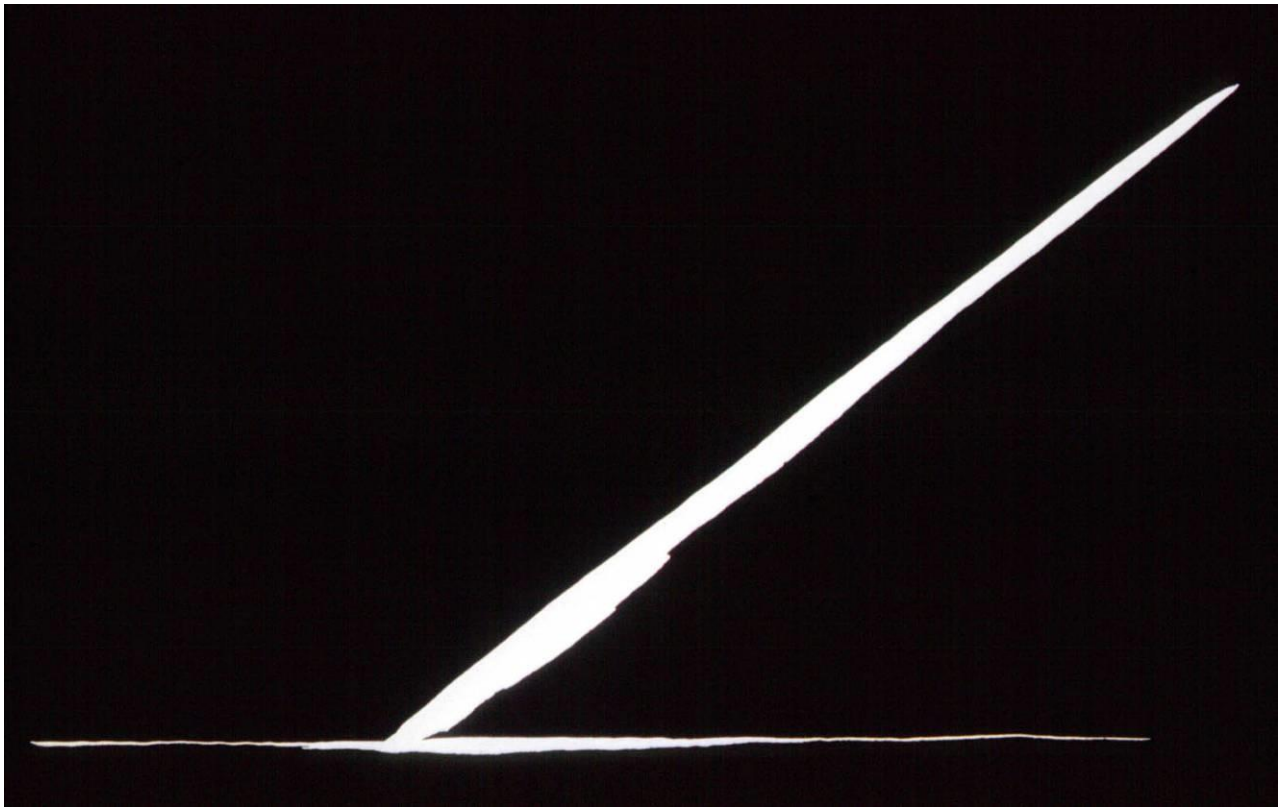


THE FRIENDS OF BLACKHEATH HALL LECTURE
VALUES IN ARCHITECTURE
21 FEBRUARY 2008

IAN RITCHIE

INTRODUCTION

Image: Leaves in the garden at the Fluy House, France, 1976

I will try in this talk to explain why I believe we are at the beginning of new paradigm, a seriously important new movement in urbanity and architecture whose visual aesthetic will be multifarious – derived from a synthesis of science, ecology and ethics, and the creative desire of man to express himself unselfishly. This opposes recent architectural 'isms', especially superficial and selfish architecture that gratifies itself on hyperbole - *the first, the biggest, the latest* - when in reality they represent media and consumer induced self-aggrandisements.

Intelligent, social and selfless architectural expression capable of the most marvellous and spiritually uplifting structures must challenge turn-of-the century stunt-making architectural gymnastics. The insatiable appetite for the new, the different and the unique identity or image that drives the present economy of the so-called developed world does not have to be sacrificed in the search for radical improvement in social and environmental conditions; but the reasons behind them and the products will be very different.

I will address five questions,

1. How does our intellectual heritage shape our actions?
2. What are we thinking about today?
3. How are we behaving as designers?
4. How should we design today – innovate or die?
5. How should we make things?

and then conclude.

All the buildings and structures illustrated during my talk our products of Ian Ritchie Architects or of Rice Francis Ritchie, the design engineering practice I co-founded in Paris in 1981.

Q1. HOW DOES OUR INTELLECTUAL HERITAGE SHAPE OUR ACTIONS?

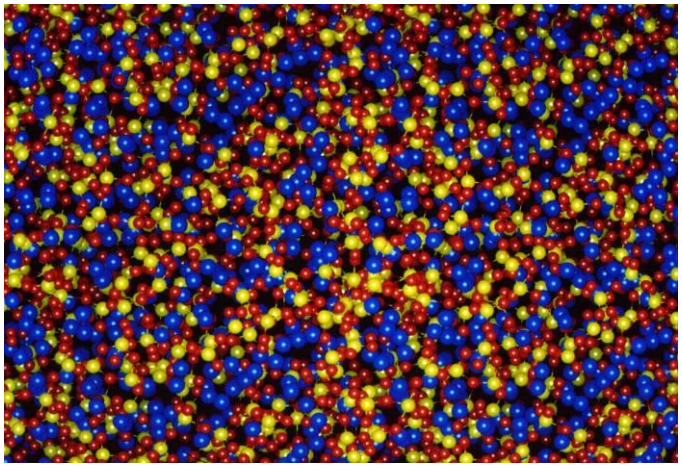


Image: 'Sodium fill' glass simulation – researching how to dope glass to limit crack propagation. An initiative of Ian Ritchie 1993. Image © Professor Greaves

I want to step back 2,500 years in order to hint at the origins of our present discomfort of having to live with apparent contradictions, and in particular how that remaining part of *homo sapiens sapiens* has to face up to and find ways of taming a rampant *homo faber* and *homo consumeris*.

The Greeks sought to reconcile the ideas of 'perpetual change and eternal becoming' put forward by Heraclitus with those of the 'unchangeable being' of Parmenides. The outcomes were to have a profound impact upon the development of our western society. The paradox was resolved when the Greeks thought of the atom as the inert fundamental unchangeable 'being', yet which, moved by undefined forces (spirits) could combine with other atoms to generate change. The wholeness of life had been split between spirit and matter, between body and soul; and investigations of the human soul and ethics, rather than materials, dominated western thinkers and society until the renaissance when a renewed interest in matter and the natural world occurred. Descartes focused this division giving a subtle new dimension to it: the idea of mind and matter. He separated man from nature, the subject from the object. Rather than finding ourselves at one with nature, Descartes, inadvertently, took us on a path separating us further from nature, towards a world where man thought himself more important than nature, and which consequently justified man's actions in exploiting its riches for the benefit of man.

In the late 1920s, Heisenberg put forward his uncertainty principle, and later with Bohr, the Copenhagen Interpretation of quantum mechanics, and their results of their understanding suggested the fact that when a human being observed some event it changed the reality of the event, in a manner of speaking, bringing man and nature back to interdependence.
Meanwhile, in other regions of the world there was no such apparent split. Ways of living, beliefs not religions, such as Buddhism and Taoism in the East bear witness to this and describe, much as Heraclitus did, the cyclical nature of change.

In the last few hundred years our western ways have impacted upon the traditions of other cultures and upon the nature of the planet we share. At the risk of over-simplification, the history of geographic expansionism seems to have a predictable sequence. First come spies (historically the priests) followed by soldiers to take the territory that allows merchants to exploit, and finally artists (culture) arrive (if at all) to question or comfort. Outer Space seems to be following the same trajectory. Urbanism and Architecture is not isolated from this cycle. And in this cycle lies the idea of progress.

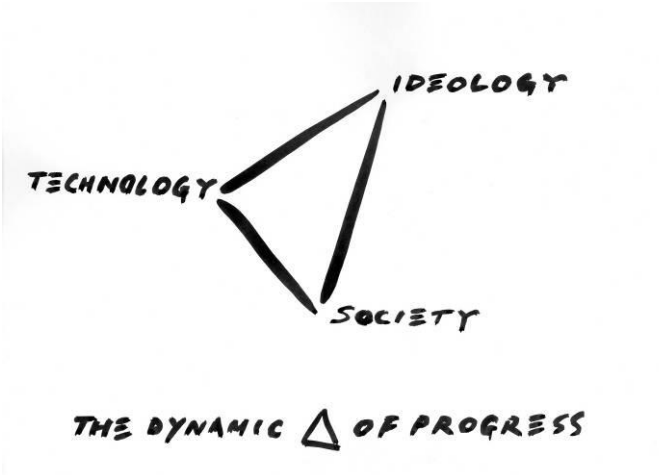


Image: Dynamic Triangle of Progress diagram

Civilisation, according to the late American social anthropologist, Stanley Diamond, may be regarded as a system in internal disequilibrium; technology or ideology or social organisation are always out of joint with each other - that is what propels the system along a given track. Our sense of movement, of incompleteness, contributes to the idea of progress. To put it another way, when we are able to appreciate the way the world is really working, it is never quite the way we would like it to be working and this is why making a better future is so challenging.

I think it is clear that the paradigm I am referring to is far more than some architectural style. Also, I hope to show that it has to be more than the conventional notion of sustainable architecture or development. It has to recognise a world that has already urbanised and is globalising with little evident shared humanity. For those of us living in economically powerful post-industrial societies it is about a fundamental change in the way we think, behave towards each other, design and make things.

Q2. WHAT ARE WE THINKING ABOUT TODAY?

Recalling Descartes again," I think therefore I exist (am)."
homo faber, "I think therefore I make."
homo consumeris, "I buy therefore I am"
homo sapiens sapiens, "I exist therefore I care".

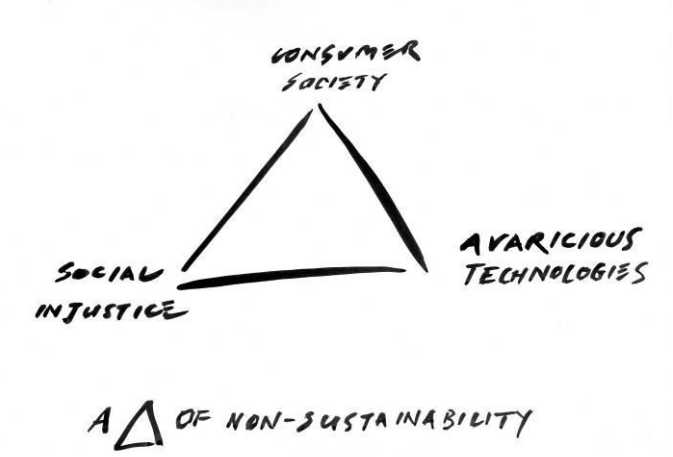


Image: A Triangle of non-Sustainability Diagram

Our *individual and collective* thinking is sandwiched between a moral environment full of bureaucratic rules and regulations telling us how to behave (and to design) and a moral vacuum where international agencies acting on behalf of our conscience cost us the occasional coin dropped into an Amnesty or Greenpeace collection box or envelope. Then we proceed to consume their moral actions through the reports in the media in much the same way that we consume the products of our technology.

