

Culture Session

- C: chair, Paul Warner, 3D Reid Architects
- M: presenter, Mark Whitby, Whitby+
- A: presenter, Andy Dainty, Loughborough University
- Q: Question from the audience

C: Good morning. My name's Paul Warner, and I'm Research Director at 3D Reid, and I've been involved probably in the last 20 years, and in fact tender for universities on various subjects to do with adaptability and probably 10 years or so with AFRA, so a subject close to my heart. And this session is to do with culture, and I think culture is a word, which is very closely linked to civilisation, and in terms of definition that means living in an advanced state. In terms of design it means that we automatically deal with advanced processes, advanced platforms of knowledge, and systems that are, they can embrace change, and also different attitudes to asset classes in terms of usefulness as well as financial.

We have two eminent speakers today, Mark Whitby and Andy Dainty, and I will introduce them in a moment, but I'm afraid I can't chair a session without having to add something. So I've just got four images for you to chew on and at least kick you off with a few thoughts. I've used a metaphor of the car to explain my thoughts to do with embracing change. You may or may not know this, but this was the first car ever in the United Kingdom by dear old Henry Ellis, it took two years to build, it wasn't made in the UK and obviously it was bespoke, there was no car industry, and Henry made it around what he wanted. To me it looks like a carriage with the horse nicked, there's an engine input instead of the horse. But probably most importantly it's relationship to the road because as you can imagine roads are designed for horses, the roads that were there in that respect. And it had a specification, which was greater than just what we call a car today. He used it to water his estate, now I don't know if this is Henry dressed up as a sailor or what, but it had lots of other uses. It's top speed was 11 miles an hour and it could go up inclines of 11, inclines of 45 degrees, so it had lots of requirements that Henry wanted. Now if we jump 60, and I find this quite interesting, I only thought about this last night so I just stuck these few together, that the Mini now is over 50 years old, so the Mini is halfway between the period of this first car and now, about 120 years the first one was developed, over 50 years old, and the attitude or idea of a car has completely changed. It's relationship with the roads obviously completely changed by the sixties 10% of the UK was covered with infrastructure. But more importantly than that 80% of this thing is a saloon, it is a room essentially that you sit in, and you're protected by componentry, I think that was the clever thing about the Mini, 80% of it was something that you sit in. and obviously as I say, it was made up of various components. But you never know in terms of how components are going to be used, and they have a life of their own. So this is my last slide to throw it all a bit sideways, is that in different economies and the different attitudes to things, things that you design will have a different life. So that's my warm up, now I understand, I've never heard Mark talk before without slides, I've heard him talk loads of times, so he's being very brave I think, so I will get rid of this slide.

I've known Mark for years, and I said I was going to introduce him by throwing something in at the beginning, which would be a surprise. Most of my work has been with 3D Reid, and I set up the research unit over 20 years ago. But one of my first associations was a guy called Trevor Horne, we worked together in one composition, Mark actually sacked me when we were doing his house, for incompetence. He doesn't remember me, he only remembers me (laughs) as I said, I have known

him a long time, I've known him principally as a director of Whitby Bird, which is now Rambole Kay. He is now director of a new practice which is Davis McGuire and Whitby, he's also chairman of Ubo Energy one of the UK's fastest growing solar photovoltaic companies. He has a track record of embracing step change within the industry. He's also past president of The Institute of Civil Engineers, winner of the Queens Award for Innovation, and today he's going to talk about cultural perspective on adaptability. Thank you Mark.

M: It's nice of you to say that. I've come here today, I mean it's quite nice this pictures still here, I think they (unclear) keep my thinking fluid. It's very interesting this picture here of the window on the wall. It used to be that a wedding present for a young family would be a window, and they'd take that window with them and put it into whichever house they'd built. Houses, I mean the bothys people built, poor people built themselves, which would be built very quickly, would incorporate that tiny little window and be given, this was the prize, the jewel they had. But lets face it the window was a new device, before that it was it was a few slats in the wall, which you would bar up at night and open in the day giving you ventilation. So the houses were rather easy, the windows were actually rather precious, and you can see that here in a way, a wonderful piece of adaptability.

But look at your first slide, Mr Ellis's car, I don't know how many of you realise that wasn't a petrol car, it was electric, so he was way ahead of his time in that respect, and the fact it would climb such steep hills is really interesting. But what I'm planning to talk to you about today is this culture business because I'm actually quite frightened where we all are, because what I can't see is the obvious way a place, which and I don't think the government's going to see where we are going to get out of the hole we're in. we're clearly are entering a recession, have entered a recession, which has an indeterminable life, they might call it, to an opening at the other side, or it could be a Japanese style recession, which actually means we'd better get used to what the world is here today, don't bank on immediate growth tomorrow. And so what I thought I'd do is I'd go right back even before the motor car, go way back and start talking to you, because I'm fairly passionate about technology and what it's done for us and where it's come from, and the culture behind it. I'm talking about what growth we've had, where did it come from in the past, so maybe we can develop some clues about where it might come from in the future.

In the really olden days, pre 1600's, 1700 it would be great to set sail and find a new continent. I mean it would be wonderful. If you found a new continent, South America, North America, Australia, didn't really matter where you went, you could, you could reap a harvest, you could actually bring back materials, and you could support your population. And a change happened, I mean that was a way of life, it wasn't sustaining that much, there were lots of undercurrents that swept through those cultures, disease particularly. But the thing began to change around about, well actually don't go round about, exactly 300 years from today. I mean the real crucial change happened then, it can be signalled as a point in time, maybe the beginning of the industrial revolution. Just prior to that 1712 period there had been, they had been playing with engines, and a wonderful man called, oh god I forget his name, not Trethwhic, anyway a lovely man who developed a pump, which worked on a, by condensing steam and sucking water up, but he used it, he'd pump it into things and run a watermill off it, so it was a brilliant idea. It didn't really do very much, but it ran a couple of fountains in a few rich people's houses, and they loved the idea, this thing which gobbled up coal and pumped away. But then another man, these people are all basically watch makers, clock makers, they're people, they're skilled artisans, very interesting because time pieces were precious, telling the time was a very important thing to do. So these artisans came forward and developed things. And a man called Newcombe actually came up with a working engine, and that engine went through a series of step change from 1712 to the 1800's, which were quite phenomenal. It was a big heavy lump of an engine, it sat, it didn't, was stationery, but it was used fundamentally to first grab raw coal from places where

they knew coal was, so this engine was taken up from down in, it was based in Devon at the beginning of the new with invention when he was, (unclear) Devon and Cornwall for mining tin. But fundamentally in the first stages it was built like for coalmines and anything Worcestershire, and would actually suck water out of these mines to the extent that they could go down different layers, because all the time the mines were flooding, and they were compromised, and what it did is actually, they must have used huge amounts of energy, it yielded even more energy, it was a factor of 10 probably in terms of suitability to actually mine coal.

