EXPERIMENTAL SKIN KUNSTHAUS GRAZ

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Dissertation

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#### Oxford Brookes University · Module U30099 · Supervisor Christina Godiksen

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who have tirelessly proof read all my writings throughout my degree, including of course this dissertation



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FOCUS



The winning Kunsthaus Graz competition design spoke of a seamless laminated fabric skin of carbon threads, fluids, fiber optics, solar cells and varying transparency (*Bogner, 2004, p.42*). The built building's skin has little relation to the proposal; being made from opaque acrylic panels separated by large gaps and supported by substantial structure below (*Bogner, 2004, p.90*). Did experimental Archigram rhetoric in the design studio lead to innovations in the built skin and what is the contemporary perspective on the competition ideas left behind?



# TIMELINE

1961	Archigram founded Peter Cook · Warren Chalk · Ron Herron Dennis Crompton · Michael Webb · David Greene
1964	The Walking City (Archigram) Ron Herron
	competition
October 1999	Graz issue Kunsthaus competition
April 2000	Spacelab, UK win competition Peter Cook · Colin Fournier · Niels Jonkhans Mathis Osterhage · Marcos Cruz
	huilding
February 2001	ARGE Kunsthaus formed Spacelab (architects) · Architektur Consult (architects) · Bollinger + Grohmann (engineers)
October 2001	Construction start
September 2003	Kunsthaus opens Start of Graz as European Capital of Culture
	contemporary
August 2014	Exploratory research journey Journal by author
September 2014	Contemporary comment Self-installation by author



# DEFINITIONS

# EXPERIMENTAL ARCHITECTURE

"Architecture that goes beyond the limits set by conventional knowledge and practice. It asks new questions and finds new answers. Its success is measured not in terms of conclusions reached but of new paths of thought and development opened."

# SKIN





# INTRODUCTION

The Kunsthaus' skin seemingly stands out as an example of what is often labelled experimental design (*Pakesch, n.d., p. 18*). Following the Exploratory Research Journal (*document 1*), an understanding of the built skin, in contrast to the competition entry has formed, leading to the focus of this research. The skin is the primary building element to change between competition and completed building. The changes were fundamental and other than in outline the competition skin has little relation to the built skin.

It is important to set out what this writing is not aiming to address; the appropriateness of the building to its context, the practicalities of a gallery space without flat white interior walls and the impact of the building on the city of Graz. While these are all valid research topics they do not fall into the scope of this work. Changes between design competition and built work are inevitable and while this is true for the Kunsthaus it does not negate the core questions; to what degree the work in the experimental competition stage influenced the built work and if the competition work has an impact going forward.

The Kunsthaus winning competition entry was by the later established Spacelab, led by Peter Cook and Colin Fournier. Cook was a founding member of Archigram an experimental architectural design group established in the 1960s with a neo-futuristic style, often described as high-tech and machine like (*Sadler, 2005, p. 78*). Archigram's influence is often seen in the Kunsthaus (*Pakesch, n.d., p. 18*), however Professor Niels Jonkhans, Kunsthaus co-designer and architect, explained in an interview for this research, (*appendix b*) that Archigram ideas were not discussed in the design studio. Yet admits shortly after the clear connections that are arguably inevitable with Peter Cook's leadership. The project most noted as influencing the Kunsthaus is also the most reproduced Archigram work, '*Walking Cities*' by Ron Herron (*Banham, 1994, p. 73*). With reference to this project, Dieter Bogner (2004, p.6) in the most in depth book on Kunsthaus architecture states the Kunsthaus "represents the link between the utopian [Archigram] architecture of the 1960's and the discussion about bubbles and blobs". *Walking Cities'* and the completed Kunsthaus share a blob like form, but importantly and more subtly Banham states *Walking Cities'* is a "changing entity" responding to "inhabitants" *(1994, p.75)*, an apt description of the competition skin design. Maybe coincidentally the Kunsthaus is generally known as 'the friendly alien' and Banham calls *Walking Cities'* a "friendly-looking machine" *(1994, p.75)*.

