verticality was not obvious but we 'rolled' the building's façade, introducing vertical curves using only straight materials — no warping, no expensive techniques. A vertical rhythm was produced.

70.

The curves are made with vertical lines, and from an entirely new glass assembly technique we developed and patented. But the aim of this façade was not just to fit in with the verticality and scale of Georgian London. A lot of London's north-facing walls, and this is a north-facing façade, are rendered white to reflect the light from the sky — not sunlight — into the square or street.

And again, this façade has no downpipes. It is a microprofile such that every single millimetre is a downpipe, and because there are microvalleys the rainwater goes into the valleys and the crests remain shiny and the façade looks very clean — and no maintenance cleaning cradles are necessary.

71.



photos © ritchie*studio

Sainsbury Wellcome Centre for Neural Circuits + Behaviour at UCL, 2010-14

Light has a wonderful way of playing on this façade. Here, this is the invention of structural cast glass which we developed with Lamberts in Germany and then assembled into light-transmitting insulating panels. It was delivered at half the cost of standard transparent double glazing of a typical office façade.

72.

film

The north façade was dealing with light, and on the opposite (south) façade we chose to play with wind for fun.

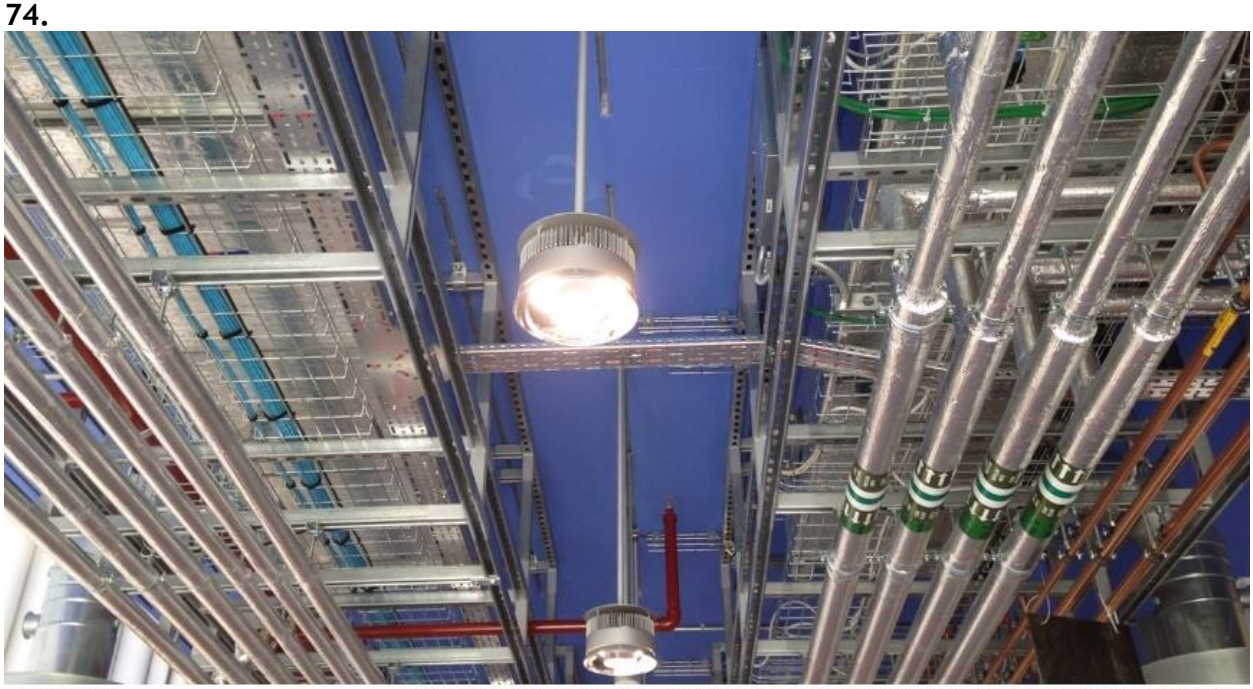
73.

photos © ritchie*studio

Sainsbury Wellcome Centre for Neural Circuits + Behaviour at UCL, 2010-14

The crucial aspect inside is providing adaptable spaces. This is a 60-year life building, maybe it might be around for 400 years, and the aim that we put to the scientists was: would you be prepared to change your laboratory yourselves and not ring up the university management to ask them to move your electrical socket?! They all said yes.

