

**KUNST- UND AUSSTELLUNGSHALLE DER BUNDERSREPUBLIK  
DEUTSCHLAND "TASTEN" KONGRESS  
TOUCHING ARCHITECTURE  
OCTOBER 1995**

**IAN RITCHIE**

transcribed from a recording of a talk given by Ian Ritchie at the Kunst- und Ausstellungshalle der Bundesrepublik Deutschland "Tasten" Kongreß 10/95

Architecture is a visual art, and as architects, we do think about temperature, softness, hardness, even smell, but rarely the physicality of touch.

*slide = human eye*

When I was asked to give a talk about touch and architecture, the thing that struck me the most was that architects do not think much about touch. We think about the tactile qualities of materials, how a hand runs along a handrail, but we don't actually think much more deeply than that.

*slide montage image of Neanderthal man and planet earth*

In a sense the challenge of preparing a talk about touch and architecture is related to the fact that architecture is very much a visual art, related to the enjoyment of seeing rather than any other sense, and it is interesting that our analysis in terms of the eye and the art of perception, notions of transparency and other concepts are all visual. The Neanderthal montage captures the nature and status of architects relative to the environments they are trying to create. We are on the one level sensory deprived, the opposite perhaps of Neanderthal man, and at the other we are trying to understand how to build better with the planet rather than simply upon it. At the moment we are very ignorant.

I am not going to talk about light-switches and those things we all touch, and having heard and watched the performance here by Stennarck I was reminded of a conversation about the telephone. It ought to be a very touch friendly object, but it has yet to become a ball in your pocket, or a sweet in your mouth. Having just watched Stennarck, one has the feeling that the telephone will disappear altogether. We will no longer have to endure the discomfort of the mobile phone man having a one-sided conversation. It will happen inside the cheek, and so even techno-jewellery will be outdated very soon.

**MOST BUILDINGS ARE TOO BIG TO CUDDLE**

**but we have all caressed a column**

**even though we only lean against a bus stop**

**touching is vital to our human relationships from cradle to grave**

**the way we touch reflects our emotions**

**ARCHITECTURE HAS NOT YET RECOGNISED THE SIGNIFICANCE OF TOUCH**

Another thing about architecture is that touch, for most people, starts when you are born - human contact; buildings are extremely difficult to cuddle. They are simply too large.

However, there are things such as columns that you can engage with.

*slide= stained glass window Köln cathedral*

I show this image as it is the most tactile thing I could think of within one hour of Bonn that is actually architecture. - it is a window in Köln cathedral.

Most of us have caressed buildings in our time, but we probably haven't noticed it. It's the sort of thing you are doing when you're waiting for your boyfriend or girlfriend, leaning against some object and you find yourself fingering an inanimate object and yet the way that we touch things has yet to invade the way architects think

*slide= cathedral in Brasilia by Niemeyer*

This is an example of a building that I am sure Niemeyer, when he designed it, had models made this size, and that you could hold it and feel it. This is the nearest an architect ever gets to cuddling his own creation, providing the model is not too delicate.

*slide= Alhambra courtyard*

This is an illustration of a column, and for most people that ever go to Alhambra, or places like this, the emotional nature of the architecture is very rich, and you cannot resist the feeling of wanting to touch.

**WHEN YOU FEEL SHAPES AND TEXTURES YOUR BRAIN IS APPARENTLY TAKING IN EVEN MORE PRECISE INFORMATION THAN CAN BE SUPPLIED THROUGH YOUR EYES, EARS, NOSE OR MOUTH**

**but architectural design does not recognise this**

In the research I did for this talk, I discovered that touch is far more accurate than any other sense, and perhaps because it has no visual organ that we can identify, like an ear, nose or eye, is probably the reason why architects have never tried to understand and exploit touch in architecture. The normal Cartesian way of analytical thinking makes us always want to create a rubric through which we can break down ideas and information in order to understand it better, has left touch out on the edge as something we cannot fathom. In today's world, as an architect, we are so remote from the feeling of building ourselves - like an Eskimo building an igloo or building bamboo architecture in Indonesia. People through time have always used their hands and their bodies to make and to touch the materials which they use in construction. An architect is remote from the material, and in today's world of technology we are so far removed that we don't actually feel materials in the same sense whatsoever.