The analysis is conducted using two distinct methodologies, this is essential to address the two main elements of research. To fully understand the gap between the supposed Archigram rhetoric in the design studio and the built work, 'Competition vs. Building' explores a comparative analysis in the framework set by its designers, using photographs, quotations and drawings. Concluding that due to financial restraints, technological limitations and a hindering timescale, the design research required to implement most of the core principles of the competition skin, was far from possible (*appendix b*). Most of the experimental elements developed in the competition stage were replaced by a re-working of existing technologies. Following this pragmatic understanding of the project, 'Contemporary Comment' takes a physical, analytical approach to the skin, its design potential, failure and impact through a new set of experimental tools. Tools defined through site based installation, allowing for a perspective not governed by existing analysis, one of both reflection and hindsight. Fundamentally bringing the studio ethos of the competition stage back to the forefront.

The importance of this research and selection of the Kunsthaus' skin as the focus seems clear; Archigram's theoretical ideals and concept have influenced many key practicing architects of today and in the Kunsthaus' skin many state we have the first built Archigram work (*Jones, 2004*). However, if the built skin isn't experimental, can a contemporary lens of installation see any scope for development from concepts in the competition design? If so, the experimental competition work looked at with experimental analysis, would have fresh validity in opening new "paths of thought" (*Cook, 1990*). This experimental methodology is reflected in the subject being considered, working closely to Peter Cook's definition of "Experimental Architecture" (*Cook, 1990*) and showing how the experimental design work, while unrealised, will continue to impact future built work.



"The performance specifications of the skin vary continuously along its surface, from the properties of rigid, opaque surface to those of a flexible, transparent membrane"

(Bogner, 2004, p.42)

## "a crucial stage was the architectural competition"

Waltraud Klasnic, Provincial Governor of Styria, Austria. (Ilsinger, 2003, p.5)

Competition

The Spacelab competition entry was documented "poorly" to quote Jonkhans (appendix b), yet it was this work that won the competition and is the genesis of the built building. The Kunsthaus was the first major built project by Peter Cook, who was in his late 60s at the start of the project. In an interview he spoke of not wanting to become a theoretical "footnote in history" (Anon, 2009). Both Cook and Colin Fournier's leadership in the competition stage seems clear but they were not leading an existing practice, there was no practice, the creation of Spacelab came after winning the competition. Both Cook and Fournier's backgrounds had focused on academia and theory, most notably Cook's work in Archigram and as Director at the Bartlett School of Architecture, UCL. The Spacelab team (Peter Cook, Colin Fournier, Niels Jonkhans, Mathis Osterhag, Marcos Cruz, Nicola Haines, Karim Hamza, Anja Leonhäuser and Jamie Norden) all either studied or worked at the Bartlett School of Architecture and the team came straight from this academic world.

"...then at some point the guy that would be running the museum, the curator, had a very strong argument that it shouldn't be a daylight museum, meaning that you had to block out 99.9% of the light." Architect. Professor Niels Jonkhans (appendix b)



fig.10 dark inside (author, 2014)

SEAMLESSNESS?

fig.12 latex model (spacelab, 2000)

"The skin is a laminated fabric incorporating a mesh of tensile threads and compression ribs enabling it to span the width of the roof without intermediate structural supports."

(Bogner, 2004, p.42)

"The three-dimensional fabric 3DL laminate is vacuum-formed and baked over a multi-reformable articulated mould, which allow the fabrication of seamless skin panels."



Competition

"The large gaps in panels have meant dirt on the underside of the skin has collected. For a 11 year old building that doesn't look great."

Building

Exploratory Research.

Building

0.414

fig.11 skin prototype (spacelab, 2001)

fig.13 dirty skin (author, 2014

#### EMBEDDED AUDIO / VISUALS?

EMBEDDED SERVICES?

"The lamination technique is also used to insert within the skin discrete elements such as audio-visual display screens, loudspeakers, lighting elements and projection equipment."

Competition

Building

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"Fluids, fiber optics cables and other infrastructure elements are channelled through the fabric by means of laminated bladders. It is also proposed to use the structural carbon threads of the laminate as network cabling connections to node point load and light sensors that can in turn control smart fabric panels and flexible solar cells."

(Bogner, 2004, p.42)

### Competition

"As a major part of its fire protection system, the Kunsthaus Graz employs a distributed temperature measurement system directly beneath its outer skin. Fiber optic Raman-effect based sensing systems as the one installed by Siemens AG Austria are still to be considered novel and innovative."