74.



© ritchie*studio

Sainsbury Wellcome Centre for Neural Circuits + Behaviour at UCL, 2010-14

The neuroscientists are familiar with physics, electronics, maths, biology; in fact they're all very bright people. This enabled us to design a 'plug and play' services infrastructure of twenty-plus services on a 3m grid, allowing the scientists to access services wherever they wanted them. Wherever they wanted a wall, or a new spatial configuration they could drop the services into it.

75.

© ritchie*studio [photos Grant Smith / ritchie*studio]

Sainsbury Wellcome Centre for Neural Circuits + Behaviour at UCL, 2010-14

The social spaces are adaptable to allow exhibitions, parties, dancing and even to workshops to make and demonstrate robots (as part of initial PhD student training).

76.

film

And then they turned the building into a metaphor for the brain — well sort of!

77.

4 min **film**

78.

One of the outcomes of the building is that there are spaces which are very horizontal, with long views within the building and which go on and out down streets, and vertical spaces. In a way, both are related to the environment within which our brains formed over millennia — from the plains of Africa to looking at the dome of the sky and the horizon line. And some of the neuroscientists might want to work under rather than at their desks, or in a hammock. Thus, it was important that we also designed intimate spaces within which they would feel comfortable. The interior has a scale-free sense.

The inside of the cast glass cladding is free for the scientists to draw upon wherever they wished to. The whole interior of the building can be used as a whiteboard. We are not precious about the interior, and if they wish to place a potted plant on the furniture they can, and to write anywhere except on painted surfaces, and they do!

79.

4 min **film**

A film of researchers experiencing and using the building.
The desired outcome for the users, and the architecture were both achieved.

80.

© ritchie studio [photo: Joe Smith]

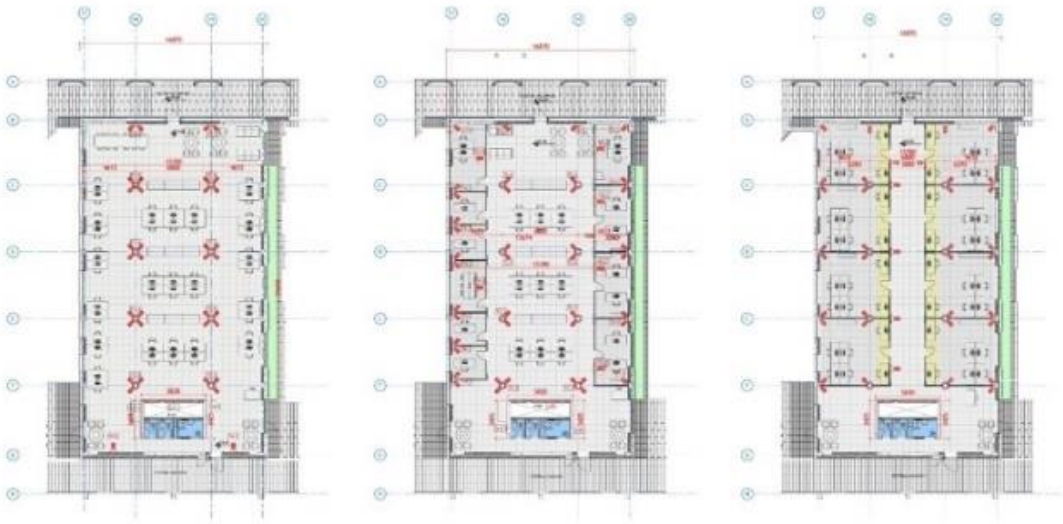
Farsons + Trident Park Redevelopment, Malta, 2022