*slide= Goldsworthy making an ice sculpture*

It is interesting that certain artists, Christo, Goldsworthy and Richard Long have, in a way, reinvestigated for western man this feeling of retouching the base material with which we do and make things. The work of Goldsworthy is not about permanence in the sense of habitational use, he works with the earth and lets the materials produce what they want to produce, and his art is in the touching, feeling the temperature of the materials, what it can do and it is through this process that he makes art. Architecture is so remote from this process. These artists are reminding us of the questions that we must ask as we move along with technology, and how we are in fact investing in technology by the things that we ask industry to do.

*slide= montage of a glass panel and a pile of sand*

As a practice we are perhaps best known for working with glass more than any other material, but in fact we have been, and are currently reflecting on some of the base materials with which we make buildings. We are trying to understand them in the context of trying to produce architecture through the nature of material, where we don't have to process out the innate characteristics of those materials. As industry processes raw materials into components for buildings, such as glass; the sand that we played on the beach with as children is never associated with the glass in the window of your kitchen.

This processing in the industrialised world, with its associated excessive use of energy, is such that all of these tactile qualities are being removed from our built environment, the workplace and the products we use.

This association between the material, resource and the product that ends up on the building is such a fundamental issue because we are in a post-industrialisation, post-fabrication period where industry, with the aid of computers and so on, is able to make products which are very adaptable to individual need, can respond to different situations, and yet have the economy of mass production. When we look back at the buildings of the 40's, 50's and 60's which had prefabricated panels, they were characterised by their similarity. Today we can have the pre-fabrication without the similarity of the same material even within an area of 10 square metres. And it can be done now with the same if not even more economy.

Our fascination with glass is because it is actually everywhere. It is the ubiquitous material of our century. It fascinates me, having worked on the structural nature of glass to make it carry bigger and bigger loads, but I am aware that its sensual qualities are something we've forgotten how to use. It is interesting for me to look back at the stained glass window of Köln cathedral and there the material, although we don't touch it, is actually manipulating light, telling a story, and changing the nature of the environment of the cathedral. We rarely have these sensual and informational aspects in much of the architecture of glass today.

**TOUCHING SOMETHING CONVINCES US OF ITS EXISTENCE**  
**architecture only comes alive when you are actually there**  
**and**  
**you feel it through your eyes, your nose, and your feet**

Ever since the industrial revolution, we have become more and more dependent on the use of machines. Earlier, beginning with tools, the tool such as a hammer in the hand, or the crowbar removed the hand from the material. The winch, the crane, and the development of robotics are all examples of our continued separation from the tactile and the emotional qualities of the materials with which we build.

There is also something about the nature of touch which tells us that when we touch something we know it is real.

*Slide= the black monolith and astronaut from Kubrick's film 2001*

Kubrick, in the film 2001, illustrated that if we touch something it is not necessarily real, we still do not understand it, and yet having understood that touch is so accurate we have the classic icon that touch doesn't mean anything. In making that film in 1976, Kubrick also stole part of our expectations and celebrations of the next millennium.

*slide = Jorge Donn, a dancer in Béjart's ballet company*

Looking at the physical body and touch, here is one of the greatest dancers I ever saw working with Béjart performing Stravinsky's Rights of Spring. I had the feeling that Donn had total contact with the touch senses of his whole body, as well as the intellectual contact with the music.

*slide = Vitruvius's geometric drawing of the human body*

Architects and designers will probably look at this photograph and immediately go back to reducing the body to geometry.

*slide = Leonardo de Vinci*

*slide = Le Corbusier modular man*

These geometric constructs are about the definition of space beyond the ends of our fingers and our feet. They are about defining a geometry within which the human body can move and provide a framework through which we create architecture we should never bump into.

It was Ad Reinhardt who said that "sculpture is something you bump into when you back away from a painting to look at it." Architectural thought has never addressed the issue of the physical/sensual body as against the geometric body. A few weeks ago, thinking about the subject of touch and architecture, I wondered if it were possible to create a geometric sensual body based on the concentration of the touch senses and the distribution of these senses around the body.

*slide = Ian Ritchie's cartoon of a touch proportioned human figure*

Looking at the various research about the senses and the latest apparent knowledge of the distribution of the touch senses around the body, I found a map which conveyed the touch body as a geometric figure. It offers a very interesting departure point for designing architectural spaces and surfaces if we begin with touch rather than the traditional geometric figure.