(Institute of Engineering Geodesy and Measurement Systems, 2012)

Buildin

fig.15 bix lighting (spacelab, 2001)

# "The good thing about Peter [Cook] is that he is able to motivate and release energy in people in an unusual way"

Architect, Professor Niels Jonkhans (appendix b)

In reference to the idea of a skin of tensile threads, bladders and fibre optic networks Peter Jones of the Architectural Review stated "the Archigram rhetoric recalling the space race proved hopelessly optimistic" (2004) and Jonkhans agrees, "they were very, very colourful conversations" putting this down to Cook's leadership. Spacelab thought the budget would be bigger (appendix b) and the building had to be completed for the European Capital of Culture, two major constraints on the scheme. Jonkhans thinks with the right amount of time and budget the competition would have been buildable. Even still it is hard to see how many of the elements written about could have come into effect. Firstly, the competition considerably underestimated the substantial structural depth required to span open gallery spaces. Secondly Jones compares the description of embedded services to elements of car or plane design and that even with a larger budget Jones highlights how approaching the composition of a building skin in the same way as a car, does not work: "a cubic metre [of building] can cost only a fraction of a cubic metre of car", especially when you consider mass production and economies of scale in car manufacture. Without the time to develop truly new technologies, the skin consisted of a re-working of existing techniques, admittedly compiled into a unique form. The distinctive roof nozzles designed to bring in north light should have been internally coated with a reflective material, creating effective light pipes. Yet this was cut due to cost requirements, leading to substantial usage of artificial lighting during the day (Jones, 2004). According to a frustrated Jonkhans, the lights were ordered without external casing, saving €500,000 but severely reducing efficiencies. Over the years this choice has amounted to well over the €500,000 in running costs.

Jonkhans considered the competition to be clientless, there was no understanding of what the gallery curators wanted. This was overshadowed by a desire from the city to create their own 'Bilbao Effect', (an effect named after the Guggenheim gallery in Bilbao, that after only 5 years of opening created \$500 million worth of economic activity) (*Rybczynski, 2002*) which may have lead to some loss of critical judgment. In choosing the winning scheme, they arguably saw an icon they wanted "to buy" (appendix b) and the unobtainable properties of the skin did not concern them. Services such as fibre optic fire sensors, sprinkler system and sonic bird scarers are built into the skin of the building, although they are part of the multi-layered non-embedded system.

# "the transparent skin idea became useless - nobody wanted it, nobody needed it"

Architect, Professor Niels Jonkhans (appendix b)

Fundamentally the limited restrictions in the competition stage and Spacelab's background in academia explains the large gap between competition and built building. Jonkhans states that the ideas documented were just a list of features, yet separating these from the skin arguably leaves a blob in outline, one without the complexities that lead to its design. Therefore the influence of the competition skin on the built skin can be distilled to just a basic form. The experimental Archigram rhetoric in the design studio is evident but this research shows it did not lead to innovations in the built skin.



"Wearing the 'proposed skin' of the Kunsthaus, outside the Kunsthaus, is my comment or you could say a 'sandwich board' for Spacelab's design."

Exploratory Research Journal (document 1)

Having established an understanding of the gap between competition and the building, what is the contemporary understanding of the ideas left behind in the design studio? If they are lost to that stage, how can this research come to an understanding of those studio concepts? As documented in the Exploratory Research Journal (document 1) the approach required to understand these experimental concepts of the design studio needed its own experimental methodology. 'Contemporary Comment' is a self-installation, an installation built physically around the researcher as an experimental, site specific framework for analysis. Use of an installation as a means of analysis is effective (Springgay, 2009), as it can be quickly designed, built, redesigned and rebuilt. This flexibility and speed in installations for considering unbuilt architecture is significant, due to the comparative slow pace of change within the built environment. Office of Subversive Architecture (OSA) address how an intervention/installation, while being temporary and with little budget, can cause considerable discussion around the architecture of a specific site (2006). However, is the installation experimental? According to Cook's own definition of 'Experimental Architecture', work must go "beyond the limits set by conventional knowledge" and create "new paths of thought and development" (Cook, 1990), both of which are evident by the existence of this very dissertation.

"it has allowed me explore the key design changes within the skin, by becoming part of it and bringing it down to a human level - something people can actually touch."