We are, ironically, becoming less responsible for our lives, not more so. In the West we have become the product of our own economic thinking to the point where financial reward can be obtained from being irresponsible, from not caring for others or our environment. The decline in the only lifelong relationship we have – the family - is paralleled in the rise of an increasingly contractual and litigious social world.

Image; Mumbai water pipe

The quality of life is strained, and most people cannot choose or control it. This leads to a sense of alienation, of loneliness. Not in the sense of not having people around us, but in the sense of seeing ourselves as more than vessels of blood, held together by bones and skin – vessels containing a spirit of life that may suggest to us an idea of the point of life, a point or moment when life gives us a sense of its richness, of meaning or value.
Surviving what life's chance puts in front of us is the reality for most people and finding time to make sense of its complexities is compounded in a process of urbanisation whose in-migration destabilises both city and countryside.

Image: Olafur Eliasson's The Weather Project AT Tate Modern, London 2003

Martin Jacques wrote recently[1] of *the family* as the central site of intimacy as expressed between family members. "Intimacy is a function of time and permanence, and rests on mutuality and unconditionality and is rooted in trust. As such it is the antithesis of the values engendered by

the market." Intimacy belongs, as does love, in the realm of the spirit, not of the body or matter – and it is becoming more elusive.

Let's not delude ourselves. We live in an age of quantity not quality, of individualism not community and it is so evident all around us. We live to produce, to consume and to waste. Life without meaning becomes shopping. The shift from settled to dynamic communities where the void of community life is filled with the artifice of the media is slowly reducing our sensitivities towards each other.

Image: Y€$ graphic

It only takes one generation to really care and we have a real chance for positive change.

Similarly it takes only one alienated generation satiated on technological media-game-playing and voyeuristic gratification growing up with a decreasing experience of stable human relationships within which a sense of security, love, care and sharing are nurtured for our hopes of seeing a better world all but vanish. Most of my generation has lived as if there was no tomorrow, but there are also many who have sensed its loss of soul, questioned the meaning of progress, and wanted to do something about the loss of values.

Our mental structures were honed over millions of years of living in small tribal groups, and we bring the same structures to bear on an existence that has changed materially, however we measure it, by several orders of magnitude. The rate of technological progress towards the (apparent) mastery of nature bears no relation to the rate at which human social evolution can keep pace with the consequences.

Our western capitalist *culture* continues to deny the natural environment by exploiting it. The rape of nature's resources to make money in order that we can measure growth through GDP is still totally embedded in our society's idea of civilisation, despite our laments about the state of the planet.

Our culture is dominated by economics and by economists who are not sufficiently engaged with creating methodologies that embrace the needs of the wider natural environment, or of the poor. Any architecture we create in the west, no matter what its visual reference or theoretical underpinning maintains to a greater or lesser extent this status quo.

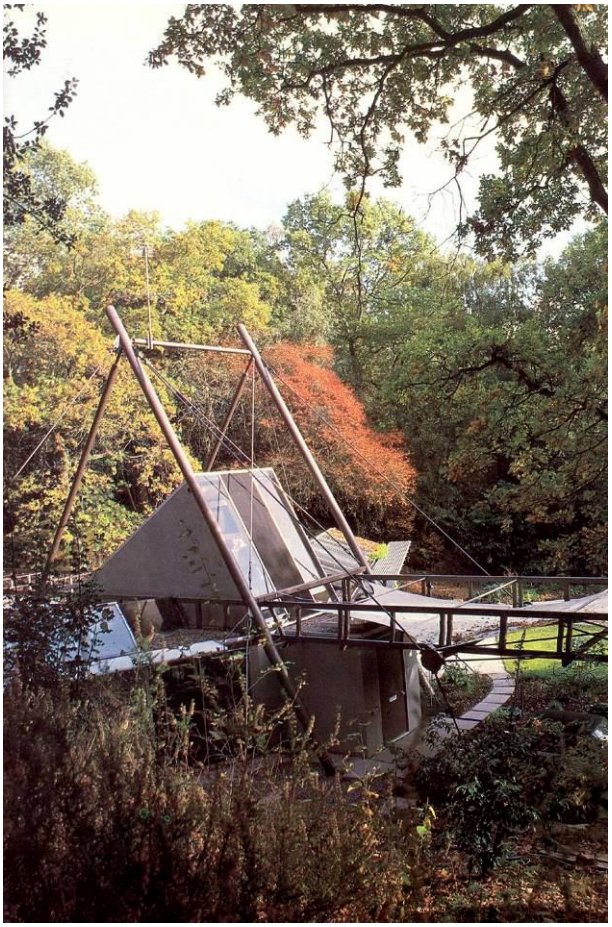
Economic growth has been dependent on the political and industrial exploitation of scientific investigation and upon exploiting individuals within society. The individual economic effort is now so divorced from life that it is not surprising that so many people long for recognition within a group outside of the workplace.

Image: Limehouse Beach, near our studio, London 2004

Forty years ago Robert Kennedy[2] wrote in a text entitled "The American Environment":
"And let us be clear at the outset that we will find neither national purpose nor personal satisfaction in a mere continuation of technical progress, in an endless amassing of worldly goods. We cannot measure national spirit by the Dow-Jones average or national achievement by the gross national product.

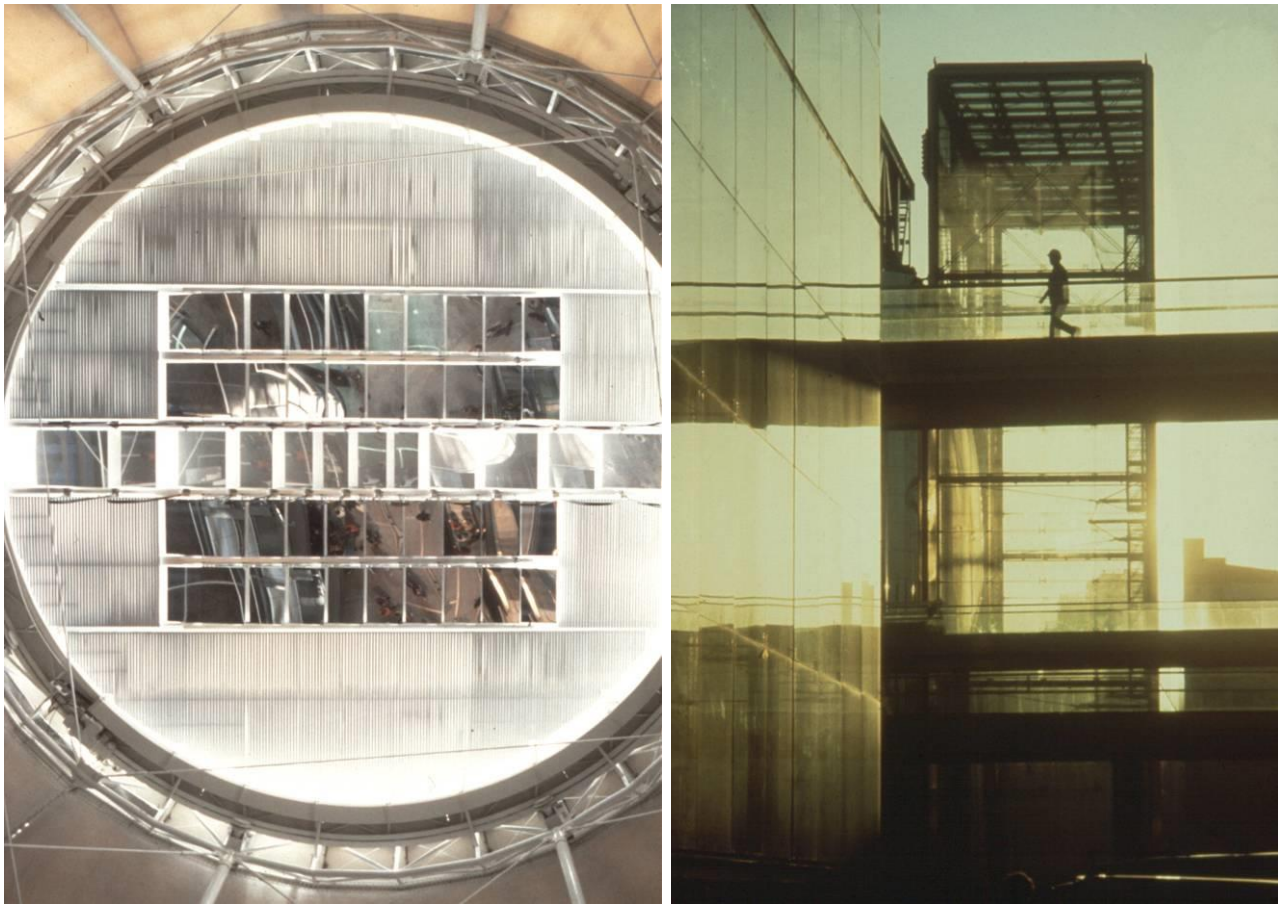
For the gross national product includes our pollution and advertising for cigarettes, and ambulances to clear our highways of carnage. It counts special locks for our doors and jails for people who break them. The gross national product includes the destruction of redwoods, and the death of Lake [Erie]. It grows with the production of napalm and missiles and nuclear warheads, and it even includes research on the improved dissemination of bubonic plague.
The gross national product swells with equipment for the police to put down riots in our cities; and though it is not diminished by the damage these riots do, still it goes up as slums are rebuilt on their ashes. It includes Whitman's rifle and Speck's knife, and the broadcasting of television programs which glorify violence to sell goods to our children."

Ian Ritchie Architects projects – design approach to energy sustainability



Images Fluy House, France 1976 and Eagle Rock House, Sussex, 1981

Ian Ritchie Architects projects – design approach to energy sustainability



Images La Villette Mirrors and La Villette Facades Bioclimatiques, Pris 10981-86

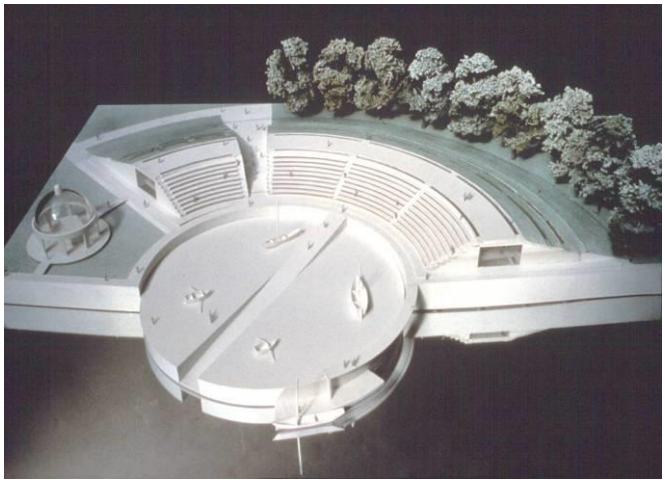
Our culture is driven by competition not altruism, which in turn produces an aggressive, rough, tough and fast world in which matter matters, and fewer and fewer seem to benefit.
We seldom achieve progress in a universally agreed sense - the term is too loaded politically, since many of our notions of progress are achieved at the expense of the quality of life of others elsewhere in the world. Progress is fundamentally a journey of the individual, and all will measure it differently. Progress is inconsistent with a defined end.