We recently completed a project in Malta. The client was a brewer. What Carlsberg is to Denmark or Guiness is to Ireland, Farsons is to Malta. They decided to become a developer because they had rebuilt their new brewhouse and other facilities but they still had their old brewhouse and did not quite know what to do with it. We were interviewed and they wanted to take down half of the brewhouse, and we questioned this. Why not keep it all? The original building is very beautiful. It has slip-formed concrete structural walls — one of the earliest examples of this technique in the world; rolled rebars — Isteg reinforcement was fairly unique then — and it is a significant industrial heritage building from the late 1940s for the island.

The client asked what we would do with these big cast steel concrete cased vats across an entire floor. Well, let's think about them, but please do not imagine that we are going to demolish. We did not, and they did not.

81.

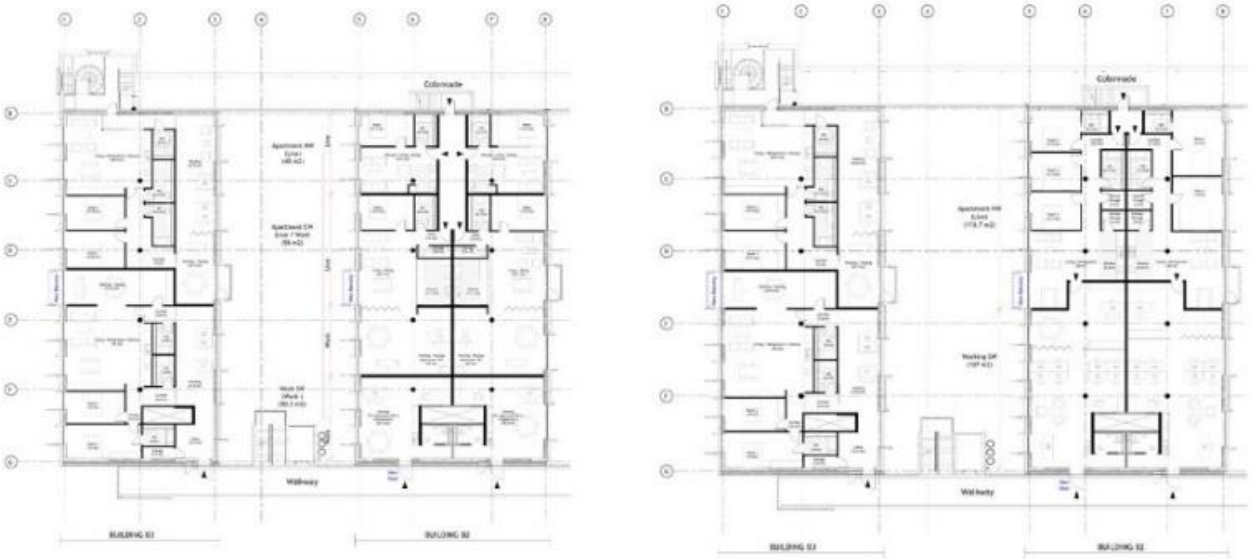
Offices - Trident Park Redevelopment, Malta, 2022



And we approached the design of new buildings behind the 200m long facade which was kept. The new buildings have the classic formulas for how to change the space for offices, but, because the market was uncertain and Malta was seen as corrupt with money, (and a journalist had been shot dead), the client might consider residential use as well, or residential and work/offices.

82.