The invitation to talk about touch has actually triggered a whole new departure point for the architecture of space

### **HAVE YOU EVER LICKED A BUILDING?**

**do we think or know that they are more dirty than your partner's lips?**

"Have you ever licked a building?" I refer to this because of a discussion I had, as her external examiner, with an architectural student at the Bartlett where Peter Cook is professor. She was preparing her thesis, and I asked her which was her favourite building and she answered: the Barcelona Pavilion. Since it was "smooth architecture" and had recently been refurbished, it was suggested that she should go there, put a blindfold on, and lick the building as a way of rediscovering the building from a totally different perspective, which would also allow her to discover a new architectural way of thinking.

Her final work was very impressive. I do not know how many of you have ever licked a building or whether you think all buildings are dirty, but I find it an interesting question.

*slide = cake of the Pump House project*

"Have you ever licked a building" raises the question of Have you ever eaten one? Have you ever put your teeth into one? You have certainly put your teeth into a vegetable, even a tree or your lover. Architects think they love their creations but very few of them ever put their teeth into them. Sometimes we make a cake of a project as we develop the design. If we do not like it, we eat it, and if we do like it we will keep it for a while. This reminds me when someone asked me my opinion of the Hayward Gallery on London's South Bank. I remarked that if it were made of marzipan everyone would love it because they could eat it. The only trouble being that it would have been eaten long ago and disappeared. This would probably make most Londoners happier today.

### **YOU HAVE ALL KISSED A BUILDING**

**remember your childhood**

**kissing**

**through glass windows**

It is interesting to think that you have all kissed a building without thinking about it. As children at school kissing through the window trying to meet lips. It raises questions about the nature of glass. With glass you can see whether it's clean or dirty and if it's a misty glass you wouldn't dream of trying to kiss the shadow the other side. The other aspect of kissing buildings is when you kiss them accidentally; glass again; instead of offering the positive aspect of a romantic childhood it offers you a bloody nose. The shop door or window which has actually met you before you've expected it.

## **YOU HAVE ALL DRAWN ON A BUILDING**

**remember your childhood**

**drawing**

**on misty windows**

We have all drawn on buildings, the misty smooth surface of a window. You have all been in caves and felt the wetness on the rocks, the stalagmites and stalactites, the clay strata and even taken pieces. How many architects design buildings which encourage you to have that sort of contact with them? Maybe this tells us one of the reasons why we find many buildings cold and unapproachable. Architecture generally is not very warm and welcoming. This cold inert aspect is not because you can't eat it or lick it but because we cannot see the trace of the human hand in or on it.

*slide = cave painting hand print*

We have moved from the scratching of the hand on a surface. You can take a pencil to a surface and feel the touch of that surface through the pencil, or even the paintbrush, but you can no longer feel it when you have this inanimate object between you and the surface, and industry does not understand this language - the importance of the hand of the creator being apparent. They are interested in the economy of the production of the piece.

How as architects do we get the trace of the hand, the feeling of touch, the humanity into the products of industry? The only way is to get the confidence of industry to allow us to input into their work. And the only way to get their confidence is to show them how to make the product more cheaply and in doing so introduce the idea of humanity.

## **SURFACES OF ARCHITECTURE**

**rough, smooth, soft, forgiving, hard, sharp, blunt, cold, hot?**

It may seem obvious what the nature of the architectural surfaces that we touch is. There are many, but there are some more. What is a hot bit of architecture? What is a hot surface? An interesting question but not something we would normally ask. Why not? We hunt cold surfaces and cold buildings when it's hot outside, but not hot surfaces when it's cold outside? There are sharp buildings and blunt buildings and forgiving buildings, and it's interesting that Stenarck mentioned Nitinol - a memory material. There are several materials like this, and more will be developed industrially. They will find more and more applications in design and architecture, and compounds incorporating them will have reacted to the presence of people. One can think of the soft wall or a carpet, but the development of reactive surfaces which respond to people actually being in the space, near and not necessarily touching the surface containing them. There will be places where space reacts. We have already been doing this with light.

## **IS A HARD ENVIRONMENT A NOISY ONE?**

*slide = Leipzig Glass Hall*

A very hard surface environment, but one already identified by Kurt Masur, director of the Gewandhaus Orchestra in Leipzig, as a space of very special acoustic qualities, and one in which he intends to create musical performances - which may render the space sensually soft?