It is, therefore, difficult to find a consensual definition in a global society.

More fundamentally, since the notion of progress exists in our definitions as a way of measuring where we are in some abstract continuum, it becomes a direction marker, a signpost indicating distance, or a speedometer, by which to navigate and predict our "estimated time of arrival" at different stages of our lives. The problem is to know when we have arrived.

At this point, we have eliminated the sense of differential by which we can judge our position or direction - it's a bit like having a compass to find the North Pole. When you get there you lose all sense of direction.

So the end goal of progress has constantly to be redefined, and this process is part of a critical review of our advances since we last defined the goal.

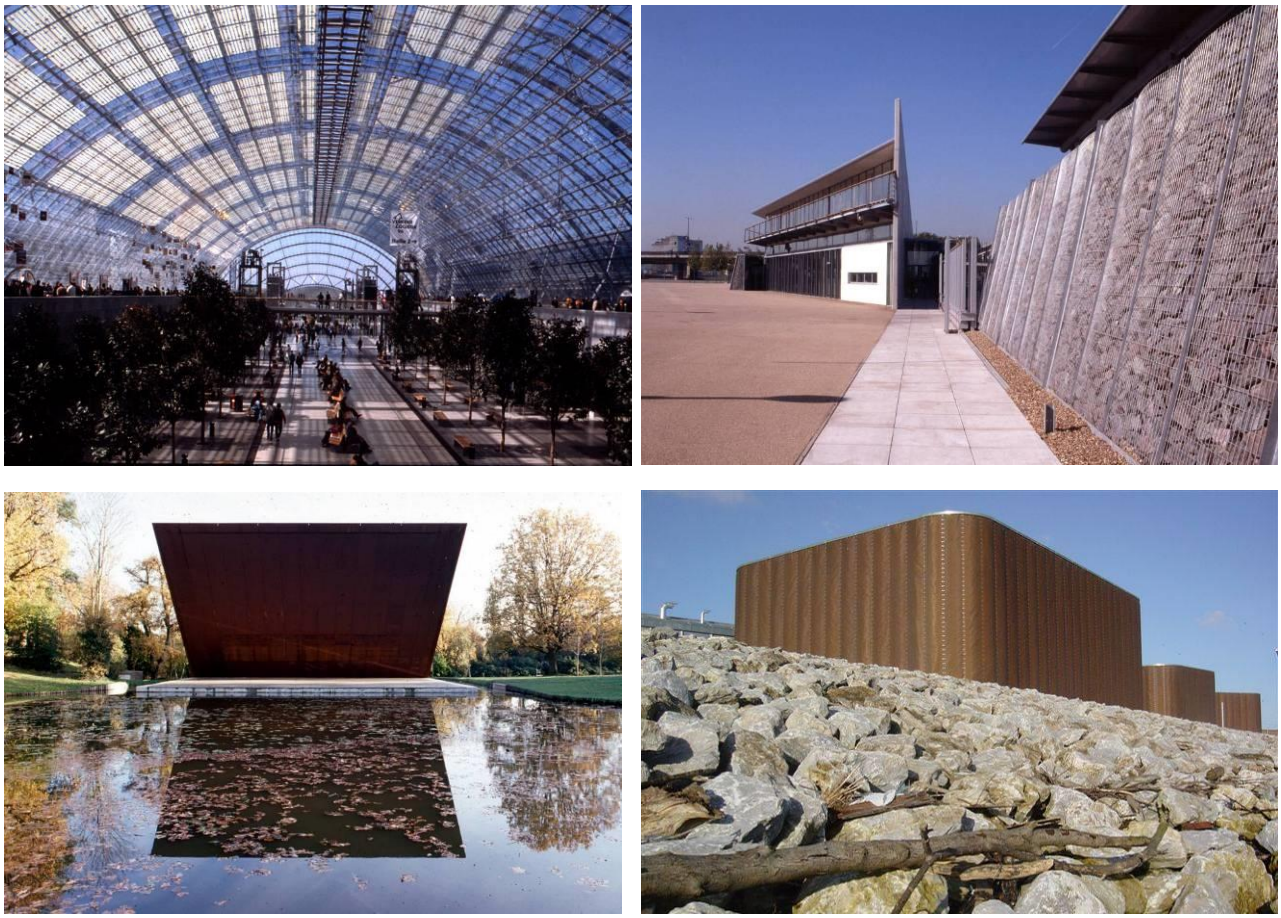


Images: NHM Boat Museum London,opposite Greenwich Naval College 1984, and Terrasson Cultural Greenhouse, France, 1993

Images: Daours Primary School, France, 1994 and Stockley Park offices, London 1989

The idea of progress is also bound up with the polarization between optimist and pessimist - those who can embrace the future and deal with uncertainty, as opposed to those whose insecurity drives them to cling to what they think they know. Often, we have the impression of twentieth century attitudes to progress and the future as being characterized by optimism, and above all, certainty. Architectural Modernism grew out of this and was underpinned by a desire to share the fruits of progress through new housing, educational and welfare facilities with as many people as possible. This was the last real architectural movement that was founded on an idea more fundamental than finding a new superficial or spatial aesthetic.

Only recently has there been sustained and significant reference to doubt the essential goodness of the direction in which the developed world has been "progressing".



Images: Leipzig Glass Hall interior1993-6 /London Regatta Centre 1997 / Crystal Palace Concert Platform 1997 / Plymouth Theatre Royal Production Centre, 1999

The new paradigm is also predicated on the notion of sharing – not the fruits of a limitless fossil fuel economy, but on the understanding that we share this planet with each other and with all life, and that every one of our thoughts and actions affects our environment.

Q3. HOW ARE WE BEHAVING AS DESIGNERS?

My conceptual thinking has always synthesised art, science, technique, landscape and economy within a moral context.

Image: All that's left of nature, Canary Wharf, 2003

Sustainability is so general a term, interpreted and appropriated by all types of governments, companies, institutions and agencies, as to render it almost meaningless. And architects are often principal actors in presenting environmentally-coated images of sustainable architecture – as such an appearance can be a useful caché today to help secure a commission, or for them to preen a little in front of their peers.

Image: Fluy House, 'an insulated umbrella in the landscape' incorporating solar pre-heated air, and air to air insulated solar panels as walls to east and west elevations. Fluy House, self-built by Ian Ritchie + Jocelyne Van den Bossche, France, 1976-77

I think that most designers believe that they are essentially doing good. Nowadays, when we attempt to solve a problem or derive a design solution we try to expand our analyses to include a more complex global vision of interdependence. But in simple terms, most of us believe that a sustainable approach is one which gets more value out of less material, pollutes less, wastes less and recycles more and does not reduce the next generation's choices. This is relatively naïve, but in the absence of a more profound approach we struggle along. The origin of this approach was the oil crisis of the mid-nineteen seventies and a gradual public realisation that fossil fuels might just run out some day. Our need for and dependency upon fossil fuels, particularly oil, makes us insecure. So if we can use less of them and find renewable alternatives then we can feel more secure because we will be more independent. If this is the basis for the promotion of alternative energy, to have more independence, then one must hope that this renewed confidence will not seek more expansionism but altruism.

At the moment, the contradictions between helping to create a more intelligent world in which moral and social justice rather than economic justice prevails and producing architecture within the current economic model are inescapable.

This is the principal conundrum that has concerned me since I began my own practice in 1976.

Image: Eagle Rock, built with the help of AA students; passive solar heated air supplied to air to air heat pump.

I am aware that one can try to make the built environment more visually and spatially attractive; that one can express a need to de-process and de-contaminate the manufacture, distribution and consumption of building materials and energy in the interest of conserving natural resources and reducing toxin emissions. I refer to this way of thinking and designing and its visual expression as a "metaphorical intelligence".

I consider that the need for "evident intelligence and humanity" in what we are doing is indisputable, and it is a beautiful idea!
However, this cannot hide the underlying local and global social trends that more and more people are feeling disenfranchised.

There is no doubt that, as the world feels smaller, there is not only a mutual assimilation of cultural activity – banal as much of it appears to be – but also a subversion of differences through the products we design – whether they be international architectures that have no contextual or aesthetic frontiers, or mobile visi-phones. One might even suggest that there has been a blurring of eastern and western aesthetics.

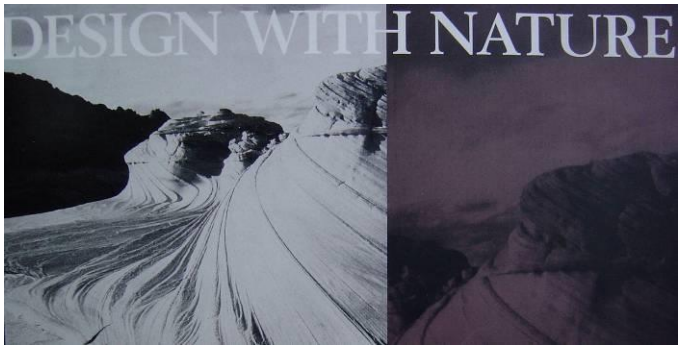


Image: Design with Nature

The unforgettable title of Ian McHarg's book, *Design with Nature*, published in 1969, represents in many ways my approach to design. This has perhaps more in common with the traditional aesthetics of the East [where I spent some time in 1970], which does not seek to impose form upon the landscape but to allow it to emerge from it; not to control it but to be part of it; and not to assert one's own identity but to be absorbed by the environment.

Image: Gabion walls as architectural enclosure helping to create the building's own micro-climate solely through solar energy and evaporative cooling. Jardin de L'imaginaire landscape, K Gustafson. Terrasson Cultural Greenhouse, Ian Ritchie Architects with Arup, France Gabion, Glasbau Seele, 1992

Western capitalism has been absorbed into Far East economic culture and has now entered China's commercial communist culture. For the people of these countries and their cultures, the invasive power of recent western economic thinking has also had a destabilising effect on their design culture.

Image: Culling Road: 'I saw a hundred greens in the grass in Southwark Park'
Multi-green post-patinated copper sheet cladding.

Jubilee Line Culling Road Vent Shaft, London, Ian Ritchie Architects with Entech, 1991

In architecture, the spread of modernism, brutalism and hi-tech aesthetics reflected the globalisation of architectural style that occurred during the 20th century. And similarly personal products - the car, bicycle, DVD player, clothing – finding differences is becoming more difficult. The cultural difference is becoming invisible to the eye, but perhaps not in the mind. It is here that the soul or spirit of place and object resides.

Image: Concert Platform: Zero-maintenance project using Corten A oxidised steel and oak, with integrated 'LARIS active acoustic system'. Competition winners 1997. Crystal Palace Concert Platform, London, Ian Ritchie Architects with Ateiiers1+10, and Van Dam, 1998

With this globalisation, which we find at its most banal in fast food, fast movies and fast games, is there about to be a backlash from designers? Can we see the signs that suggest a new tendency – less towards even more banality and more towards a creative syntrophy from cultural differences – that will produce new aesthetic diversity, that express a revitalised sense of being and meaning?
Can architects and engineers help to produce this?
Or, is our work, like that of product designers, in the end simply to be consumed because our designs are more attractive to the client, who is after all the first consumer of our architecture?