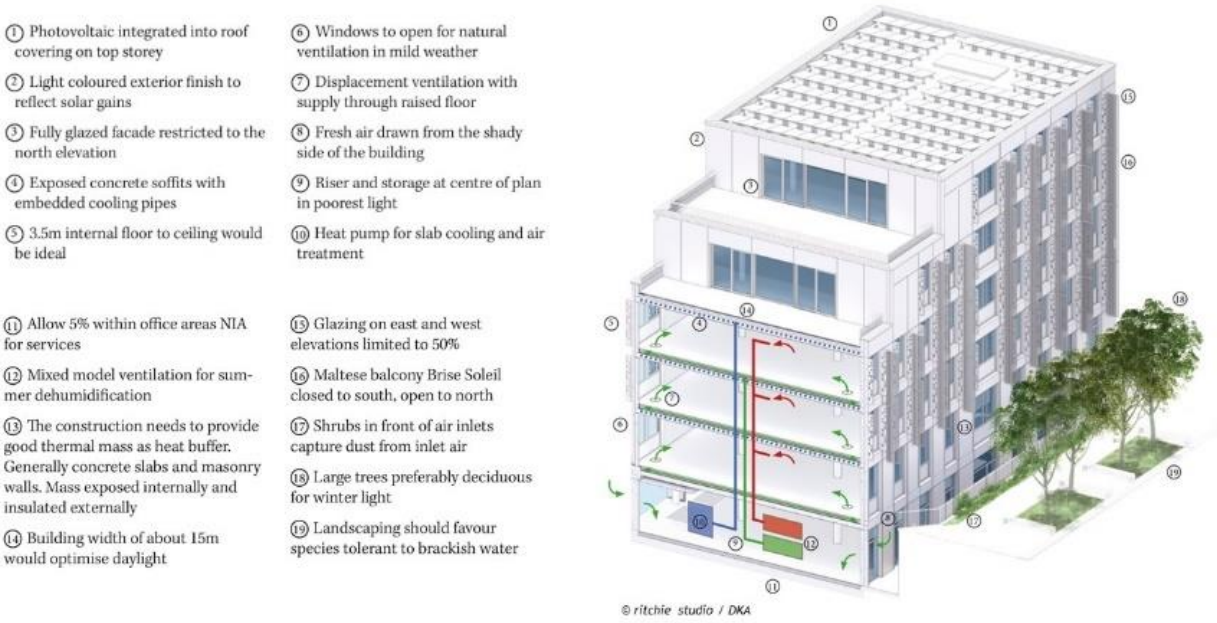
Housing - Trident Park Redevelopment, Malta, 2022



Adaptable buildings!

Underlying it was the challenge that we did not think the client should have a high service charge, to which they replied, if we have a low service charge, we will increase the rent. We explained why a high service charge was not necessary and we set out to design non-air-conditioned new buildings in Malta.

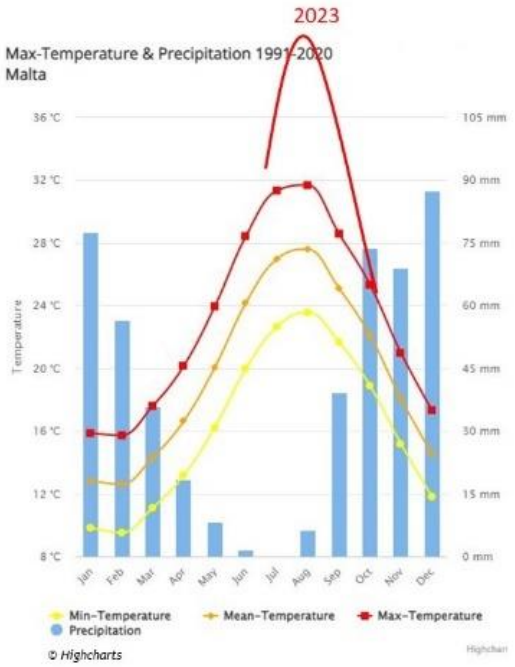
83.