*slide = Ecology Gallery bridges and glass chasm*

The Ecology Gallery at the Natural History Museum, London, has a central space, along both side of which are 6 metre high glass walls. One is flat, the other curved. Both are composed of white glass panels. The flat wall has air spaces between the panels.

The geometric relationship and the existence of the air spaces render the space quiet.

Do these observations change our preconceived notions of what we expect from a hard surface which we recognise also through touch?

*slides = Ecology Gallery bridges and cherry handrail*

In the same project, we used different surfaces to reflect man's manipulation over time of the earth's resources. Carbon and wood related to the early chapters of ecology. Then we jumped a few thousand years to the metal age - hence the embossed metal bridge creating quite a different feel underfoot. The same tactile reference of the cherry handrail continued throughout the gallery. Finally the future, and our relationship with the earth is expressed using a glass floor - giving a visual and acoustic sense of fragility - a bridge which suggests it may not take you as you tentatively put out your foot.

*slides = Meridian Planetarium at Greenwich, London*

The next example is a planetarium providing 360° projection. The visitor enters at the equator of this sphere. Half of the audience is sitting on the floor. The volume is illuminated, and you walk on the floor and you sense that it is a glass floor, but it feels OK because it is opaque and you cannot see through it. As the lights of the space dim the glass floor is switched (liquid crystal interlayer in the glass) and becomes clear. Children will probably enjoy themselves, a lot of people will scatter to the edge and some may even be sick.

Because the projected images are over the whole surface of the inside of the sphere, (both the northern and southern hemisphere can be projected simultaneously), you have the feeling of sitting in space on a transparent floor as you leave the earth and watch it disappear as you also see the moon coming towards you - a place of collective virtual reality.

## **IS A SOFT ENVIRONMENT A NOISY ONE?**

*Slide = Daours primary school, France, all timber interior*

The desire to create a tactile and soft environment for young children is an obvious objective. However, the noise generated by the children is such that the space is in fact dominated by voices - and one can hardly call it quiet.

In other words, it depends upon what is happening in the space - a carpeted living room with a loud TV or screaming kids is hardly a quiet space.

## **TOUCH AND THE VISUALLY IMPAIRED**

**our urban environments are too often left to the urban engineer alone**

It would have been very easy to have given this talk on the subject of the visually impaired. The more fundamental implications and opportunities to rethink architecture in terms of and including touch as a significant consideration seemed more meaningful. However, I would like to make a couple of points.

Most urban engineers only respond to public pressure to improve our environment. The various agencies concerned with the visually impaired have begun to make them rethink safety in terms of these people.

*slide = pedestrian crossing showing a barrier adjacent to the button, but immediately in front of the crossing*

This particular slide shows how solutions such as identifying crossings need coordination between the location of devices, such as buttons, safety barriers and tactile pavements.

There are clearly many areas where the floor surface within buildings can act as signs for the visually disabled. For example, suspended floors feel different from solid floors and could be placed in front of stairs, lift doors and emergency escape doors. But our thinking has not yet recognised these opportunities. Equally, one would have expected by now to have seen a European wide standard for the edge of swimming pools.

Handrails, as exhibited here at the Kunsthalle, are an obvious surface upon which to convey information.

## **CAN ONE ANCHOR A BUILDING TO PEOPLE THROUGH TOUCH?**

*slides= Bermondsey Underground Station for the Jubilee Line Extension, London*

Most buildings anchor themselves to the ground and don't make any concession to the idea that you might sit on or lean against a building.

This building, which is a new underground station, has a leaning rail along two sides so that you can actually lean against this building and feel comfortable.

This building has quite a long perimeter and our intention was that when you are next to it, you can lean on it. Obviously the entrance is different, and the south part of the building has a glass roof which comes down to the ground. Here, people can lean forward and look down into the station space and see the trains and platforms below. You also have the opportunity to sit along this edge of the building.

We've also designed the furniture on the platform, and although we have used masonry in our architecture once or twice, we have designed the seat with glass. This seat, which has been tested, looks cold, but we have a light underneath it making the glass feel visually warm and actually warm to touch. Unfortunately, London Underground insisted that it be designed so that tramps will not sleep on them. Hence the curved profile which will mean that as someone falls asleep, they should roll off!