And this coal it was firstly a very slow process up to about the 1800's, I mean the population grew, we had more of things, we were able to use the engines down in Cornwall in a very large way to reap the more precious metals of tins, coppers and things. But we couldn't really get the economy going, but when the new boys came in there was a man called Trethwick who came up with the idea of high pressure steam engines, and Boltons, and Watts, who were again. I mean Watt was the man, he (unclear) watch maker up in Scotland, a watch repairer at university, I think he wasn't at the University of Scotland, he was offered the, a timepiece, no he was offered a model of a Newcombe engine to repair, and that's what got him thinking about engines. I mean Watt got in there, an entrepreneur called Bolton joined him, and they got into the business of rig making engines, and the whole economy ranked up, coal was the fuel, coal drove it forward, so our economy got focused around various places where there was coal and iron, and we went forward really making things happen.

And in a sense it was that power, that energy, that free energy you could say, which was actually providing the additional fuel for our economy. But actually the growth, the populations doubled. Lifestyles didn't necessarily improve by the way, I mean they, we like to think that it improved, actually the differentials were vast. On one side we had the wealthy who were doing exceptionally well and we can know that from their artwork and their buildings, but on the other side the peasant, the person who became the labour for these mine things actually lived lives which were probably less, arguably less good than the one they had before. It wasn't really until the 20th Century arrived that this, the true wealth that was across the whole of our community began to be realised. Actually these machines became super efficient, the travel that they generated, whether it was steamboats, steam engines or whatever, they were really running things forward, and on top of that electricity. I mean electricity is a nice little story because I mean (unclear) that Bolter man he's Italian, and the Italians didn't have much coal, any at all, they had to buy it all from somewhere else, so they had a real problem when they wanted to make energy. And the French, they didn't have a lot of coal, it was all up in Liege so they went for hydroelectric power. The electricity systems got developed more in France than, interestingly there's still repercussions from that in this country in the sense that they are much more plentiful of electricity than all this nuclear electricity than we are. But what I'm really saying is, these inventions were the things which made things happen, you don't have to look much further from the next layers of invention.

Aeroplanes, systems, computers, I mean incredible things which really did unlock value in our society. Motorways, I can remember a recession we were having, which I think in my mind I'd associate it's ending with the opening of the, well the completion of the M25. The opening of the bridge, previous, this was the second bridge across the Thames. I mean why do I want to say, why do I think that's important? Well actually I know that it's important. Suddenly the traffic that used to track down from Archway through Highbury, Islington, across Hackney, it suddenly stopped overnight. Actually I think a nice Mayor we had, I think it might even have been Ken Livingstone then actually banned lorries from London, and we went from having a town which was in many respects spoilt by the traffic that went through it to having this town which wasn't slow. But more to the point, the connectivity that the M25 delivered is fundamental in actually delivering value across our country, it improved the whole efficiency of the south east in a huge way. I mean if you could make a journey, well we wouldn't even

think, can you imagine today making the journey to Gatwick Airport before the M25 was built? I think it's a monstrous idea. And we had to go by train, you couldn't drive through south London, and yet when it opened up, it opened up the whole of that area.

So these pieces of infrastructure became part of our culture, and actually part of the culture of creating growth. We like to think right now that we're going to get some growth from somewhere. People are now beginning to think about things like HS2, okay well the channel tunnel I think probably did deliver an element of new growth to the UK, but will the HS2 do the same? I mean Cross Rail will obviously deliver some enormous benefit back for London, but will it really be the bee stingers we need, clearly the Olympics are going to do something, but is there going to be a hangover in the Olympics which is going to take us back to where we were? And what I'm really implying there is the concept of the law of diminishing returns on the investments we begin to make on our infrastructure as we approach what I call a mature society. Is it possible that at some point in time we'll say we have got most of what we need? Whitney Bird became Rambole, Rambole are based in Copenhagen. And when you went to Copenhagen, you began to see the city without many tower (unclear), without more high rises, a communalistic society, a very well developed communalistic society, where the difference in wealth between the poor and the rich was very small, at very high levels of taxation, which I'm coming to later. And much more an infrastructure, which was fundamentally there, they've still got links to make over into Germany and other things, but it's small, it's established, and it's there. And the question really is, is are we still fixating on the idea of delivering new growth through big things. Because where I think the growth could come, where I think we should be, I think what we should be arguing for is the growth is going to come not through building new things, but through making things more efficient, and when I talk about making things more efficient, I'm thinking of adaptability, and from taking what we've got and making it better.