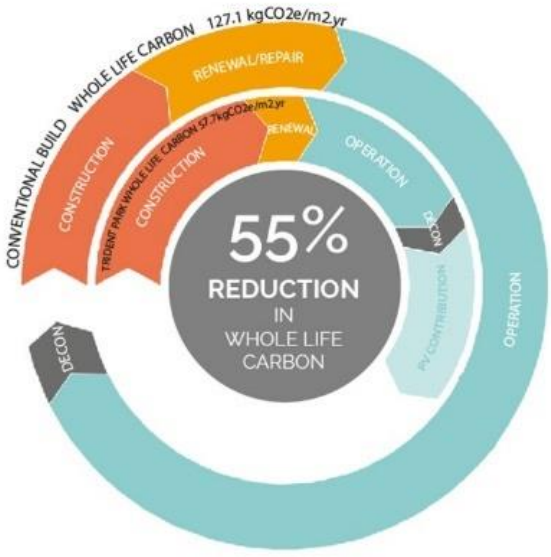


Trident Park Redevelopment, Malta, 2022

Malta is further south than Tunis, and this last summer during the heatwave they had 9 days of temperatures over 40ºC. They had only one complaint from among all their tenants; they were too cold.

84.





Farsons + Trident Park Redevelopment, Malta, 2022

Yet there is no air-conditioning, and they can open their windows and smell the perfume from the plants in the courtyard gardens.

Various approaches — intellectual thoughts of how you could achieve this: lower energy, lower investments and still achieve the same return as a developer, and buildings of low maintenance.

85.

photos © ritchie studio

east facing

Trident Park Redevelopment, Malta, 2022

There are no moving parts, only the windows that manually open. I apologise, we do flow water pumped at 17°C through the floor slabs.

We set out to break the current design rules of Malta. Apparently, if you ask a taxi driver in Malta to go to Farsons, you can also ask to go to the non-air-conditioned buildings!

The architectural response was to pick up on the theme of where we were in the world: it is Mediterranean.

It is all about light and shade, and in the old town of Valletta designed by Italians, balconies are on the front as we are in the Italian gossip world, and they have colour.

86.

west facing

photos © ritchie studio

Trident Park Redevelopment, Malta, 2022

East-facing facades are different from west-facing because of the orientation of the buildings toward the sun.

87.

And there also accidental effects — light coming from the headlamps of a car moving in the car park; the car park is not sealed either.

88.

photos © ritchie studio

Trident Park Redevelopment, Malta, 2022

And a touch of the art of Josef Albers in the shading designs.

89.

© ritchie studio

Trident Park Redevelopment, Malta, 2022

I show a car park because of the behaviour of the sunlight through the enclosing screen. And yes, you could have parties in there, and we have suggested even having a music festival or film screening. Light and shadow is changing the interior atmosphere all the time.

90.

© ritchie studio

Royal Shakespeare Company 1000 seat Courtyard Theatre, Stratford/Avon, 2006

I show the Royal Shakespeare Company's (RSC) Courtyard Theatre where we created a 1000 seat theatre, designed in six weeks and built in ten months for less than six million pounds — brand new.

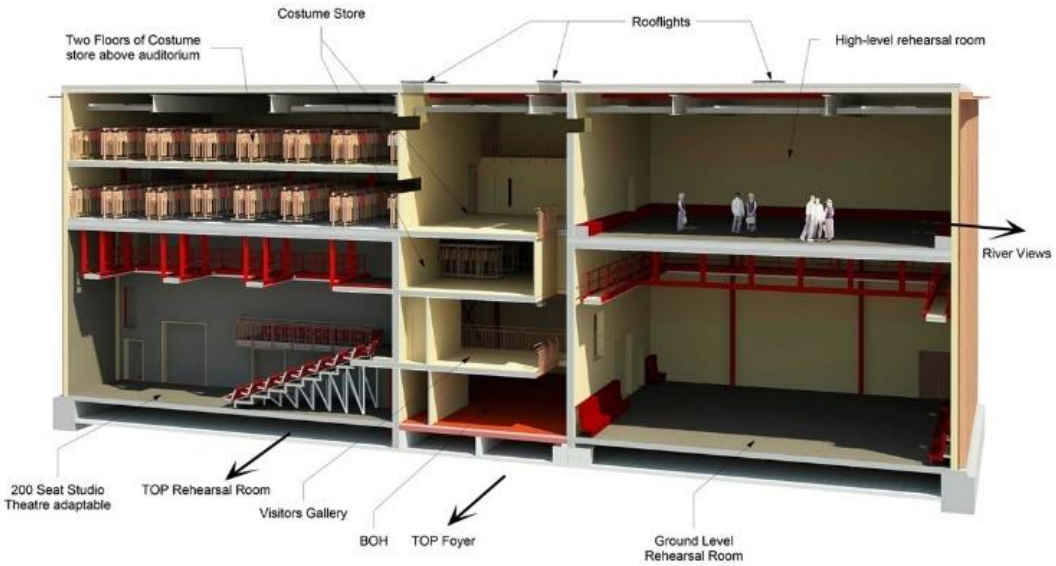
91.