Image: WHAT IS THE COLOUR OF THE WIND?

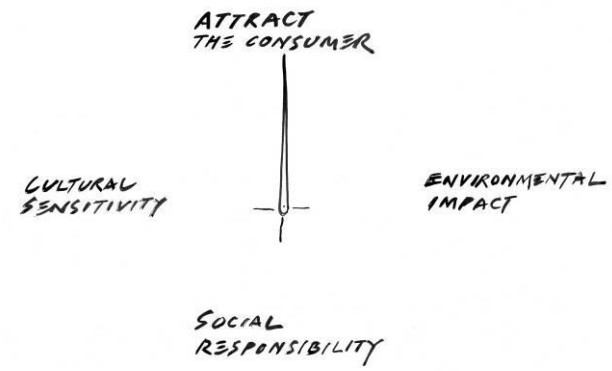


Image: Where is the Design Compass pointing now?

The tragedy is that design in our present society remains judged, both qualitatively and quantitatively by the question – Does it attract the consumer?

We designers may think that we have more noble standards – of providing functional artefacts that are environmentally and culturally sensitive – but are we deluding ourselves?

Do we actually need most of the things we design?
Do they simply serve to perpetuate the status quo?

Image: Triangle towards sustainability

Humanity and intelligence have as much to do with the process of decision-making and progress as the tangible artefacts that result from our application of science, technology and economics to matter.

Q4. HOW SHOULD WE DESIGN TODAY – INNOVATE OR DIE?

The question is based upon the assumption that our ecological and socio-economic irresponsibility cannot continue. There are two reasons – the consequences of increasing urbanisation and planetary wide pollution. We have all seen the recent maps of global ocean pollution and the projected surface temperatures.
Cities are growing everywhere. They are part of the global ecosystem and reflect the values of those who have contributed to their development and evolution. We (in our minds at least) may be moving from an Industrial Age through an Information Age into an Ecological Age, yet we live in cities which seem stuck in an industrialised format. Apparently more humans now live in cities than the countryside for the very first time. So the city is the predominant human nest. We have to seriously reconsider the nature of these nests since not only their immediate qualities affect us, but cities are central to global ecology and thus central to the solution.
Can cities evolve to become better balanced with nature to give us cities with a healthier culture? A western city is not an African or Indian city, and it discredits us to think that our urban strategies and planning are transferable to these cultures. They have a need to consider their own city philosophies, and to develop strategies and structures appropriate to their particular cultures and organizations.
Perhaps we should reconsider the city as an organism - an eco-polis embodying ethics, concepts and programs for eco-logical restoration – a place which we heal and which heals in return, where a healthy biosphere is the end game. It is not about sustainability or sustaining what we now have. It is more than this.

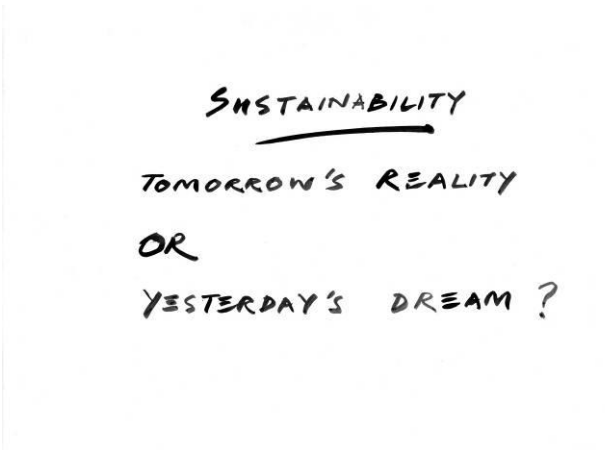


Image: Sustainability Tomorrow's Reality or Yesterday's Dream

Martin Wright and Jonathan Porritt[3] in an article entitled *The future won't be secure unless it's sustainable* argue that "a more sustainable world will be a safer and a fairer one - because environmental degradation and social injustice are increasingly feeding off each other. Any refugee camp or urban shanty town is a picture of un-sustainability, populated by people who have been forced to leave their rural homelands due to water shortages, soil erosion, climate change and civil conflict. That sort of runaway environmental and social breakdown is happening right across Africa and Asia. If we want to feel more secure ourselves, we should the start by improving the security of the poorest". The emergence and growth of townships and shanty towns as a result of imposed world economic policies or of particular political ideologies are the 'nests' of the majority. Are they sustainable? No. Are our cities, for the minority sustainable? No, and for very different reasons.

We need to think differently, and as a consequence we will inevitably innovate.
But what we make is still an industrial process.
What is the relationship between architecture and industrial innovation?

Image: light emitting cloth of woven optic fibre & stainless steel wire

International competition winners

Alba di Milano Light Monument: Milan, Ian Ritchie Architects, 1999

Understanding the context is the first investigation of architecture. The context is physical, intellectual and sensual. The architectural process and architecture itself is synthesis, not separation - the synthesis of ideas, of people, of materials and ultimately a sense of man's union with nature.

Creativity and innovation in architecture works through the investigation of memory, context and the way buildings can be constructed. These investigations take place with both a sense of freedom and discipline.

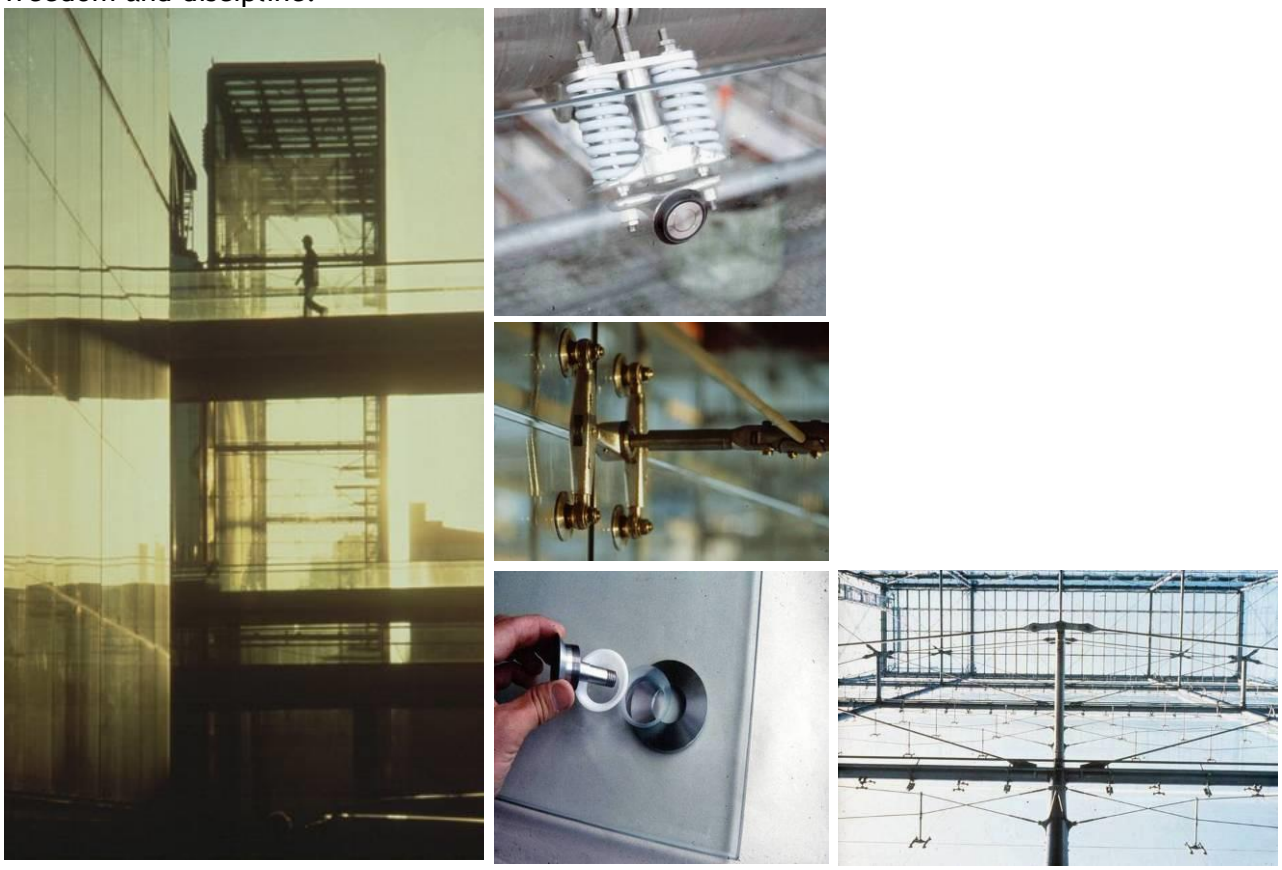


Image: The seminal work on the innovation of structural glass: La Villette Cite des Sciences, Bioclimatic Facades, Rice Francis Ritchie, Paris, 1981-86

What are the key ingredients of an innovation culture?

I believe that they include confidence, skill, judgement, understanding, and notably foresight - a sort of early warning system for the next 10 to 20 years. Any organisation that incorporates foresight thinking as an integral and shared part of its operations builds in the recognition and potential to innovate, and to survive.

Improvements in materials have been largely based upon one single objective - to be able to better predict their performance, thereby improving performance and reducing costs. This is no longer sufficient to meet the demands of the new paradigm.

In other design fields such as electro-neuro-bio-medical engineering, people are developing solutions to enable the blind to see and Alzheimer sufferers to recall. These developments result from the new synthetic disciplines – not the old classes of engineering.

Image: 25,000m2 of internally suspended colourless laminated glass vault, 250m long, 80m clear span and 30m high.The glass is cleaned externally by 2 robots driven from the apex of the roof. Leipzig Glass Hall, Ian Ritchie Architects with gmp and Mero-Seele JV, 1993-96

We have to ask ourselves whether we can influence the evolution of design in general, and if so, how to go about it. Despite pretensions to our importance, and certainly the media has played its part in this myth making, architects rarely initiate new directions – our power is essentially formal because that is where architects skills are applied most significantly until now.
We are rarely in the front line to prescribe or determine in any consequential sense the context, use, production, cost-relationship, profitability, marketing, durability, ecology, etc. of the materials from which we make architecture, and thus the possible architectures that could exist. Some of us try, and just occasionally we are successful in influencing industry, and thus architecture.