Now when we talk about those sort of things, and it's important to stop and go back a little bit about the baccarat behind these. A great example of an efficiency gain is when you look at the fridge, I mean a nicer piece of component part of our buildings. In 1975, and you compare a 1975 fridge with a fridge of today, the average fridge is larger than a fridge from 1975 and that was 35 years ago, it's larger, it costs 60% less than it did 35 years ago, and it uses only 25% of energy that it used 25 years ago, 35 years ago. Cars not quite the same, but we did see a wonderful example here, but very similar, very similar, much more efficient. The Mini, brilliant example, and modern cars are really pushing the boundaries forward. Do you know, I mean 35 years ago I had Morris 1000, and you could if you drove it nicely make 45 miles to the gallon out of it, and we could maintain it ourselves, something talked about that

Yes. It's good stuff. But you know something went wrong, something happened because you didn't actually end up using less energy, it didn't happen like that. We could end up all individually using more, we plug more in. how many of you have got two fridges? Nobody? It's very interesting. How many families here have two cars? It's interesting. What happens is as a result of these wonderful efficiencies these things being cheaper, we get more of them, we have more of them and we use them more. I mean the great thing about the car is, the car they're lovely things cars, but we build motorways to make it possible for us to travel further, and yes they've delivered incredible efficiencies back into our society. We've used them to deliver more over that period of time, but we're consuming more energy as we do it. It's an effect actually which has been well noted, it's a sort of a nice economic parallel that generally speaking when you make something better you use it more, and you've used up the efficiency gains you get from this thing. Fridges, lights, cars, doesn't really matter, our buildings the same. This was talked about 150 years ago by a wonderful, young economist, probably a very new breed in those days, because it picked up, it was interesting, not Milton Keynes, Keens picked it up, and he read the book in about I think 1950. Anyway William Stanley Jemmers

came up with the notion of the gemmons effect. The idea is that if you start making something, (unclear) iron or steel, and you make it better, you improve the efficiency, you get that extra productivity that needs greater profits. Greater profits mean you can invest more, investing more with greater profits means you can lower your prices. Lowering your prices leads to greater demand, and the argument is that in this cycle you deliver, you deliver a greater demand. Now it's true to say that not everybody needs two fridges, but when you make that saving you have money left over, and with that money left over you can think about what you do.

Next question, how many of you have had a holiday involving a flight this year? You've been very, lovely. You see what happens is, is that affordable, because actually all these other things are delivered. These wonderful games, the sense, the argument has been in the past that first of all improved efficiencies lead to greater wealth, and greater wealth leads to greater use of energy. Well and another nice example by the way is a light bulb. I mean a , take a nice equation, 1000 lumen hours and say how long would it take you to work, to earn the, that 1000 lumen hours today, and how long would it have taken you 200 years ago. Well 100 lumen hours is about half a seconds work today if you used the (unclear) fluorescent is peanuts, 200 years ago it would have taken you 5 hours to earn the same amount of light in order for you to buy a candle that gave you those 1000 lumen hours. It's a sort of better, unbelievable change in terms of the efficiency with which we're able to deliver things. It has a great consequence which we can all see, which is now darkness is becoming a danger to national resource, there are few parts of our country which we can go to where we actually find a place which isn't light polluted. So as in illustration of the gobbling up of that efficiency, that gain. But people debate this idea of what they call the Jennings Reback, the, every time you improve the efficiency you end up expending it somewhere else. Just to take you back to the fridge argument, we have these lovely devices, it's not just where the, what the fridge (unclear) to you, it's what the fridge actually contains you have to think about. I could ask you how many people have actually thrown something out of their fridge into the bin, and you can, you don't have to put your hands up, and we know we all do it, so what we're doing actually, we've got these wonderful devices, we actually bring, they allow us to buy things and store them, but of course we store them for too long, and we read the label on it and we end up throwing it away. There is a suggestion that in the United States 40% of all food ends up being thrown away. Now this is, that's a huge statistic when you actually talk about our efficiency and our ability, and in a sense the cultures are bringing inefficiency behind the scenes.

Think for a second of the 25% energy that fridge uses, and compare it to the sort of energy just going into the food, the energy trade. Somebody talked about cost of transport that (unclear) fertilises the whole thing. Right down to the line that gets thrown away, well then the fridge has become highly inefficient. Why am I saying this, why is it relevant? Because I think things have changed. I started by talking about the fact that our economy is not necessarily going to get better, and I'm thinking if I was government what could I do to steer it. What is the next breakthrough, what is the thing which is going to make it possible for us to keep ahead of our (unclear) stay at least at 0 growth and make again at least one or two percent out of it, because growth seems to matter an awful lot. And I believe that there is a case to be made to the government that efficiency is where it's all at.

If we could go to government and say to them, look this is the golden opportunity, because whereas normally whenever we had efficiency gains it would create growth, which people would gobble up and actually spending even more energy on. This is the time when if you actually come to people and say to them, look we've got to stimulate new ways of you using less, you will get very large gains clearly. You get the gain of these new technologies coming through, and us being involved in disseminating them, but the other thing is you don't get the opportunity for people to go away and waste the gain because you've actually got this negative effect. To cite an example of our solar business. Today actually most people have got money in the bank, we'd be mad not to think they can by putting solar

panels on the roof of a house, they give you maybe a 10% return on your investment, guaranteed against the RPI. I mean there's nothing, there's no investment in the world which would give you that right now, and this is something the government, you could say they might say, (unclear) allowed to happen, when they set out to do it they only expect it to be 6%. But the effect of stimulating the market has been to drive the cost down of not only the installation, but actually the panels themselves. I mean the world market is developing very fast in terms of panel manufacture, and those costs have come down enormously, which I think are about a 40% fall in the price of panels in a year, it's just phenomenal, and it's predictable. There are economists who will actually draw the curves, the only trouble is they didn't quite predict it would drop so fast and didn't quite predict that it would drop to where it is. It's now argued that in this country (unclear) you can put panels on the roof of your house and it will give you energy without subsidy, energy at the same price as you pay for your own electricity, admittedly (unclear) is a little bit sunnier than here, but it's not too bad here and that's something. But that's an example, it's not going to be a commercial, but anyway it could be.