© RSC [photo: Stewart Hemley]

Royal Shakespeare Company, 1000 seat Courtyard Theatre, 2006

It was meant to be only temporary — for ten years — and it incorporated a radical new form of a thrust stage with the audience surrounding it dreamed up by the then director, dear Michael Boyd.

92.



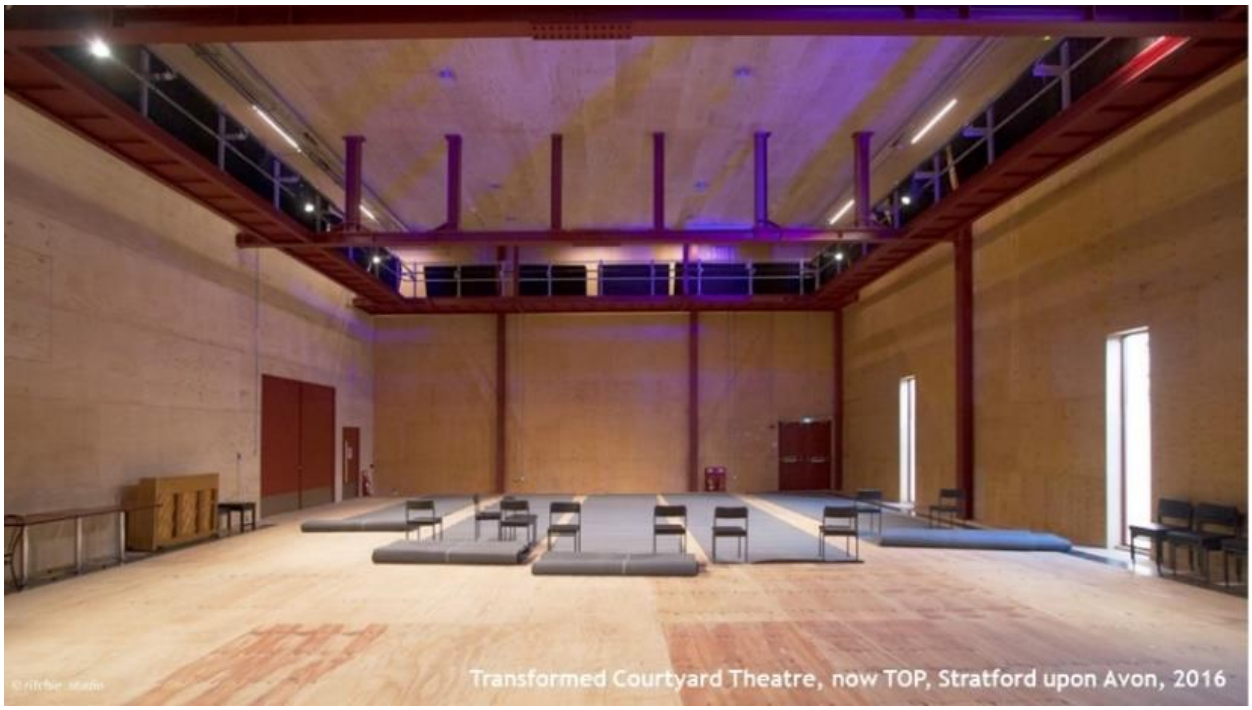
Transformation of 1000 seat Courtyard Theatre, 2016

Ten years later we were asked to transform it into a permanent facility because the main house (theatre) had been rebuilt with 1000 seats as a spatial copy of the Courtyard Theatre.