*slide= upside down pyramid at the Louvre*

When we worked with IMP at the Louvre and RFR were designing the upside-down pyramid, the big question was how to stop people hitting their heads on the tip. To overcome this, another small pyramid was placed underneath it - a stone one - and what is fascinating is that when people go there they put their hands in the space between the stone and the glass pyramid. Why people do that I've no idea. In a way they're trying to prove through touch that nothing is there, absence, a bit like Rubric's 2001 monolith.

*slides = Light Memory Tunnel, Ingolstadt.*

We produced an installation in Ingolstadt in 1992 at an exhibition of light and architecture, which was an event at the Ingolstadt Garden Festival. Rather than show models in glass cases, or photographs which no-one could touch, we decided to design an installation - one through which people could engage with light and architecture in a visual and tactile way.

There is a chicane entry, and I recall that initially we wanted to do the entrance and exit with two fabric red lips. Once in the tunnel, you're in darkness and all the surfaces you touch are smooth glass. Moving forward in the dark you touch one of two suspended light pens, and eventually you work out how to activate them. You can then write with light on the inside glass surface which has a light memory coating graffiti which lasts about thirty minutes.

## HOW CAN AN ARCHITECT DESIGNING ON A COMPUTER SCREEN FEEL THE ARCHITECTURE HE IS CREATING?

we are living more and more in the imaginary world of the screen

## THE SCREEN WORLD IS DISTANCING US FROM THE SENSORY WORLD WE HAVE KNOWN

images have never before had such potential to contain so much information  
but at the same time they have never had such potential to contain disinformation

## THE LINE BETWEEN FACT AND FICTION IS DISAPPEARING

we have to distinguish not only between fact and fiction but also between communication and discourse

Considering touch and architecture in its broadest sense, our first responsibility as architects must be to improve how we physically touch the earth, not only in the placement of buildings upon it but also the way we source and manipulate materials from the earth.

## TOUCH THE EARTH LIGHTLY

an architecture which respects the ecology in which it is placed

*slide= France-Japan Ring, Poietic Generator, a Communications Monument*

Our proposal, with Olivier Auber, for a Communications Monument, which the French wished to offer the people of Japan, was conceived as a floating woven titanium ring, literally floating off the ground by using super magnets. The 1.2km walk inside the ring was lined with a constantly changing image. This live and interactive image was created by people phoning into the *Poietic Generator*, and inserting their own coloured electronic hieroglyph into its electronic painting.

*slide= Terrasson Cultural Greenhouse*

In Terrasson, in the Dordogne, we have just completed an experimental cultural greenhouse. Here, the stone strata beneath the site is metaphorically and physically brought up into the landscape to form a 7m high freestanding curved wall - composed of "gabions" - stone in wire cages. The flat roof - metaphorically the sky and a lake, is composed of frameless glass which is independently supported and hovers above the stone walls, never touching them.

*slide = Horne, An Academy for retraining German bureaucrats*

At Herne, in the industrial area of the Ruhr, our whole design concept was inspired from a geological understanding of the site, together with a respect for local people's memory, and in response to the very high levels of pollution from the previous use of the area as a coal mine. The proposal disturbed only part of the site with the creation of a new landscaped valley to connect to disparate parts of Herne and Sodingen. Accommodation was placed in the sides to form the new valley edges. Although we won the entire vote of the architectural & planning members of the jury, unfortunately we were subsequently placed second in the competition, apparently because the client representatives on the jury felt that our landscape & design of the academy would encourage the public to walk through the campus - something which they felt would undermine the academy.

## BARBED WIRE FENCES AS PART OF BUILDINGS ARE AN OVERT EXAMPLE OF 'DO NOT TOUCH ARCHITECTURE'

Finally, I would like to illustrate the work of some architectural students I taught as guest professor at the Technical University in Vienna. This work explored the meaning of space in the context of Art, Philosophy, Literature and Architecture. The end products were constructions of physical space invaded by meanings, and formed an exhibition at the Architektur Zentrum in Vienna.

What was particularly rewarding was the fact that the students physically assembled large scale installations - touching material as part of their design and investigative thinking. By accident, in an adjacent area of this museum's quarter in Vienna, an exhibition for the blind took place during the same period. The students work was such that the blind visitor could fully engage with their work - through touch.

For those designers and architects in the audience, I would like to leave you with one final thought - a zen statement:

**WHAT IS THE COLOUR OF THE WIND?**

**END**