But it's equally worth saying that there's this whole business of our building stock, and adapting our building stock. There's no question in my mind that we have got to encourage the government to actually see that this ability, this opportunity to actually get in there and sweep away a whole series of inefficiencies is something that is par for what our country's got to be doing. I mean the news today, there are two bits of news I found rather interesting, one is that there's this campaign by the CBI and the Bank of England and various other people that we should reduce the 50% tax rate that the wealthy are being penalised with, and it's something that Labour Party brought in, which was only going to be temporary anyway, and doesn't yield that much money apparently. Very interesting, obviously it's going to help stimulate the economy if we can encourage more innovators over, to base themselves in the UK, we certainly don't want to penalise the people who create growth. But in my mind in terms of our adaptability argument, and in terms of our efficiency arguments there's a sort of elephant in the room. We have industry today, which is at its 30 year low, I mean we haven't been, I mean thinking back 30 years ago, it was the miners strike, it was the three day week. We had trouble and strife in this country, we were not going anywhere as an economy, Thatcher, do a clear out to get the economy really going. We were, some of, I wouldn't wish to be, it actually happens to be when I started up the businesses in the first place. Actually in the middle of the miner's strike, the people thought we were mad, but actually starting a business in the middle of a recession is great provided it gets out, you come out the other side.

But anyway I'm really saying that there's something we should do. If we as a group of people were to go to government, and we're talking about fundamentally making a change for adaptability and efficiency, I would say to them take away the 27% tax on refurbishment as we might call it, for efficiency and adaptability. It's the elephant in the room, when we talk about adaptability we talk about efficiency it's constantly holding it up, and I've seen it in loads of job appraisals, where actually the line between demolition, we were talking about it before and refurbishment falls to demolition because of that tax. It's wrong, but equally I could say that there must be an economist around who could model the consequential effect to our economy of that sort of stimulation. It's got to be good, it's something we should do. Not, we'll take VAT off everything, we won't lower it to 15% for a short period, we'll just take it off refurbishment. Maybe we'll add a little caveat to that, we want those refurbishments to meet a certain minimum standard of efficiency. Okay

There was another little thing I'm going to use today, which I thought was very interesting, and it's a slightly aside thing. There was this discussion about the redistribution of wealth which has happened as a result of reducing interest rates to half a percent, and I think they talked of 50 billion going from the wealthy people who had money in the bank, the people who had mortgages, and the people who had mortgages and who were now better off as a result of it, and I thought that was very interesting

discussion. They did fail to leave a little bit out of it, which was that the 50 million came, developed a tax return of 40%, which obviously went into the economy, which then went out the other end and did a lot of things for very poor people. But anyway, I will leave you there. Thank you.

C: Thank you Mark. I'm trying to leave 5 or 10 minutes at the end for questions, and I hope Mark will take those back. I will get rid of this now for Andy. I've got a long introduction for Andy, and I just saw him before, this doesn't want to go now, before the talk, and he said I don't want all that read out, he said just tell everyone I'm not an architect and I'm not an engineer, I'm a sociologist. But I will read a little bit. He is Professor of Construction Sociology and Director of Research within the School of Civil and Building Engineering at Loughborough University. For the past 17 years his research has focused on human social action within the construction industry and other project based sectors. And probably most importantly for me, and he's done work on both project failure and the resilience of the built environment, and both natural and human induced threats. He's going to also talk about adaptability from buildings from the perspective of different organisational cultures based on the research undertaken with architectural practices. Andy.

A: That's a wonderful exposition Mark, difficult to follow but this is something completely different I guess. So I guess my interest is in human intersocial action in projects, and I'm interested in power and how power is manifested in, particularly in creative environments, and how it's distributed across human and material registers. And this was a particular work package within the adaptable futures project where we were seeking to understand design contexts and perspectives, and the role of practice in influencing design solutions. I want to stress from the outset I'm not an architect, and I am going to be talking about projects, and I am going to be making some quite bold statements about how we see the culture of practise manifested in design. And I want to also emphasise the mode of research here, that this is very much an exercise in the co production of knowledge. That we, the insights I'm going to present this morning we developed through dialogue, through discussion with practitioners, so these are mutually constituted and developed ideas, they're not my opinion (unclear) if anybody wants to tear me apart at the end of this. So essentially three things I'm going to talk about.

What's the role of the practice, what's the role of the culture of the practice, values, experiences, can we see that within completed design solutions. One of the role of the project, of the site, the client, the brief, the supply chain and how these things manifested, and all about exogenous influences, societal drivers, markets, particularly regulation. And I'm going to be presenting some tools, so I'm going to use that again in a very loose term as Simon did this morning, not in an instrumental sense, these are just there to stimulate thinking. And I'm not looking to label particular practices, the pigeon hole practices in any way, we're just going to open up a debate and a dialogue as a means for critical reflection. And I am going to make a pretty bold statement at the end of this presentation, which might induce some discussion (unclear).

So the purpose of the research is to try and understand culture and practice and it's influence, and the interaction of people and processes and organisation, how this comes together in the desired process, and then plays out in the adaptability of the solution that comes out at the other end. So we're interested in power and how the power is manifested, and politics, and politics plays, as you're all aware, plays a huge role in design, and I'm going to talk about that as well. But first of all we need to operationalise these constructs if we're going to talk about them in a meaning way, and so I'm going to try and define what we've defined the culture as within this project, so I'm going to draw upon a very simple scheme proposed by Shine as a way of thinking about culture. So if we think about it first level as a set of basic assumptions, a kind of core beliefs, which are implicit in the way that people work. We can also think of it as a set of values of attitudes, strategies within practice, behavioural norms that

evolve from these values and ideas. And we can see it tangibly manifested in artefacts and in the things we can see in the spatial plan for example, the design practice, in bureaucratic processes, in tools that are used. And the ways that we think obviously shape our design behaviour and our behaviour shapes our future thinking, and we build on this knowledge so we end up with this, a symbiosis of human agency shaping structure practice and structure shaping human agency, what Giddons calls structuration.

So when your foregrounding, why we think foregrounding the practice, the architectural practice is important to this debate. Because how a practise will think and how it will approach design, which is our thesis if you like, a hypothesis will reduce certain elements into black boxes, and then the other contingencies that again Simon talked about this morning, will then come into play in ways that we need to understand. So products, market, policy, rules, strategies etc., might also play a part. And they're distanced from that box in the middle and things that we traditionally associate with adaptability suggests that they might be overlooked, and if we could understand how they can interplay better, then we can take account of them more effectively. So we're arguing that practice emerges with an important actor within this design process, and if we can define the roles that these contingencies play we'll have a better understanding of the kind of decision landscape that within design practice environments.