93.


© Simon Harper
Transformed Courtyard Theatre, now TOP, Stratford upon Avon, 2016

94.


Transformed Courtyard Theatre, now TOP, Stratford upon Avon, 2016

95.

Transformed Courtyard Theatre, now TOP, Stratford upon Avon, 2016

What did the RSC want now? To store 3 km of costumes, endless numbers of boots, a small studio theatre, two huge rehearsal halls, and during Covid this rehearsal space was the ‘mother ship’ of the RSC.

You can also pull the seating from the studio theatre into this space and create a 350-seat theatre. It is space and it is stuff, and it is a radical transformation inside a box.

The box was the important element, but it was supposed to be temporary and the King of England wanted it demolished despite his credentials for the ecology of the planet. He does not like our architecture!

96.

Royal Academy of Music, Susie Sainsbury Theatre, London, 2018

The Royal Academy of Music's old theatre was not functioning. This was a challenge purely on the acoustics. I am not talking about the architecture of the space, which I love, or the lighting which Ulrike Brandi designed.

We had to acoustically handle well genres from opera to the solo instrument, the single voice to electronically enhanced musicals, and offer the space as a recording venue no matter what the genre of music. That was great challenge.

97.


Royal Academy of Music, Angela Burgess recital Hall, London, 2018

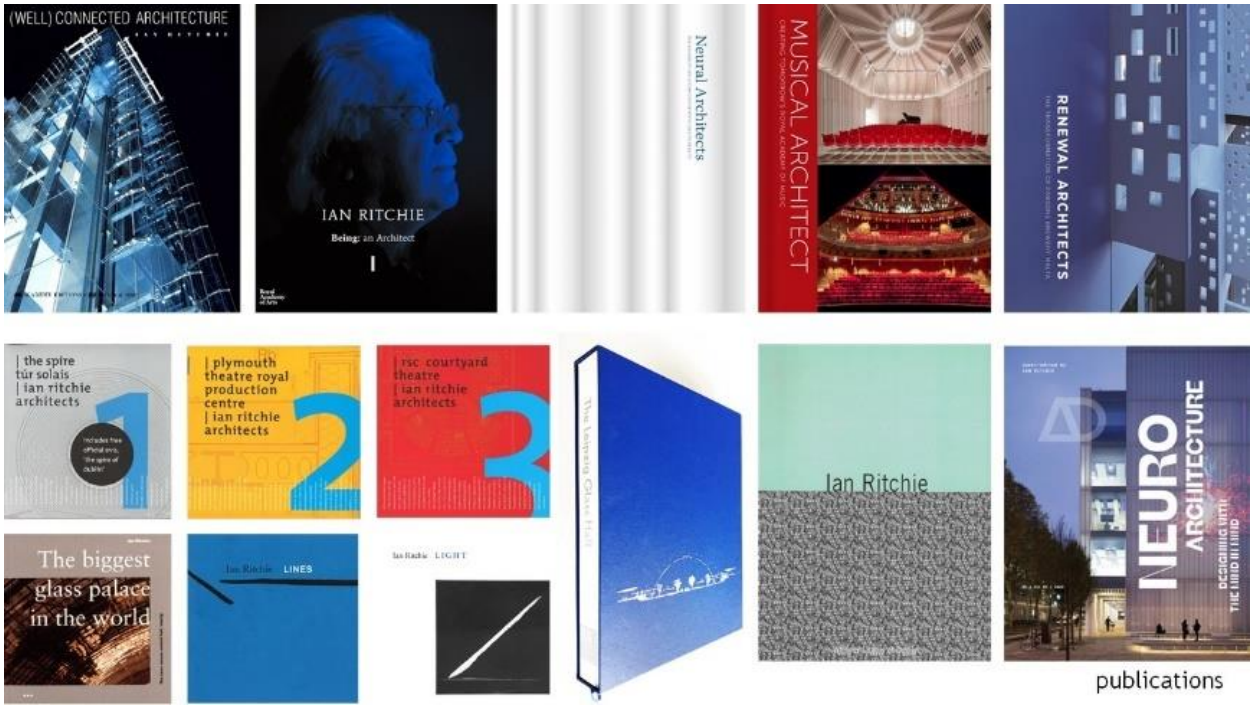
And what we were learning we put upstairs in the new smaller recital hall — the bonus space for the Academy.