Exploratory Research Journal (document 1)

Archigram's 'Walking Cities' was a "changing entity" responding to "inhabitants" (Banham, 1994, p.75). In comparison, visitors are unable to even touch the skin of the Kunsthaus and its rigid structure does not respond to inhabitants. 'Contemporary Comment' is flexible and adaptable, integrating structural ribs, tensile threads and integrated audio-visuals (document 1). Placed around the Kunsthaus and documented in an Exploratory Research film (appendix c), the installation quickly attracted discussion by both fitting and not quite fitting in with the Kunsthaus. Jonkhans does not see ideas of future merit in the Kunsthaus "You might be able to do that with Peter and Archigram but not the Kunsthaus". Jonkhans is so very close to the building, that when discussing the project he tends to seek out the successes and does not dwell too much on the compromises made; it makes it hard for him to truly step back. This dissertation has shown that future merit could be found within the competition entry, but we are yet to see any results from this. Historically the translation from academia to the built environment has taken a considerable amount of time. It took over 40 years before a significant built building was compared to an Archigram project. The installation has brought back the experimental essence of the competition skin, with its success "measured not in terms of conclusions" (Cook, 1990). The competition need not stay buried behind the built building. The contemporary perspective on the competition design is clear, new "paths of thought" (Cook, 1990) can be opened, with the right tools.





CONCLUSION

"The building skin is quite different, concrete with a tacked on wooden skin of louvres. Obviously the buildings are for totally different uses. There wasn't anything many people would consider experimental."

Vienna Business School, Exploratory Research Journal (document 1)

The Kunsthaus was a transitional building for Cook, eventually leading to his current string of built work as director at CRAB Studio. CRAB's project for the Vienna Business School (Anon, n.d.) seems to have taken a step even further away from experimental skins (Godsell, 2014). Jonkhans acknowledges this change, "it's different, it's a proper office now". Over the last decade the experimental impact that jumping from academia to the Kunsthaus had, has dissipated. 'Competition vs. Building' established the lack of innovations in the built skin, caused by limited time and budget for further research and development, following the competition win (appendix b). The building belies its unusual form and is made from well established materials and in most ways using standard construction techniques (Bogner, 2004, p.90). 'Contemporary Comment' brings the competition studio ethos of experiment back into focus, opening up questions true to the definition of experimental architecture. Experimental design does however have potential to push innovation, but at a considerably slower pace than might be initially perceived. The built skin does not have the experimental intent of the competition. Yet ideas from the Kunsthaus design competition could have future merit. However it is unclear when this might occur and who would take a lead, especially as it seems unlikely to involve Peter Cook.

Journal: 3100 words · Dissertation: 2820 words

#### 01. Author (2014) [Photograph]

#### 02. Author (2014) [Photograph]

- 03. Spacelab (2001) [3D Model] A Friendly Alien. Kunsthaus Graz, Peter Cook, Colin Fournier.
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Exploratory Research Journal - Document 1

Jones, T. (2014) Telephone interview with Professor Niels Jonkhans, 19 October. Co-designer and project architect of the Kunsthaus Graz

**TJ** = Theo Jones (Author) NJ = Professor Niels Jonkhans

TJ: For context, could you explain what parts of the project you were involved in?

**NJ**: I did the competition, so I share my authorship with Peter Cook and Colin Fournier and I was also responsible for the development of the architecture in the company we set-up - Spacelab UK. After the competition and beginning of the contract, we teamed up with a local office Architektur Consult and engineer Bollinger + Grohmann and formed ARGE (meaning joint venture) Kunsthaus. So I was involved in all stages, from the first sketch until the thing on site.

**TJ:** I'm exploring the idea that fundamental "experimental" elements of the design were lost in the built scheme, would you agree?

NJ: Yes and no.

What I find funny about the original intention is, you might know something of it, however it is poorly documented with only a few renders, images and little bit of text. Then there is a lot of interpretation of how these things are read, what was originally created was a list of features not a technical scheme for construction.

Features were lost, during the process of developing it, because a client came in, the competition was basically client-less. So there was no curatorial concept. The other main point was the economic factors. But yeah, I agree there are lots of differences - but to be honest with you as someone deeply involved in it, many of the features documented, were merely features wished, with no technical strategy of how to implement them.

**TJ**: On that point, what would you say to Peter Jones (Architectural Review) who stated "the Archigram rhetoric recalling the space race proved hopelessly optimistic" in reference to the skin of tensile threads, bladders, fibre optic networks and the like? It sounds like you would agree with that?

**NJ**: Sure. I agree with that. This is partly related to the time, especially around Peter Cook - talking from a very architectural point of view, rather a typical architect point of view on how things would be usually done. More like speculating on what would be most desirable for a space like that - they were very, very colourful conversations on what this thing would be really doing.