So how can we imagine design? Obviously a design is a social process, it's shaped by the process of doing, and so we need to study and need to observe practice and what happens. It's transferred through tacit methods and implicit modes of working, and they'll differ in different environments. It's shaped by power as I mentioned earlier on, even in supposed egalitarian creative environments there are still power structures in play, and it's distributed across material of human registers. And the practice serves as a kind of arena for all this to play out, so it becomes an active agent in this design process. And these spatio temporal conditions are really important as I'm going to be showing later on through some project examples, so lets try and understand then how this manifests itself in this environment. Why focus on architectural practice? Well I guess the position here is that the architect is the key stakeholder for adaptability during the design process, but obviously the stakeholders can enable it, they can impede it, but the architect is responsible for the overall configuration of the building.

So four key research questions emerging from this. To what extent does a designer have control over adaptability, and what are the factors that affect that? Is it embodied in a particular way of thinking, a particular value set, a particular way of working, it can be identifying what that is, and use this to help us reflect and think about practice and it's role in design. Is adaptability a kind of mindset, which is enmeshed within a particular culture of practice? Certain practices lend themselves to doing adaptable design, (unclear). And do particular modes of practice, so here I'm talking about structural organisation and culture lend themselves to designing adaptable solutions. So how do we look at practice and how do we try to understand practice? We need a kind of theoretical hanger to put this on, and ways of thinking about architectural practice as it manifests itself in the qualities of the product. So if we look at the literature in this area it reveals a range of different influences, and we've simplify these here in a set of triangles, I'm going to build this up to the model that in fact Simon presented this morning that we're using as a analytical device. So the work of Graham Winch, Lorrie Cohen, a focus on architectural practice roles, and they distinguish between very creative organisations, those with a professional outlook focusing on businesses activity, obviously serving the client, and service of organisations that very much see themselves as public servants. If you look towards the DQI's and obviously the thinking that's embodied within the DQI's, Vitruvius, focusing on delight or impact, utility and function, and the firmness or in other words the build quality.

So here we're looking very much at the role of the design product of the artefact and what it does. And what they're trying to do is to combine those perspectives within our modelling, so we look here what we call project influences focuses on the design and projects. So the architectural practice, if you like the ethos of that practice, it's protocols, it's experiences, project specific influences of the clients and brief, if you like things that some would argue could constrain design and design thinking, and then everything outside of that. Exogenous pulls on the project, society and markets. So it's a way of simplifying all of these influences and we acknowledge this is a reductionist model, it's here to enable us to try and understand what's going on within very complex environments. But you can use this in lots of ways, and this is the way we mobilise this model. First of all get it to evaluate reality, kind of the way things are against the aspiration. Lots of design practices espouse, particularly the design ethos, a way of doing, a way of thinking, or we can use this as a kind of reflective tool to look at whether they've really achieved that to separate organisational rhetoric's from realities. We can use it for decision support at a particular point in time, we've been looking, we can look at it to reflect on the sum of all the decisions in the project, and we'll bounce around within that triangle, within that model and find ourselves in different places, it's supposed to be a dynamic situation rather than a static representation of practice. And we can look at it across our entire project portfolio, and look at how different projects reflect different parts of the triangle. So we're using it as a device to think not to categorise what organisations are.

So by way of example, you can evaluate a project pull at a point in time, this is the model that Simon showed earlier on. So imagine we're being pulled by regulatory requirements in a particular project or particular constraints of a project, and here we have a practice with a very strong ethos, and it might soften that ethos or it's design concept in response to a set of project pulls for exogenous influences. And so over time we'll continually redefine where we fit within that triangle, we'll move around within that dynamic model. So what we did, we interviewed practitioners from forty four different architectural practices around how these influences play out in specific projects, and we asked people to position their practice within that model, it's a pretty crude question but most of the practitioners we interviewed would become engaged with this process. And we ended up with a square all around the model of where practices thought they were, and we did some comparative work with the Japanese practices as well, which yielded some interesting outcomes.

And we've categorised these, we've clustered these into three broad archetypes. So I'll start at the top of type B, so these have a very strong ethos with a social agenda. Most of them are going to espouse an ethical approach to design, so let's put that to some kind of tangible example. They situate, overtly situate their designs within a particular locale, then a particular streetscape, they have a very strong sense of place, and this comes through in the discourse, the narrative that they wrap around their design solutions. It could be iconic buildings, but they could be very functional designs, for example to promote a sense of community. So we're emphasising these exogenous factors as influencing the way of thinking about design. The bottom right hand corner, the archetype C, the design ethos is less apparent, they're more businesses driven, they're driven by client needs, by site constraints for example, the work has more limited design space and they're probably more interested in how efficient the spaces are. So they're really emphasising those project pulls within the model. And then Type A are manifested through the aesthetic, through form, beautiful shapes, and most of their buildings do have an iconic quality to them, they relate very strongly to their design methodology, and they emphasise a practice in the triangle how aesthetic, and how their spaces look. Of course it's not that simple, as I said earlier on, there are pulls here, primary and secondary pulls, there's a strong relationship between exogenous practices and practice, and many practices will find themselves shuttling along that dimension, and a very strong pull between a project specific factors, you can't get away from things like the budget or planning constraints, or as has been explained

earlier, you can mitigate some of those facts and again the practice tends to move around between these (unclear) trees. And of course you can get pulled into the middle of that model as well by the QS, by planners, by Briane assessments, and they can all be used, they can all be mobilised to legitimise particular actions as you'll see in a minute.