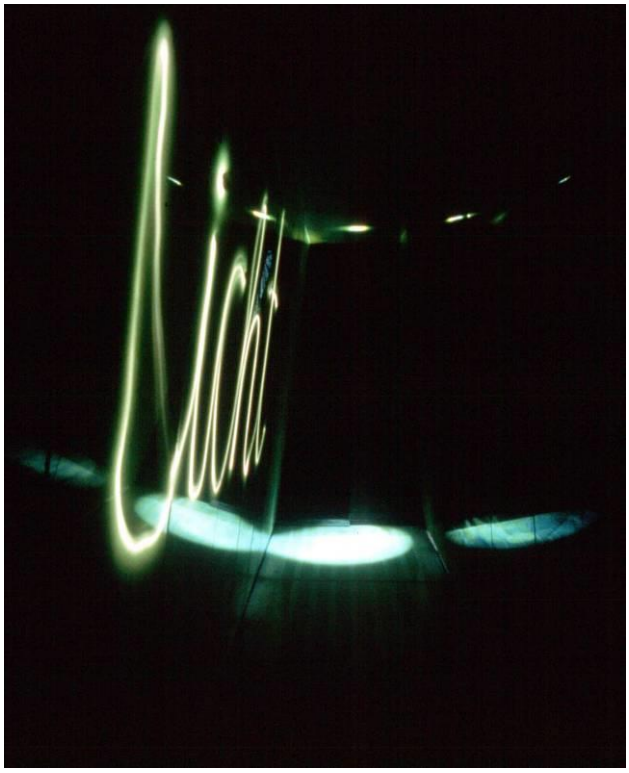
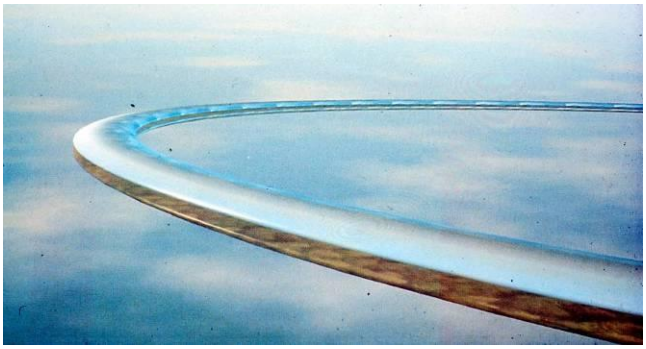


Image: Light Exhibition, Ingolstadt, Germany, light memory glass coating;
Ian Ritchie Architects and Pilkington, 1992

Primary decisions on, say, whether housing or education or energy should be given more importance come from politicians responding to the more powerful or politically important constituencies. However, housing type and density, the nature of urban and ex-urban space and development is within the architect's direct sphere of influence - and it is at this point that most of us begin to contribute.



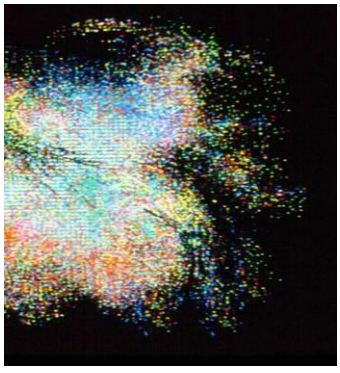


Image: Individual hieroglyph transmitted to on-line global interactive 'painting' within a circular ring 365m in diameter made of rhodium- coated woven titanium/carbon fibre. The 400T ring is levitated 150mm off the ground by super-magnets.

1988 Project: France - Japan Monument: Generateur Poietic: Ritchie Lhermitte Auber Pratz Rice [Software © O. Auber]

A basic "re-design" of products in conjunction with new standards for recycling, toxic elimination, energy and resource efficiency, de-materialisation etc. is complex. And as we begin to analyse the eventual transformations in product life-cycles and industrially produced material with the potential for endless utility and human health and safety, it is evident that the criteria for analysing impact, the capacity to construct a general picture, the language employed in their definition and communication, the methodologies by which to apply conclusions to new design problems are at present far too limited in scope to cope with the problem of global impact and its effect on the quality of life.

Image: Stone filled gabion ; stainless steel sheet catenary roof
London Intnl. Regatta Centre, Ian Ritchie Architects with Arup, 1994-98

We have to begin to think differently. We have to make our designs not only an asset for the investor, but for the environment and our collective humanity as well.
A definition of environmentally positive design might be:
"Where any manufactured by-product of the design solution has a net contributing value when analysed in terms of environmental and social impact."

Having thought through the issues, the challenge will be how to pull together and evaluate all of the data, if it is indeed available? It is obvious that new intellectual and creative alliances are needed in our industry. Others are already redefining research alliances.

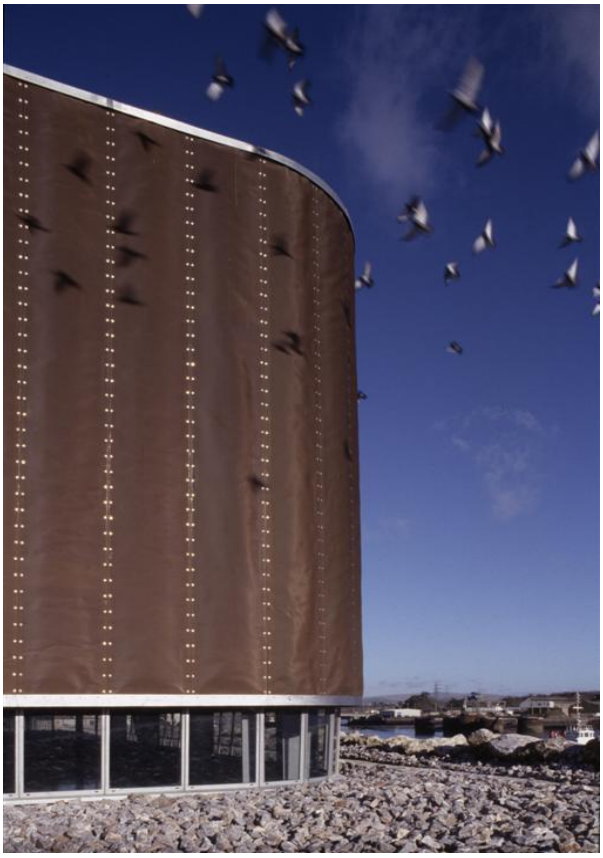


Image: Soft woven phosphor bronze wire cladding
Competition winners 1997
Plymouth Theatre Royal Production Centre, Ian Ritchie Architects with Arup, Lockerwire and Rubb TM, 1999

Initial reflections on “sustainability and design” in the late nineteen seventies as a pragmatic search for a “clean eco-design” methodology have since become, for some of us, a more fundamental inquiry into the problem of “design” in general and of its re-evaluation in terms of an impending evolution in world views from an industrial reductionist culture to that of a post-industrial holistic one – an ecological or biospheric one. The opening up of our investigation to include a more social, political and philosophical criticism of design is complex but indispensable if we are to take the “re-design of design" seriously. Our present goal can go only so far as to open up a critical discussion on the role of design in modern society in view of a re-evaluation of our ethical responsibility as designers.

Image: Conical shell of 3m dia. base, 120m high, made of shot-peened stainless steel plate International competition winners 1998.
The Spire, Dublin, Ian Ritchie Architects with Arup and SIAC Radley JV, 2002

An object or structure has intrinsic characteristics that we can recognise and which are independent of their surroundings. This sounds like Descartes at his best. It assumes that an object separated from the mode of thought of its designer and its mode of production, presents to us, a subjective viewer, identifiable (although not necessarily universal) qualities - such as beauty, harmony, truth, etc. Yet we know that in western philosophy, absolute and fundamental criteria have shifted with historical paradigms.

Western philosophy in its rationalization of each historical paradigm, has upheld a certain collection of criteria as being "absolute" or "fundamental". It has maintained that an object has intrinsic characteristics which are independent of its surroundings or of its viewer. The succession of paradigms has produced a long history of different and often contradictory results each entirely dependent on the specificity of a particular time/culture/space of its inventor.

The history of philosophy is characterized by, and at the same time oblivious to, this paradox.
As if the form and content of the criteria for judging quality, such as truth, goodness, beauty, progress, diversity, etc., could be a common denominator or residue of a perfect filtering system.

This problem extends to our perception of reality as well as the way in which we act upon that reality - as in construct, design, destroy etc. If we are to determine and employ any criteria by which to judge impact, and thus quality, we must take into account and in some way resolve these paradoxes.

Image: The Spire, Dublin (2)

Consider our present society where truth in design is considered, if at all, a secondary quality. We have become inured to the "image" that accompanies a consumer product which is a representation systematically constructed as a separate entity to conform to the prefabricated "desire" of the consumer market. This representation takes on a primary role as a substitute for the profound meaning of the object itself. This distinction between "image" and "meaning" contributes to obscuring from our eyes the nature and importance of an object's indirect impact.

For an object to have meaning it must be perceived and experienced.

Architecture simply cannot be experienced through magazines and architects' web pages.

The question today is whether we have reached a point of time/culture/space where we must place our collective environmental wellbeing more in harmony with nature or allow our present actions to proceed.

Q5. HOW SHOULD WE MAKE THINGS & WHAT ROLE AESTHETICS?

Image: Neanderthal man and planet earth

Architecture is culture. Vilém Flusser, the Czech-born philosopher, made a convincing argument in his short essay The Factory[2], that it is through 'the factory', i.e. the place of manufacture, that we can understand the science, politics, art and religion of a society, and identify the human being in that society. His sense of humour suggested that *homo faber* (maker) was perhaps a better description of the common characteristic of human beings rather than *homo sapiens sapiens*.
The materials and physical spaces that our architectural thinking ultimately has to engage with is a powerful witness to *homo faber*, but today, we have to ask deeper and more difficult questions if we are to find solutions that respond to the idea of *homo sapiens sapiens*.

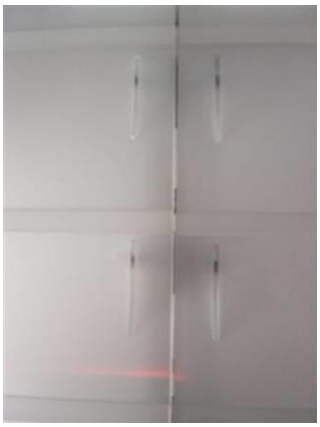


Image: Recycled car tyre flooring; glass bridge with gingko biloba and horse chestnut leaves representing the passage from the past to the future, glass walls of low-iron glass fixed only with UV curing glue.
Ecology Gallery, Natural History Museum, Ian Ritchie Architecxts with Arup, T W Ide, 1989

The architecture we produce, and how we make our buildings reflect our worldview. At the moment nearly all architecture that we create in the West, no matter what its visual reference or theoretical underpinning, is maintaining to a greater or lesser extent the consumer status quo. Although there needs to be a revolution, realistically there can be no revolution in the industrialised regions of the world with regard to the way we extract, process, manufacture, distribute, design and consume materials - only a long campaign or catastrophe it seems will eventually change our habits. It is still difficult to access and realistically compare hard facts on energy, labour, environmental and social impact, and the effectiveness of recycling materials used in construction.

Image: The distribution of artificial lighting on Earth Air Force/Genesis Space Photo Library

Graphs depicting comparative energy consumption of, for example, extracting raw materials and processing them do exist. However, these 'facts', important as they are, represent little in terms of the more holistic picture. For example, we do not necessarily have the combined knowledge of the energy sources used, their comparative polluting effects on the local and distant environment, the effect of the production processes on the health of workers in these industries, and full details of the consequent social and health costs, and the reduced financial resources that result from this extra health spending on other programmes such as housing or alternative energy programmes.