**TJ**: Some have argued that the scheme is a realisation of some Archigram ideas, 40 years later, was this discussed or referenced during the design?

**NJ**: No. I think that lots of things have been brought back to Peter Cook, because he did a lot. On the contrary, Colin Fournier was very much against this being a subject, he wasn't part of Archigram, neither was I (obviously, I was like 13..) But it's true, I wouldn't deny it, especially the space and the ideas that come with the shape and the all things that were pushed by Peter -

#### without mentioning the word Archigram it become part of the DNA of the building.

**TJ**: What are your feelings toward the change from a continuous varying transparency laminated fabric membrane wrapping the building to the panelled opaque building, were you disappointed, or was it just reality?

**NJ**: No, no, I can't be disappointed, as I was part and witness of the development - it's not like "I don't see the kid for many years and he looks different". Yeah, to be honest, many things one can live with. Other things one can't. As for the opacity - in the beginning everyone agreed even the client, that it must be translucent, then at some point the guy that would be running the museum, the curator, had a very strong argument that it shouldn't be a daylight museum, meaning that you had to block out 99.9% of the light, which is technically a problem, but it's not just about putting in some louvres, even if those louvres where individual in shape, triangular etc. Obviously this comes with a price tag - but it changed the whole curatorial concept, for us it was supposed to be a daylight museum.

So in order to make it a black box suddenly, you had a very hard argument pushing through any windows, especially if windows come with a price, so it changed the whole discussion and the whole momentum of what the architecture was about - this is where the BIX Media Facade came in - because we were discussing how we can make the inside visible to the outside. Normally this can be done by translucency of the building - you see people and sculptures. But then an electronic way was suggested, from realities:united group, which was happily taken, to integrate an artistic device that on an abstract level translated what was on the inside to the outside.

So there was a partial solution to the problem, but it didn't solve the main problem and the transparent skin idea became useless - nobody wanted it, nobody needed it.

**TJ**: I haven't come across any detailed drawings of the skin from your competition entry and of course you say it isn't well documented, I've come across a description of the skin and models of the whole building, but the description seems to describe something that was quite thin, but what was built was relatively thick...

**NJ**: ...oh yeah, that is purely technical, for the structural capability of the skin, there are no columns, which is quite an effort, so the geometry of the steel beams have to fit between the inside and outside skin, snow load, all of that...

# **TJ**: The competition talks about structural ribs built into the fabric, that would give it that strength, how far was that taken in the discussion? it seems to be written with authority.

**NJ**: Sure, it's nicely written yeah, we thought the budget would be bigger, but what was written wasn't calculated in anyway, technically it might have been feasible. You must remember the commission was in April 2000 and we didn't start planning until July 2000, which meant that 2 years later in 2002 all the main components had to be built - all the raw structure. So in the last half year of the project, things could be mounted and the internal fitted out. So there was not much time left for thinking. So it doesn't make sense to look for someone who is the culprit, who made that one big change, it was just a very down to earth pragmatic course of events.

#### TJ: So you think, if there had been more time and money it would have been build-able?

**NJ**: Definitely. Well with the competition entry, it's one thing to write down an architectural ambition... but the research and development stage would have been much longer, but unlimited time and money yes, but that would also be unrealistic. What brought the project back in a way, was the fact we didn't compromise on time scale or money in anyway, we delivered it to time and exactly to budget, especially with the complications that emerged during the process. That is quite difficult.

What I would have wished, although I get on well with Peter and Colin, is that they would have used Archigram for example or "Sir Peter" to put a fist on the table and say, "look you chose this and it just happens to be a little more complicated" even with all the changes that came later, with program or function. It's very unrealistic to say "fuck you" and keep with the same price, sorry for the language, it was a very tough and very pragmatic decision making process.

#### TJ: And the pragmatist was the client or?

**NJ**: Yes the client but also the time scale as it had to be open for the start of the European Cultural Capital celebration in Graz. Plus it's not like we were Norman Foster with 100 people that they can call in, you know how Peter Cook didn't really have an office, working at the Bartlett and myself at Hopkins at the time. There wasn't an infrastructure, so it took quite a lot of time to do things like buy furniture and an office. It sounds like an excuse, but I don't mean it as one. If you look at these things from the outside, with Peter from Archigram, a big influential guy, but then you look at something that involves a lot of innovation from all sides, including the client - who you find just basically wants to buy the image, they don't worry about extra steps that have to be taken. But we had lots of smaller companies who were willing to invest much more than they could actually take out of it, if they hadn't the thing wouldn't have happened at all. For example the inner mesh of the building is actually a sewage filter mesh...