So how is the project influenced, manifested in design activity, that's probably down to the tangible examples. So I've got a range of instruments down the left hand side, what I call legitimising instruments, QUAZI regulations, DCB, Briane, DQO's etc. Regulations like section 106 is collaborating organisations, structural engineers, environment (unclear) technologies that we've obviously talked about this morning. This is an example of the briam, lets look at how each archetype might deal with these kinds of issues within a design situation. So we'll start with, there's our three archetypes, we'll start with type C, the business driven approach influenced by client needs would probably say, well if the client wants a briam excellent building then we'll give them a briam excellent building. It could, it will probably be pulled in that direction by client requirements. Archetype B, well the strong ethos, the social and ethical agenda embodied within their approach would probably make low carbon a key driver in all of the projects they're involved with anyway. They might be pulled down by a client's unwillingness to invest in low carbon design, but they're likely to be pulled in that, along that axis. And for the type A, manifesting through the aesthetic and form, it's implementation would be mainly legitimise other design aspirations, so briam for example could be seen to pose a constraint on the aesthetic perhaps, or could be used to legitimise a particular design strategy that they want to use in any case, so they could be pulled in either direction. To some projects then, lets have a look at how this reveals itself.

And I'll start with archetype A, so this is the practise who are interested in the aesthetic and form, and beautiful shapes. And here's a fairly iconic building you might recognise, it's a very strong design concept, it's in Birmingham, it's a cube, it's called The Cube, it's modelled around this idea of a jewellery box, a very different interior and exterior, anyone who visits the building will know that. a very strong outside container that has a very contrasting interior, so big metal box and lots of glass and colour on the inside, that's obviously a non architectural view on the building, a lay person's perspective. Now the concept could come from a number of external design inspirations, I'm not sure where this came from, but it's not necessarily grounded within the streetscape of the locale or the place, the concept seems to dominate over the context, and in this case adaptable structrability strategies would need to fit within that design concept. I'm not saying here that the building isn't adaptable, but adaptability strategies must accommodate the concept. So for example, here, this kind of layered and fragmented façade leads to a pretty complex metal skin of the buildings, that's very difficult to change over time, so you could argue that it constrains adaptability in that way. However the building is also an (unclear) used space, a series of six vertically stacked uses, there's a car park in there as you can probably see from the section, it has retail, office, residential, retail, restaurants within there too, and as course there's changes of use possible within the building. And so adaptability to an extent is being driven by private requirements, and in this case the top retail floor could be used as office space in the future. They were having trouble finding a hotel operator for the building, and so that was converted into apartments, and so the client had a pull on the project ensuring that adaptability was built into the, or accommodated within the broader design concept. And of course exogenous influences also play a part in the discourse around the design is very interesting, it is clear budget implications for creating places of space within this particular building. And there was a dialogue between the architect and the client about the need to, for the, create value later on in that design process. of getting the QS on side was a very important part of developing the concept of the scheme. You could even see some agency in the materials themselves as a project specific influence, it was an original concept for the suffix in the leisure and courtyard area of the building to be very colourful, but because colours were, paint with red in them tend to fade, and because of issues around warranties associated with the paint they had to change the paint scheme to make sure that

the warranties weren't invalidated. So the reason why some of it is blue and not pink and purple is more to do with the agency of the paint than it is the agency of the designer. Interesting.

I'll go rapidly through. Another example, the Folkestone (unclear) Art Centre, nice building, very strong ethos here, so we're looking here at a practice which has a clear social agenda, a kind of ethical approach. And the project here is reflecting the context and the history of the area, and they're trying to tuck into things that in some way form part of the collective memory of the town. In this case the cladding, this translucent quality, this scallop shell effect. Scallop shells are a symbol of pilgrimage, and if you walk around Folkestone you can see them in the (unclear) trains over windows. So these ideas, this place driven design concept was used to sell the idea to the planning authorities, and the narrative associated with the building kind of legitimises the use of the material, and it's been sensitively incorporated into the Georgian streetscape as well. And within, this plays out within the building, the top floor has been designed to adapt the change in the market, very open space, the depth of planning up daylight, column spacing allowing for what was originally to be a restaurant to be converted into incubator offices and partitions are easily removable. So there's focus on flexible relatively undefined space. There's a theatre in here, which is also a multi purpose community space, the seats are retractable. Obviously there were constraints, they were going to use acoustic glass to get some daylight into that space, and that didn't fit within the budget, so again you can see project specific constraints still acting upon design process.

The third example is a scheme design, so here I would (unclear) type C, so the design ethos is less apparent emphasising the project pulls. So this is a residential tower scheme, it's just south of the tube station in London, and the landowners are a private company who are trying to maximise the return on their investment. They've got a planning consultant on board, they're looking at how they can get the ideas through the planning constraints within that particular locale. So they were looking for a pretty pragmatic solution to a set of client requirements. This diagram depicts the actors which were shaping the decisions around the initial design decisions, the opportunity area planning framework at OAPF was very important in encapsulating the broader metropolitan objectives of the area, and the boxes kind of set and limit the context for how they operate on sites. Each have pushes and pull in a different way, as one of the designers said, this is a very political project because of where it was situated. So these bullet points are the OAPF contents, and will deflect that proximity to existing transportation will be very important in this case, and they're providing us with a set of key project constraints to which the design must respond and conform, but also a set of enabling devices to legitimise some of those design decisions to meet client needs. So the master plan provides areas which are strategically plan fixed in contestable spaces, the current OAPF, is pushing for larger family sized and affordable units, and that didn't really fit with the commercial (unclear) with the client is looking to put as many small residential units on the site as possible. So they did the discussions how they can achieve this within the constraints of the project, and how they can respond to that brief. Well section 106 opens up the opportunity to negotiate, they had to buy their way out of some of these restrictions at all for circumventing constraints, three dragons toolkit you may be familiar with, a way of demonstrating there's not really a market for affordable housing within that area. They suggest moving the station entrance to the ground floor of the building to create secure pathways to get access to the tube station, thereby opening up the entire site. So arguably the legitimising tools provide a way to officially sanction the design strategy which meets in this case, the clients needs, but in so doing you compromise the future scalabilities and expansion of the site by cramming as many units onto the site as possible you're locking yourself into a solution, which won't necessarily accommodate future change.