The impact of legislation and technological change on energy consumption still remain slight. The ways in which we use - or waste - energy seem part of a world power game. Europe (along with the USA) continues to exert a disproportionate influence in the exploitation of the earth's resources, while exploiting China as our consumer factory, and energy is one of the most dramatic examples of this. The ethos of the so-called "right" of the individual to enjoy freedom - of private transport, the products of energy-intensive industry, and an inefficient but comfortable home and work environment - demands a high price.

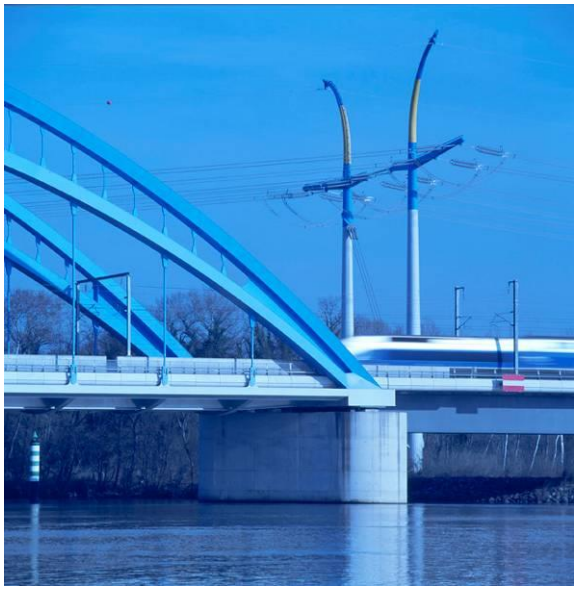


Image: ' the curve not the diagonal' Electricite de France: new HV Pylons
Ian Ritchie Architects / Rice Francis Ritchie / Kathryn Gustafson, 1994

I believe that one day this century we will end up with a clean electrical energy society– but to get there solely with safe renewable sources will be very, very difficult, and some societies will almost certainly have to revisit the nuclear source on the way (Finland decided to in 2005 and the UK at the end of 2007). Others will follow. Yet, current uranium resources based on current use are estimated to be only 40 years -myth or fact.

The short term view of material gain and the difficulty we have in altering these values could change when legislation (rather than hope for universal enlightenment) brings about a different

set of criteria and performance. If we believe more in the power of collaboration, cooperation, and the fundamental altruism of humans as part of our instinct for survival then this paradigm shift will become more evident. We do not need to undermine but to redefine the principle of an economic structure in the world with ethical values, for we have the ability to create competitive new industries and products that pose no health risk, that positively serve us and our entire biosphere. The economy should serve people not only in a material sense but, by placing it in a wider, more holistic context, value non-material issues as importantly as material ones. I can imagine a post-fossil age where companies still compete, but they compete to make environmentally sensitive products that do no damage at all because that is what people want, society has fully legislated for, and because their materials have been designed and assembled in ways that ensure they are reusable over and over again in different products.

Competition has been and remains the conceptual trigger of our present economy and society. We do not believe that this is inevitable as is often argued. Collaboration, cooperation and indeed altruism are as common a natural inheritance as 'survival of the fittest'.

People often cite the ant colony as an exemplar of cooperation and altruism. Yet we now know that nepotism exists in ant colonies (Finnish researchers 2003).
And we know that the invasive Argentinean ant is not benign towards other ants, insects, newly hatched chicks, beehives and has also impacted upon the Horned Lizard in California by overpowering the indigenous ant – the source of food of the Horned Lizard. This anecdote illustrates just how easy it is to make and receive simple judgements and how hard it is to assess impact.

The Role of Aesthetics in how we 'make' things.

There is in every era a prevailing visual aesthetic. In architecture, we have seen that the last has been commonly referred to as high-tech – an extension of modernism. Its aesthetic values have been associated with the beauty inherent in machine made elements and the importance of the connection, or joint, between the various parts - a desire to read the whole from the smallest assembly. There has been little social motive behind it.
I believe that there has been a significant shift from this aesthetic, but my talk this evening has been addressing a more complex picture, not just the visual one.

Designers often have a desire to represent the zeitgeist in their work.
We can all recognise consumerism in a faster-faster, rougher-tougher world, and the significance of events rather than spaces, and of chaos rather than certainties.
And we have examples of architecture that freeze these characteristics of life today.

While the balance of nature with man is part of our zeitgeist I believe that the visual aesthetic has shifted towards landscape. It has emerged slowly. The new landscape aesthetic embraces both the work of those who refer to topography, e.g. through analogy to tectonic plate movements; and those who map human movement across surfaces - whether the body or, the vehicle and the body. Lying within this new aesthetic is the notion of sustainability.

My architecture starts in the spaces I create in my mind. It is vital that I am able to explore the spatial landscapes of a project within my mind and then connect them to the physical landscape. The natural and man-made landscape is physical space. I have researched for ways of designing architecture that is landscape and not simply integrated or conceived as an object in landscape.

To be able to read our reality requires a reference – our dreams – and some of our dreams question reality's reality.

Image: Beauty is non-linear: watching waves, clouds, sunset

While watching a log burn we can see how change reveals the beauty of the flame and the log as it slowly transforms into ash; the water that forms a wave, breaks, foams and reforms as a retreating surface, always comes back, in part, as a new wave. These wonderful phenomena are examples of the non-linear world that nature presents to us. I am convinced that beauty is in large measure non-linear. Creating architectural beauty may come from allowing the play of nature's non-linearity, and its entropic qualities.

The time frame of architecture is longer than the phenomena I've mentioned, but one needs to feel a sense of change occurring in response to the environment. This is to imagine architecture that has depth, endurance and beauty derived from nature.

We have seen proposals - surface, elemental and spatial representations - of certain states and interpretations of non-linearity (chaos, fractals). They are easily read as images to be consumed rather than profound investigations into capturing some elusive and wonderful phenomena that surround us. To capture the beauty of non-linearity requires a view of architecture and architectural space that is intrinsically dynamic. There has to be a contribution from the surface which is beyond reflection and beyond itself as a skin. It has to reveal transformational qualities, sensitivity to light and shadow, to burning sun or pouring rain, to change albeit slowly – not to stay the same forever.

Image: Beauty is non-linear: log burning in my garden London

The flame is evidently non-linear, copper linear. Both can reveal the energy of sunset. The flame has it, the copper reflects it. Copper oxidises.

The reflective quality of materials has always appealed to me. I see reflections of the clouds moving, the sun setting and the raindrop falling and interfering with these reflections as a genuine source of beauty – of the non-linear.

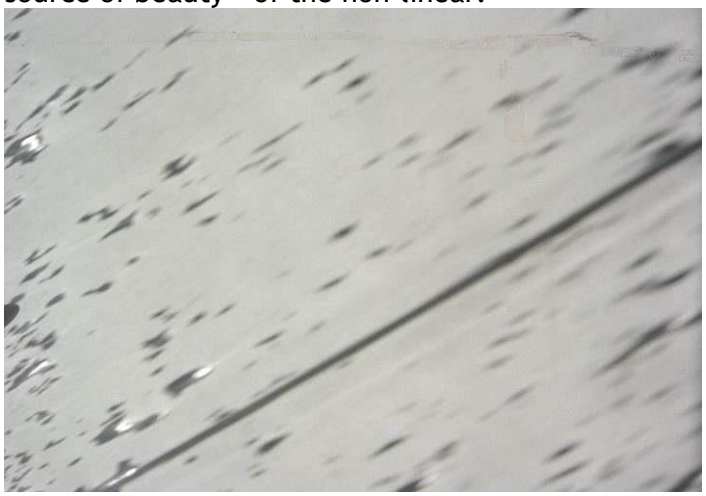


Image: rain on flat glass roof reflected onto our office wall

Aesthetic intent is use-less (unquantifiable) work but has as much, if not more, impact upon how we feel as economy or efficiency. In any project, the latter [efficiency and economy] are rightly expected by most clients, and represent those two most tangible aspects of time and money, and combined with spatial organisation and appropriate materials should provide fitness for purpose. Aesthetics involves the designer in investigation, research and rejection of ideas of space, feeling and appearance. These take time, and do not appear directly to profit the client, and often the client sees no real point in paying for them. However, designers must invest in it. If these

intangible issues, for that is what they are until the work is realised, are driven by the moral dimension of aesthetics that embrace the idea that we design not just to satisfy the immediate needs of our client, but for future generations, then the aesthetic issues become far more significant.

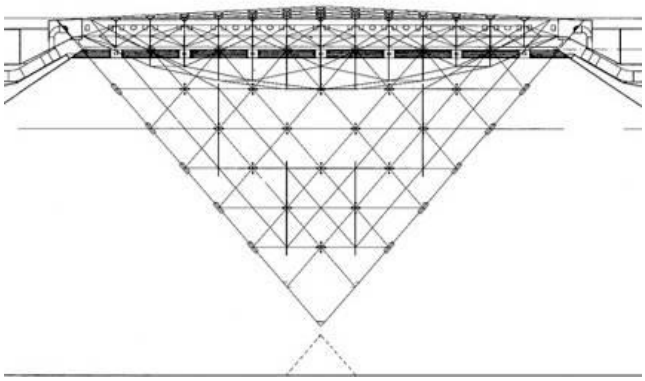


Image: Louvre Inverted Pyramid; Rice Francis Ritchie with I M Pei, Paris 1987-92

The power of aesthetics is measured in the mind, sometimes the heart, but not in the bank balance or electricity meter. The lack of it is like drip-water torture; it numbs the mind. It is the lack of this aesthetic dimension which renders the cumulative effect of many parts of built environment, from motorway barriers to ventilation grills, from advertising hoardings to buildings so demoralising. The result of giving value to the moral aesthetic as well as the appearance of the work is that it will indicate how responsibly we have acted with regard to future generations. It is a key part of the *homo faber or homo sapiens'* heritance that we pass on.

We talk of more and more city dwellers, and of increasing the density of our cities as a sustainable model for the future. But what a terrible future for the next generations if the environment we create depresses us. The rapid post-war build of housing estates is a perfect illustration. Perhaps the current rush to build 3,000 schools through PFI and 3 million houses carries enormous aesthetic, as well as other risks. As designers we know that we have a moral obligation to far more people than our paymaster.

Image: Reina Sofia Museum of Modern Art, Madrid, 1991
Ian Ritchie Architects with Arup, Huarte, Castro & Onzono, Pilkington

However, the aesthetic dimension must include all our senses. Consider the acoustic world we create. Designers can respond efficiently to current recommended World Health Organisation standards on noise levels upon occupants within the buildings we design, but do we regularly consider sound reflections? For example, not considering how railway or other transport generated sound affects nearby residents through first and second reflections; likewise, fire alarms and security announcements; the location of air handling plants, air exhausts and standby generators. Understanding and taking account of the indirect and hidden dimensions, as well as the obvious, will become an increasing responsibility of the designer as we densify our cities.

Yet it is these hidden dimensions as well as those that we see, that determine the quality of life. If we do not get our cities right at the micro-level we could well end up with a cumulative effect upon our society far worse than any environmental disaster caused by super-bugs, toxins or terrorists.