#### TJ: I must say I'm not a fan of the finished inner metal mesh...

**NJ**: Yes it's dark, but its mesh that cost £3.50 a square meter so it's basically for free. But never the less, there are parts missing from the lights, that saved €500,000 - but it has a negative impact on the building it's more expensive to live with it than to have paid upfront - it's basically the heating bill of the building.

**TJ**: Could the design studio work although not realised in the Kunsthaus, be seen in somewhat the same way as the Archigram theoretical work, a vehicle to push forward experimental building skin ideas, that might be later realised? Essentially do you feel that doing a competition entry like that pushes forward these ideas?

**NJ**: Well maybe some building elements, the shape, the translucency of the skin, could have been seen as a hint towards the future, however on the other hand parallel or even before other offices have been doing very good research and even built works (look at Herzog & de Meuron, Rogers even Fosters when it comes to skin development). So not really, I don't think there are any unique or exclusive ideas that happened at this building, I think to say that would be arrogant. Archigram has been bounced off many offices who do good work. I wouldn't say that the building has a DNA that you would find elsewhere pointing back to it. You might be able to do that with Peter and Archigram but not the Kunsthaus. But that was not an issue for us.

# **TJ**: I would say it was significant for Peter, as it sort of kick started his built career. Do you have any thoughts on CRAB studio who have seemingly taken a step away from the hi-tech futurism of the Kunsthaus?

**NJ**: The thing is, I know how Peter Cook works, but it's different, it's a proper office now with many projects of various quality. I've visited the one in Vienna (Vienna University of Economics and Business) - I'm not a fan of the wooden façade and I see a lot of cut corners, so erm, but apparently it works very well, the client is very happy. The jump between what we saw between the watercolour pictures Peter did and what was built on site, I was a bit disappointed. I haven't been following all of their work.

#### TJ: I don't know if anyone who worked on the Kunsthaus also worked on the Vienna project?

NJ: No, Peter was the only link. I don't know if you know how Peter works, but he's not the sort

of person to worry about handrail details, so he's sort of talking metaphorically about what the building should do, which is good. The good thing about Peter is that he is able to motivate and release energy in people in an unusual way, no matter what time problems there were, whenever he came to Graz everybody was basically hyped by the energy of him. That's what I mean by saying that he would have had more influence on the client if he had been a little bit more nasty and less jolly. "I don't care what it is, just make it from what is available" he might say, we would say "hey, hold on, we need to fight for more than what is available", but that didn't happen. That's the only bad feeling I have about it.

The building is working really well both in how it is accepted by the public, but also how it works in the museum landscape in Graz, it's a good addition. I know that although it has deficiencies, its possibilities for displaying modern art is triggering new pieces of work. It made Graz as a venue for museum curating quite interesting. This was the bottom line of the speeches at the 10 and 5 year anniversary of the building. So it put Graz on the map, which was the original intention of the brief. "We want Bilbao".

I've been working with the building for 10 years now, even with the deficiencies, that are clearly there, that annoy me. We even went so far one time as removing all the internal skin panels, with everyone complaining about the darkness of the space - which I totally agreed with - with many exhibitions it's a killer. But by removing the panels you expose all the structure and services.

**TJ**: Peter Cook has stated he is 95% happy with the Kunsthaus - citing the limited use of nozzles inside as the 5% he wasn't happy with - by the sounds of it you wouldn't quite agree?

**NJ**: The thing is, it depends on your role in the building, I could be really optimistic and say I'm 95% happy or I could have the typical architectural criticism attitude and slag off all the small things and not look for what works. But I have to be realistic and I saw how the decisions were seldom made from the architectural point of view. From that point of view I can not be happy - the sustainability of quality is not met, the €500,000 that needed to be spent to finish the cladding of the inside, stands in no the relation to the on-going costs arising from not finishing it - and would have avoided the rightful criticism of funny lights within the building. Peter maybe knows them, but maybe forgets them, I don't know.

It's a communal project. You've got to be positive about a prototype building, which is the first of its kind in the area. Otherwise everything becomes academic hot air.

#### Jones, T. (2014) Exploratory Research Film, September. Duration: 2 minutes. Graz, Austria / Kunsthaus by Spacelab

#### https://www.youtube.com/watch?v=mnIZZrOAFcA

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