Right, I said I was going to end with a bold statement, it's coming on the screen now. So we argue here the design is driven by exogenous influence tends to lead to more adaptable solutions, and

hopefully that's manifested in the project structures I've given. And the practice arena is important to this, and the disposition of practice, the culture of practice we are getting is important to the eventual solution developed and aiding a kind of time based yield perspective on design, and we think that archetype B reflects this focus. I just want to say just 30 seconds at the end. I want to just present some caveats and limitations to what I've said, it's just illustrative examples, and we're trying to generalise to a theoretical position here, we're not trying to pigeon hole the entire architectural profession. And these projects archetypes will cause more or less relevance at any one project (unclear) the project will inevitably change, so seeing this as a dynamic model (unclear) a lot more work to unpack to the micro political influences of design in practice, which (unclear) done within the scope of this project. Nevertheless that's our position.

C: Thank you Andy. We started a little late, but I'd like to leave some 10 minutes or so for questions. If you could both come here. We are intending to start the afternoon sessions at 1.30, so probably lunch will be reduced to 50 minutes or so. It's the first time I've seen these presentations and they're completely different in their perspectives. One looks at the way we operate in terms of culture as practice, as an industry, and Mark's looking at obviously the bigger picture of where we stand as a culture in terms of how are we going to get growth in the future. Before I throw a question I'd rather that the, something coming from you guys. Could you mention who you are?

Q: Yes. My name is Ken Mathan, I'm a town planner and it's really addressed to Mr Whitby. It seems to me that most of the buildings that can contribute to economic efficiencies through adaptability already exist, and a lot of them are in public sector ownership. And you show the improvement in the efficiency of refrigerators. And the question is do you think there's been a similar improvement in the efficiency of government? If you look at an issue like the joint use of primary and secondary schools in 1976 compared with now, has there been any progress at all, have we stayed where we are or have we gone backwards?

M: I think it's a lovely question because we can take it further and say have we improved the education of the community. And I think I would like to argue that we have. I think the, my teaching experience compared to my kids teaching experience is quite different, and I think the outcome and their preparedness for life is much better. There's also complete expansion of (unclear) education, wonderful way to get people out of work, get people off, you know the employment role, but nonetheless it's improved the basic stock of our society, and that feeds back into exactly what we've been talking about. We've got the skill base now, I'd argue 30 years of architecture it's improved enormously. Just take architecture education in this country and look at what it's achieved in terms of developing what is a world class industry, and this whole business of how they work together, and how the industry works together has gone through a huge change from in the 30 years of my career. So I would argue yes governments played a role in that, and yes government has delivered efficiencies as a result of it. Whether government itself is more efficient I have great doubts, but that's, that they're working on because they're throwing away half of them and trying to see if they can the rest with the other half.

Q: Roger Finey, The University of Reading. Mark can I ask you a very practical situation. You talk about efficiency adaptability, we've always talked about the building, the process of design, and let me give you a very practical example. I sit on the board of a South African company and we've just chosen a designer for a BPP project, we went to a British company, South African company, a Chinese company, and an American company, and the American company won it. And the reason they won it it's being designed in their Chun Ching office. Now when you then went, visited Chun Ching to see what they were offering it was all about the technology, the delivery. They were as advanced as

anybody. Their price was exactly half the UK designer's fee, 50 percent (unclear) on the table. So when are we in Britain really from the point of view of professional service delivery being adaptable now, when are we going to get that wake up call?

M: Well I think you might have just given it to some of them. It's a big issue. The Chinese, there's a bit of, part of the reason why we're where we are is because we're waking and discover that India and china are now rapidly moving ahead of Europe and America. It's a big, this is not an ordinary point in time, this is a point in time when other economies are out there able to grow because they are able to develop the infrastructures and the changes that we aren't, because we are actually more mature than they are. And they are going to go through this sea change, and they're delivering huge (unclear) questions about the Chinese rate of exchange, and how they're artificially keeping in low in order to sell their products and services abroad. I mean it might be the duration of your project you discover that what you're paying, it might be in dollars I don't know, but it probably is in dollars if they're American, but what they haven't, what the Americans (unclear) the Chinese might change. But those, there are other issues. But there's big societal things happening, and yes this is (unclear) international, so you've got these American companies, you've got UK companies who are American, or UK companies that are UK but they are international, and you've got UK companies which are European, and they're all working out ways of dealing with this. I mean it's, I haven't got any answers for you.

C: Can I just add to that, that we as a practice 3D Reid, 5 years ago 5% of our work was outside Europe, now it's over 50%, and it is, I'm sure that's a common story amongst those practices. And I think people are very aware that unless they open offices in those locations they can't compete on fees because our overheads are just crazy. You're also going to see practices off shore in design as well, which is bound to have a long term creative effect, you know, to our ability to reproduce our skills and knowledge base. But I guess on that one we're finding that the off shore into Northern Ireland is the same brand as off shoring to India.

Q: I'm Adrian Robinson, and I used to work for Buro Happold for about 20 years, and perhaps one of the great delights of being a consulting engineer is that you get to visit many different architectural practices, and you get a view of major styles of architectural work, and you learn to adapt yourself as it were to working with different practices. I think it's fascinating Andrew about, because your view, you sit outside the profession, and so you can see things in a different way, it's almost like you have a different viewing pane, which I think is great, and I think, and I've seen some really, drawn out some very interesting conclusions. I do, just to probe you slightly on a couple of things. The first one is that you took, this is a small one I guess, you took the Cube as an example of iconic building that hadn't, that was very, it was iconically focused, it wasn't site focused, and it wasn't project focused. I suspect actually that part of that response may have been, or one of the responses could have been naturally Birmingham's about blocky buildings, so actually what they were doing, they were responding to the context of the site and the blocky buildings, that was one observation. But perhaps more specific, when you identify archetypes, which I know are true, I've seen some of that characteristics, but I do also see that there are practices that almost stand apart, fight against the archetype, they'll say that we will be social when we need to be social, we will be project driven when we need to be project driven, and we will be iconic when we need to be iconic. And that there's a play, and they, I thought of a diagram, that sort of arrow shuttling backwards and forwards between site and iconic or iconic and project, I thought that was very perceptive. And I think there's, I think perhaps in the end not to be too fixed on these archetypes, and actually see that there's another, there's possibly more complexity there.