In a world becoming more and more litigious, designers are being obliged to focus upon health and safety. Yet how many of us regularly consider the impact of what we design upon the health of the mind? We know that we design the physical world around us, the machines and the built environment. This physicality enables us to live, but today almost nothing is allowed to be designed by guesswork. Intuitive design must be measurable. Traditionally, we have had to justify our design decisions to our clients through measurable things – economy and efficiency. I have talked of aesthetics in a broader sense, but how do we measure the effect of our designs upon the mind of the viewer or user. We do not really know. Vitruvius gave us firmness (read buildability), commodity (read usefulness) and delight (read ésthetic). We have learnt to measure the first two, and we design to rules and predictable outcomes.

Now we are trying to measure ‘delight’. So we have begun to look at the effect of design upon our senses more seriously. The easiest to understand are measurable – light and sound. We have not really considered smell (consider the late night washing machine exhausts), taste and touch to anywhere near the same degree. It is not unreasonable to try and measure ‘delight’. Designers should not fear that they will be governed by some future ‘rules of delight’. We need to understand better how our designs affect people’s senses.

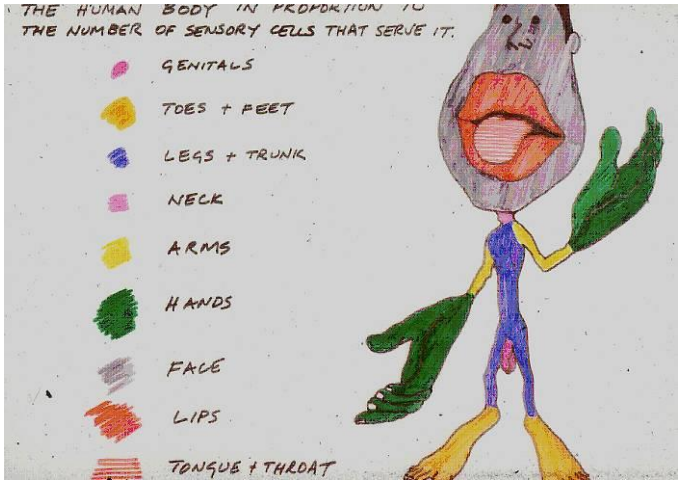


Image: Touch Body

In the last decade I have begun exploring touch in design. It was triggered when I was invited to give a paper on ‘touch in architecture’ in Bonn in 1995. I was sandwiched between a cosmetic surgeon, and the Australian artist, Stellarc, who uses his body as his artistic palette and instrument.

Recently, we realised a soft metal building. Nearly all metal buildings I have experienced or designed have not considered touch – apart from perhaps the handrail – and have never been designed to be leaned against. The machined, controlled line and hard surface ésthetic does not have to be the only product of industrial metal manufacture.

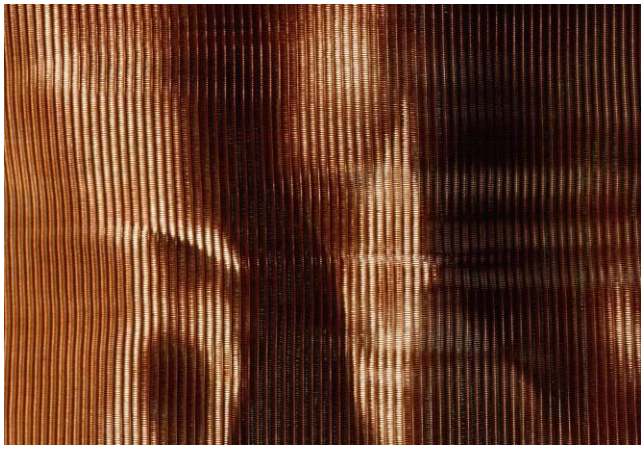


Image: woven phosphor bronze wire cladding – soft metal jacket
Theatre Royal Production Centre, Plymouth 1999; Ian Ritchie Architects, Arup, Rubb TM and Lockerwire

Manufacturing processes can give us soft and less controlled surfaces. And choosing materials that allow the environment to change the surface is an ésthetic design decision which embraces not only the appearance, but becomes a metaphor for designing with rather than against nature, of beginning to unwind the long recent past where everything we have created becomes everything to be maintained. Since the industrial revolution, maintenance has dictated our environment.

Through many of our projects we have explored ways to reduce energy in the manufacture of products through working closely with industry, and achieving less energy intensive methods of processing while still improving structural and energy performance.

One of our key research outcomes over the past fifteen years, as illustrated by the cultural greenhouse in Terrasson, is to create architecture using material which is less and less processed by industry, thereby reducing energy consumption, cost and long term maintenance.

The de-processing of materials, and thus of architecture itself, appeals to me.
Directly associated with this is the discovery of beauty in the essence of material.
I seek more and more to find, understand and capture this essence in my work.
However, alongside that beauty is the ever-present awareness and need to understand the social implications resulting from the processes through which the material has passed before it becomes an element in the architecture. The superficial does not reveal the essential.

Image: Scotland's Home of Tomorrow, Glasgow 1999
Ian Ritchie Architects with Arup and Thenew Housing Association

Take copper, a noble material. Only through a better understanding of the processes from extraction to coil and of the different quantities of copper ions that run off over time when the copper is left un-patinated, or is post-patinated or treated with anti-graffitti coating; and how these ions 'lock' into the mineral surfaces around, can the beauty be fully appreciated.

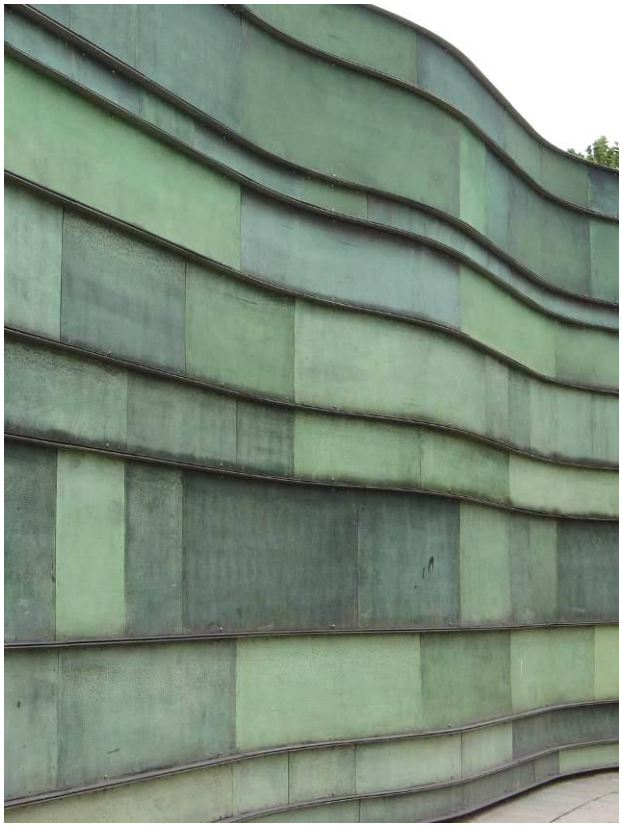


Image: Jubilee Line Culling Road Vent Shaft, London, 1991
Ian Ritchie Architects with Halcrow and Entech

This deeper understanding can provide a different design perspective to its application in architecture.

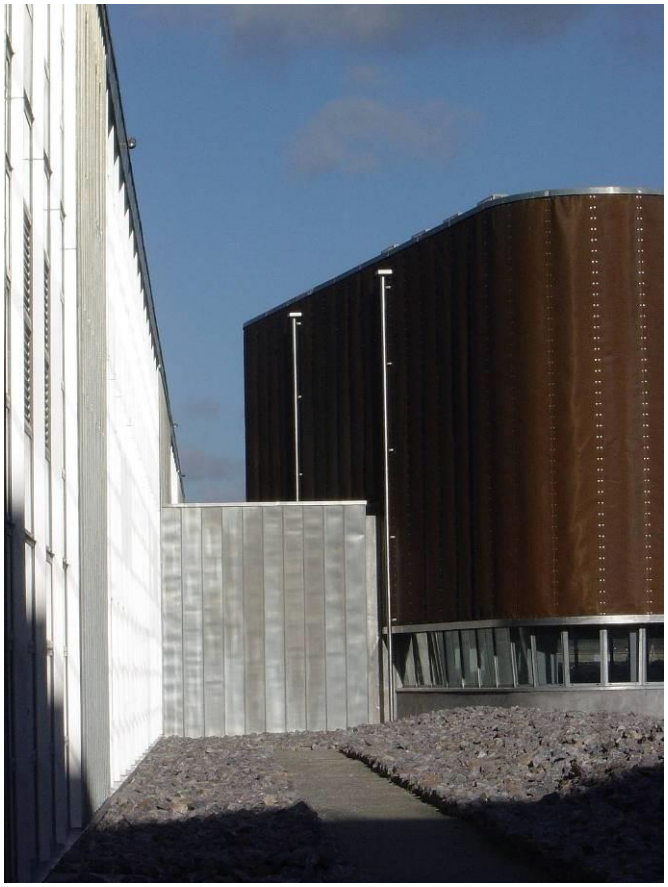


Image: Theatre Royal Production Centre, Plymouth, 1999;
Ian Ritchie Architects with Arup

Or copper, as woven phosphor bronze wire and the soft tactile qualities that this can give architecture.

Image: Crystal Palace Concert Platform, London, Ian Ritchie Architects with Ateiiers1+10, and Van Dam, 1998

Steel – allowed to oxidise naturally as in Corten– first bright ginger and then slowly to a burnt red; steel that is not visually shiny and hard, but has an almost soft quality.

Image: The Spire, Dublin, Ian Ritchie Architects with Arup and SIAC Radley JV, 1998-2002

Or stain-*less* steel and a more durable and resistant surface by peening in order that its surface is appears visually soft and responsive to the changing light, including urban darkness.

Image: Gabion walls as landscape architectural retention walls.
Jardin de L'imaginaire landscape, K Gustafson.
Terrasson Cultural Greenhouse, Ian Ritchie Architects with Arup, France Gabion, Glasbau Seele, 1992

Gabion are caged rocks, and they capture the feel of non-linearity. It is the non-repetitive forms of the stone –a collection - the collection of individual fragments from the same geological time tied together by wire. The lasting appeal of gabions lies in their inherent flexibility. Gabion structures yield to earth movement but maintain full efficiency and remain structurally sound. Typically, gabion efficiency increases with age, rather than decreases. They are a product of designing with nature.

Image: Terrasson Cultural Greenhouse, 1992

The idea that the waste material from the quarry floor combined with an economic and basic technique associated with land stability and civil engineering could be the prime source of architecture appealed to my barrier-free approach to design.

As a result, the idea of contrasting the raw walls with a sophisticated glass roof resulted in a didactic design. It contrasts the difference between the processed and the unprocessed; the energy invested by man in making flat glass and the embodied energy in the rock; the smooth and the rough; the fragile and the strong; the reflective and the absorbent; the cold and the warm; innovative technique with traditional engineering; the refined with relaxed aesthetic.

Image: Terrasson Cultural Greenhouse, 1992

The glass roof would be the one-way door to solar energy, but would also represent, metaphorically, a virtual lake. A flat glass roof, with no externally visible sign of how the glass is fixed would achieve this. This illusion would be enhanced because it is approached from above, and at a distance, with the changing sky providing the non-linear wave reflections. The topography is exploited both spatially and metaphorically. The building – a wall and a roof – becomes landscape.