98.

The Spire, Dublin 2003

I end on this slide: the light Monument in Dublin which I call ‘celestial acupuncture’. The needle scratches the sky and brings a soft light down, the surface the opposite of Anish Kapoor’s mirrored stainless steel sculptures. A lot of energy is involved in polishing. The natural light is reflected quite beautifully.

99.



If you wish to buy any of these books, do write to us.

100.

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or take a photograph.

101.

books can also be ordered through ritchie.studio

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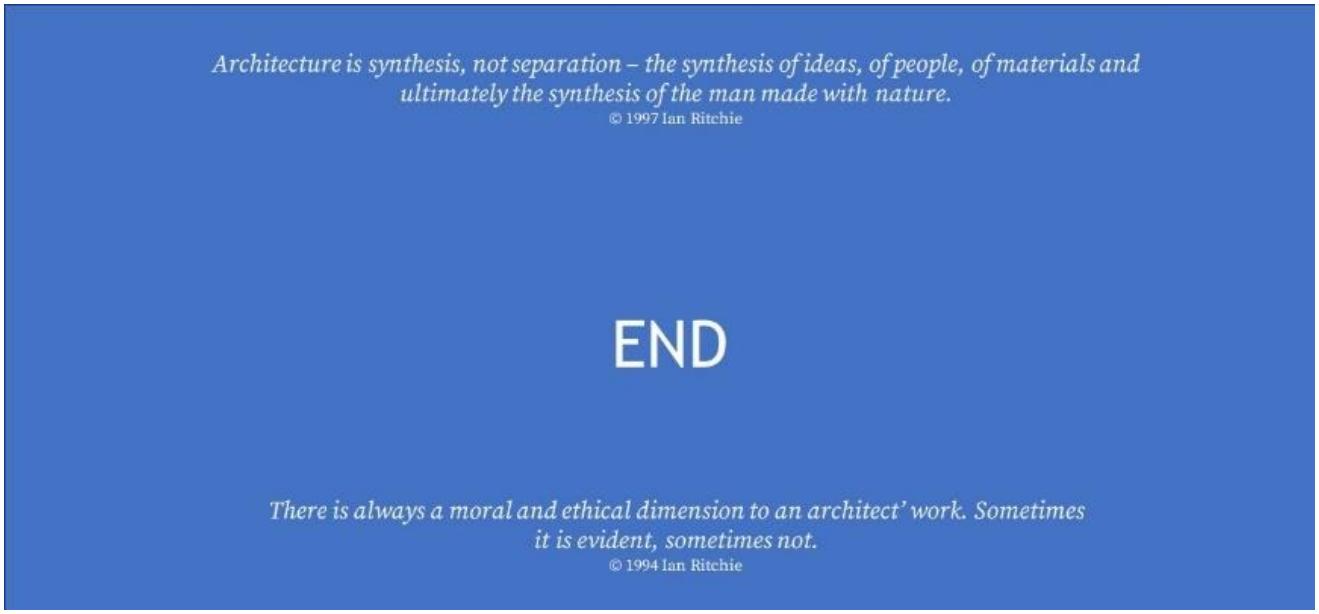
And you do it by collaborating with the brightest people you can find, and nice people with the right ethics. The result is we have had no failures, no errors in our buildings, and not even a hint of a claim. I rest my case!

102.



So far, I have enjoyed a life sharing knowledge, which I think is a duty of an architect. That and providing a service, and I say that in the nicest sense. I think I have been a servant to society and loved it.