A: Yes I'm just going to re-emphasise that, we're not looking to bracket, pigeon hole any practice. And we're not even suggesting, and I tried to emphasise in the (unclear) project that I gave, that there are a range of factors at play moving those practices around between those three dimensions, and none of those projects were ranked to a single element of the model. I think, just going back to the first point you mentioned about the Cube, that's a very good point, that (unclear) of Birmingham. But it is a cube and it has to be a cube and if you then look at the handrails are not oval because they're round because they have to fit within a cube. Everything about the building because of the constraints of the external façade it's anchored to a very, very strong design concept. And that wasn't the case in the other examples that I looked at, they were much more malleable. So I think you could still argue the concept is a strong one, and that's probably associated with that particular practice, and what it involved. But I think you're absolutely right, and I think it's one of the limitations with reductionist approaches like this, and classifying organisations, and it's wrong to do that. I'm only using it as a kind of vehicle to aid explanations.

It's a very good example approach, because like yourself I'm a (unclear), so I've been there witnessing (unclear) I've seen architects who've got a (unclear) approach, in other words they have a shell on their back and they're inflexible and they're not looking to you for ideas, they're looking for you for solutions to their ideas. And others who actually are hands up and saying tell us what you think. Complete opposites. And the pulls were both ways, but it's harder to pull somebody away from very fixed (unclear), there are certain architects who it is very hard to pull away from fixed ideas, but...

Q: Just very quickly, there are two dimensions to it. Just on the issue about architects and influence. I just wonder whether you understate the role of the client, because the client, and I'm a developer, I (unclear) the client. We decide which architects to choose, drive the, probably within those groupings, so we might want to, in my world it's about an ethical development more than anything, but in others it might be aesthetic. The Cube, the people there wanted something that was very highly differentiated, it was really special. So the selection of the architect actually was done by the client, which then shaped the rest of the design ethos. The client also tends to set the brief, so if it's the public sector the client will come and say it's got to be Briam excellent, we've got a rulebook here (unclear). The other point, or the question I wanted to raise was just that about, and it was probably giving some architects here a bit more reassurance, and that is the right solution, the right design solution every place has got to have huge regard to the (unclear) and to the context, and more often than not understanding the planning (unclear) and all the rest of it. So you people who have indigenous practices, not all of that can be outsourced to China, the technical aspects (unclear) resource to China, but actually in my view the most important in respect of design has to be rooted and based in locale

A: Completely agree, I would subscribe to that. Just the first point you made, I think having observed meetings between clients and architects, and listening to the power of the narrative, the way that architects articulate vision in their design, and the connection to the locale, the sense of place embodied within a design, and watching clients yield in flight during those discussions, I would argue there's more agency in our contextual description than perhaps you're giving credit for.

Q: I'm not of this industry, I'm an engineer, an applied engineering designer, production engineering machines and all the lovely things you show there, the cars etc. and it seems to me that architecture really hasn't moved forward in many ways, and you probably won't like me saying that. But it's totally disjointed, everything you're doing is a prototype it seems to me. You're not looking at things in a production engineering form. And also that then comes down to the energy equation of how we're actually looking at the way we build things, on tougher materials etc. The pyramids were built by the

most efficient machine in the world, that's muscle power, and I think we should be starting to look at ways of building buildings which are much lighter, much stronger, give you all the necessary requirements that you need in energy efficiency etc. And by being lighter you naturally end up with less transport for these systems, you start to use muscle power to put the systems together. Mass production hasn't really penetrated, apart from maybe a brick. The brick isn't a system, a brick is just one component of a commodic system. In mass production you must think of the total system in the same way as that car you were illustrating, it is a complete integrated system solution, the designer is probably an engineer rather than an architect, then looking at the structure, engineers come in and we're disjointed within all these different trades. You must have a total cross feel there in my view, and in that way you will then end up with really good architectural buildings that can be produced very, very fast, very, very quickly and you'll be able to do it as cheaply and efficiently as the Chinese are doing it.

I love what you say, and I think, and I've seen it coming and then going back again, and I mean we've got tremendous systems now at the steel work and robotic manufacture and everything, so we really are, we have moved forward there. One of the great

M: Okay. But one of the great drags on our industry is the fact that we have these cycles, and people will start investing, and they'll get the most fantastic cladding factory going that's responding completely meeting many of the point you're making, and then the economy collapses on them and their investments are wiped out. Whereas the car industry maintains, and actually with government stimulation with the scrappage scheme to maintain that momentum. Now we've not actually managed to make the case to keep our industry going, and with that VAT on refurbishment is penal, it's now 20%, so

Q: Could you reverse that in a recession and bat in a boom? When I started working in government 35 years ago and the assistant secretary at the time of the industry horrified look, madam we did that with the section D.

M: Yes. I think that rather than, well whilst the Bank of England and people are going to the government saying get rid of the 50% tax, I'd like to have thought that the leaders of our industry have done the same about that, because this is about employment.

Q: Yes I was just going to say (unclear) I write about architecture, you do need to be careful about those analogies because after all those beautiful cars, they really don't do anything do they, except drive along the road as you want them to do. I mean you can look at things like those sort of private little Cubes that Richard Hordes designed, which is the nearest thing to kind of that kind of one off manufacturing thing, because of course in architecture they make a prototype and the never whirl it out. But, which I suppose is your point, but you do have to remember that those sort of designs which aren't completely manufactured are actually incredibly prescriptive.

M: I mean (unclear) material building, which is a manufactured office/industrial shed, which are totally containerised all pressed steel, you know Michael Hopkins, a fantastic project, there were hardly any buyers for it, and partly because every site is site specific, and you want to put this shoe box on it, it wasn't the most efficient way of using that site, simple as that.

C: I think I need to. I'm going to leave you with one thought, and I thought it would come up today, it will probably come up this afternoon. But the bigger picture, which Mark was talking about, and about

growth and adaptability is the famous Darwin quote, which I'm sure we all know, is that it's not the strongest species that survives, nor is it the most intellectual, but it's the most adaptable, and I think we're right at that point at the moment. If we don't adapt from the way we've said today you've had it. (Laughs). Thank you.