Typically, gabion efficiency, increases with age, rather than decreases. I take pleasure in the idea that birds will nest, and that over time the interstices will be home to a natural ecology. The architecture remains as the building slowly changes.

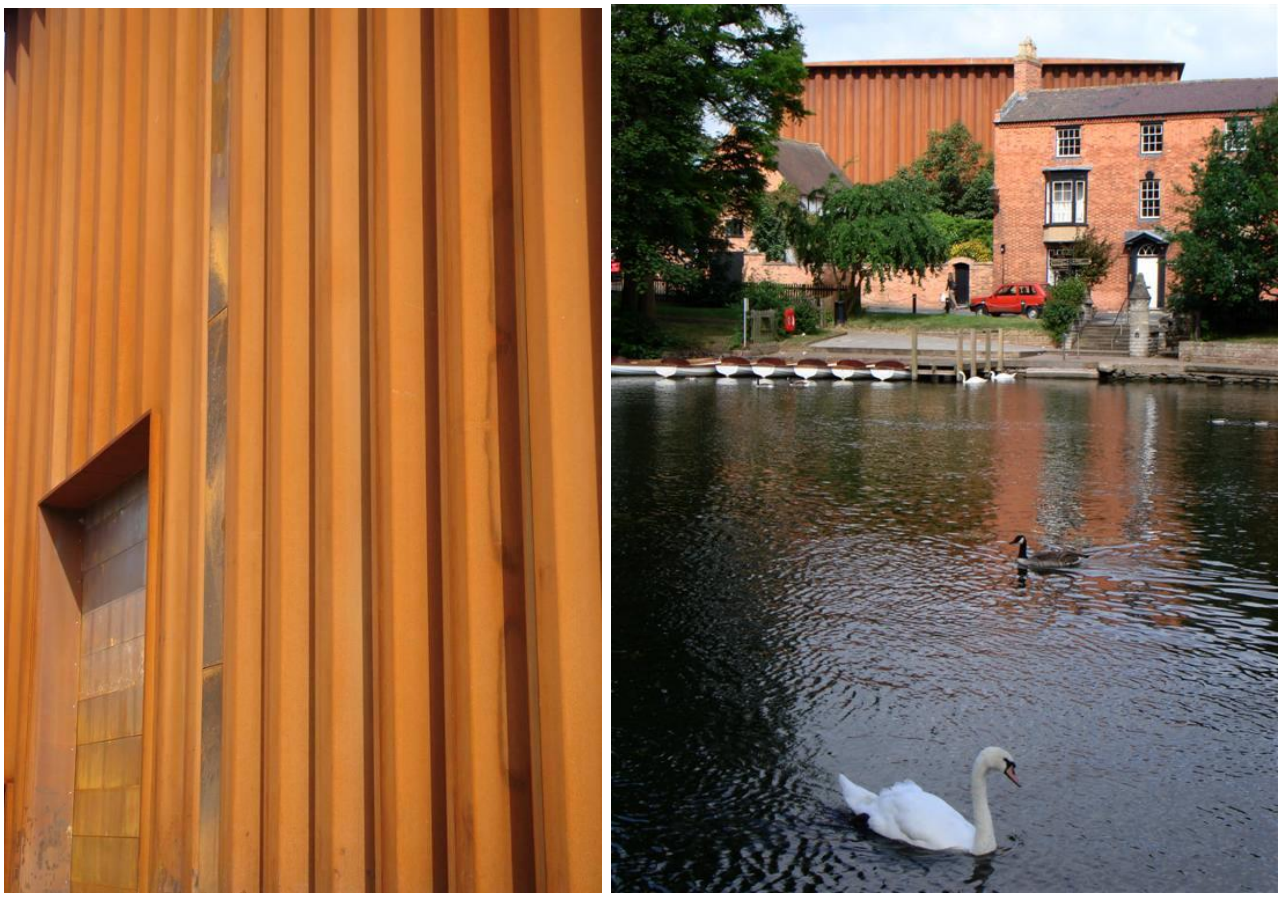
CONCLUSION

I chose to limit an exposé of my own work in order to share with you some of my thinking about a new design paradigm concerning:
- environmental impact in a more complete sense;
- quality in its most profound sense and,
- cultural identity in its most politically controversial sense.

I believe that we have to re-define and expand the criteria for determining whether or not design solutions are functional and meaningful. Functionality is ultimately "impact" in a world where our goal is the quality of life. Meaning reveals values within the ultimate art of all – the art of living together, in our homes, our community and on one planet.

As my work shows, I am not suggesting any sentimentality of attachment to the past that nearly always encourages a misplaced desire to imitate it. That motive is usually delusional and symptomatic of a loss of faith in the present, and a fear of the future. It produces an inappropriate visual nostalgia that is very different from my concern about social decay and the loss of humanitarian values expressed through architecture and which harbour my own sense of continuity with history. These losses are real, and are associated with the ever-increasing materialism and division of society, as material goals eclipse other aspirations. It is as if grasping the image will bring us closer to an imagined set of spiritual values.

Are we content in an age of such thinness, where we allow the image to determine so much?



Image|: Royal Shakespeare Company's Courtyard Theatre, Stratford upon Avon, 1997
Ian Ritchie Architects with RSC, WSP, KSA, Charcoal Blue, PGAD, Van Dam

All design work should be aimed at producing a world that is a better place to live in for all, where people are able to understand more, where people are less oppressed and people live less dreary lives, and feel proud to work together.
Design should be helping to bring us together.
Surely, in this city, if we really cared, we would be busting our guts to design far better housing, hospitals, and public transport that have considered the moral ésthetic of design. One that recognises the value of all of our senses and mental health to avoid at all costs the 'drip-water torture' built environment of our cities. This, I believe, is the collective micro-foundation of any sustainable future. PFI and Design & Build do not allow this.

The Public Finance Initiative invented by the last Conservative government and carried on by Labour, is the Treasury's dream ticket because capital expenditure is below the line.
It is an illusion that public borrowing can somehow be offset over twenty to thirty years.
It is the instrument by which our country has abdicated responsibility for design quality, and chosen to risk our future heritage on the grounds of economic thinking alone. Good design does not cost more in the long run, it costs less. It is a tragedy which will be recognised by the next generation. The PFI in reality died years ago, but no politician is prepared to bury it.
The Design & Build contract is the other anathema of contemporary architecture. Created as a general building contract only three decades ago and promoted by the Quantity Surveying profession, adopted by contractors as a means to more control and profit, and allowed to flourish by unconcerned architects and their institution, it has now become the standard through which most buildings are contractually procured. I know of no contractor who has 'design' within his skills base; and 'design' is not even defined under this form of contract. This is the absurd situation that our society and its architects have allowed to happen. It is a recipe that I fear our children will not thank us for. Seen in this UK context, I sense that my way of thinking and of designing is an awkward bedfellow. We no longer partake in Design & Build contracts.

Image: The need to touch – even through thermally isolating information gloves
From 2001 © Stanley Kubrick

But, as I hope you will have gathered, I am an optimist, for I do not have all the facts; and as Benjamin de Cessaris said,
"Progress is nothing but the victory of laughter over dogma."

I do hope that one day people will laugh at our inability to recognise that the European Union was simply a stepping stone to a fully cooperative and sharing world, rather than one of just a few economic global centres.

Image: Shakespeare Bridge, Stratford upon Avon, competition win, 2006, Ian Ritchie Architects with Schlaich Bergermann

However, the title of my talk – 'values in architecture' invokes more than economy, efficiency and visual aesthetics. I hope that I have suggested that designers are a little lost, in need of a compass perhaps, for we are going somewhere but no-one knows quite where. My proposition this evening has been to identify that design should embrace not only *homo faber*, but *homo sapiens sapiens!*

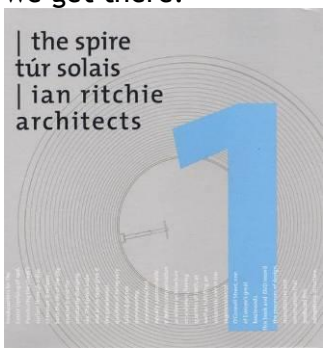
Image: Royal Shakespeare Company's Courtyard Theatre, Stratford upon Avon, 1997
Ian Ritchie Architects with RSC, WSP, KSA, Charcoal Blue, PGAD, Van Dam

As designers, we have to consider the value of meaning and take far more account of:
- all of the senses within design – otherwise we may as well build for robots or part-humans.
- how we extract and source materials and what we manufacture for buildings.
- the need for a socially responsible dimension and humanitarian values in what we design.

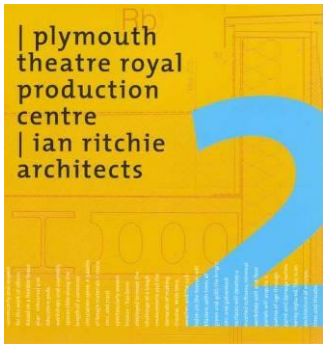
Maybe then we would be able to dispense with a predilection for creating empty fashions to feed an avaricious consumer society, and allow a more informed understanding of the broader social, physical, economic and philosophical aspects to inform and inspire design.

Surely this will help us shape a better future and give progress a new meaning.

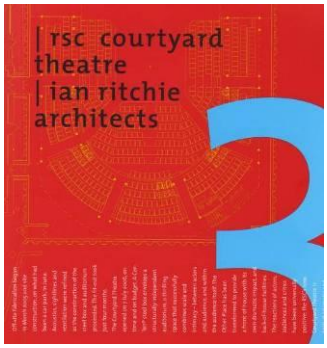
If we reflect upon the way the world is, and if we have an idea of what future is worth living in, and if we want to achieve it, then we have to direct our thinking and our development so that we get there.



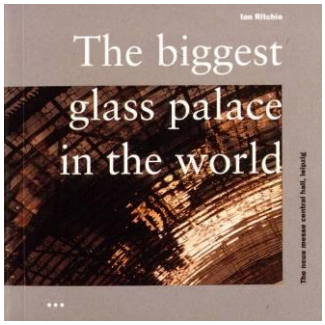
2004



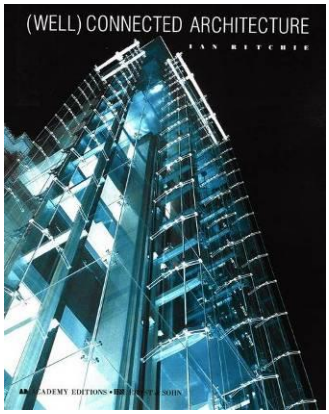
2003



2006



1997



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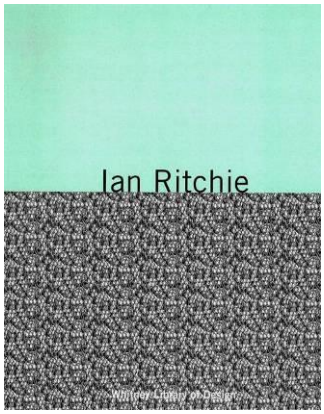

1998

1990

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Thank you

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[3] Martin Wright is Editor of Green Futures (www.greenfutures.org.uk) and Associate Director of Forum for the Future; Jonathon Porritt is Programme Director of Forum for the Future, and Chair of the UK Sustainable Development Commission.

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