**Architectural Models Network: Practitioner in Focus**

**Interview:**

Interviewer: Dorothy Hill (MA student, History of Design, V&A/RCA)

Interviewee: Patrick McKeogh (Executive Director, Pipers Model Makers)

Date: 3 October 2018

Location: Pipers Model Makers, 27-35 Bevenden St, Hoxton, London N1 6BH

DH: I am Dorothy Hill and it is Wednesday 3rd October 2018, and I am with...

**PM:**  Patrick McKeogh

DH: Thank you very much, of Pipers Model Makers. So first, what I would like to ask you about is how did you learn to become a model maker? How did you come to this? And just briefly your background.

**PM:** It's actually in the blood. So, it's a family business and my father took over a model making business forty years ago, this year. Both my brother and I entered into that, so that's a pretty quick way to get in.

DH: Thank you. So, if you would to take us through the process. You receive a phone call that you need to do the Kings Cross model; what are the steps that you take following that? What is the process that your company goes through to create that final product?

**PM***:* We have a process which we work to and the first bit is about discovery. So, we need to know as much as we possibly can about the project, about the client, about the audience, their intentions, the architecture key messages. So that's where we'll start, I mean, probably the first question we will ask is 'when do you want the model?' Because in this industry, there always seems to be a pressing deadline. But once we have understood the time frame in which we are working, we'll really start to understand what's required. We'll then take that away and move into a specified stage. So, we'll put a team together to consider all those things. We might go back and ask further questions throughout the process and this is variable depending on the scheme. This process could take weeks or months to go through that, from the initial inquiry and we have to gather to meet with people and tease that out. They might not have the answers to the things we want at first or it can all take place in the space of an afternoon. So, the same principle applies, we find out everything we can, then we go to start to specify the project and then we will present back ideas for discussion.  At that point, again it's trying to make sure we've understood, check that we have come back with the right response, and that is about the deliverables and the message and it is also about budget.  We work in a commercial world and we know that everyone has a budget, these are all projects, so we need to make sure we understood that. We will ask the questions around that during the discovery stage, but sometimes we find that maybe that’s changed or has been misinterpreted.  So, this will become a potentially iterative process; we present, we find out more that takes us back to the discovery, we go back, we come up with new ideas. As I said, this can all happen very quickly, although a project like Kings Cross, we'd be asked to come back and put a presentation together and think about samples and material ideas. So, it could be very involved and include lots of different elements, or we can move quite quickly to that stage. Once we've agreed what we are trying to achieve, we then appoint a project manager and move him, having agreed and contract to the project, we would move to plan and communicate. Because we have multiple stake holders involved in these projects, there could be a number of architects, the clients themselves, other creative agencies, communication agencies, all working towards a launch and the creation of a marketing suite. Thinking of Kings Cross at the moment, which is a commercial marketing model, we would communicate a production timeline, talk to all the different people we need information from, or sign off from, or engage with, agree all the milestones with those, the meeting structure we'll need throughout the process, we want to make sure don't waste people's time by providing something they don't need, but we need make sure we are keeping projects on time. And once that is all agreed we move onto delivery. Then that is when all the magic happens, we have an amazing team of people with so many varied skills and experience. When we sit down with that project team and plan out all the different elements that we are going to deliver, everyone knows what they are doing.  We all have a schedule to work to and then we go ahead and produce the model. Throughout that process there will be, you know, challenges; there are always challenges! There will be certain elements of the architecture, materials we work with were, where it actually might not be what we expected. And then we will sit down again and look for solutions and because we've got people who've got all this experience, wealth of knowledge, we invariably find them. And then we will have other problems with projects where information won't be ready when we are expecting it or maybe deliverables have changed - the design changes – or the time frame has moved, it's come forward because an important stakeholder is going to want to see it sooner. When that happens, we go back to the beginning of the process again, we go back to discovery. We find out what's really important to the client and to the drivers, like whether its time frame is essential, changing those deliverables, and what we are producing is the most important thing. Once we've got that, the team sits down again, and we come back with solutions, we say what's possible, we collaborate with our clients and we are all working towards the same end.

 So, these are complex projects, as much as we can complete and control, we plan as much as we can, so essentially, we do that. We also know that during the project we are going to expect that, so we will work through those processes during the delivery and then at the end we will have a sign off with the clients. We may be shipping the project internationally, we might be going into a marketing suite, might be going to a planning meeting, or exhibition. We will have been talking with the client well in advance to understand that. Those things can change but we would have done site visits to make sure we know about the access and how that is going to work, we would get in touch with all the other suppliers to make sure we are all on the same page. Then hopefully we have a successful delivery. And after that depending on the size of the model, we have aftercare. These models go into certain spaces; some of them have a limited shelf life and use, but others are on public display or are used for marketing tools for years.  So, we work with our clients to make sure they’re maintained, that's been thought about at the outset. We have thought about where they are going to move to; some clients will have a permanent marketing suite but then they might want to take them to different offices, different exhibitions, and those would have been questions that we would have asked in the discovery phase when we will think about how we are going to build them, rather are they going to need to be updated as new schemes, particularly if it is a large model like Kings Cross, parts of the scheme are designed and received in planning, they might be added. So, some projects might finish at that point - at the delivery - some go on for years to come. 08:40

DH: So, you have said that this is in your blood, you grew up with this, so you have obviously seen the change of technology over time.  What sort of impact has that had?

**PM:** That's an interesting question because you almost need to split into two things. There is the perception of technology and what's happening and there's the technology applied within the business itself. So, growing up with it, my father was the first person to bring the CNC machining into model making. He was always a pioneer of new technology that was previously used in the sign making industry and Pipers brought that in. So that was a huge leap, a step up in technology, as we started to use machining, not all just hand skills. Similarly, with AutoCAD, laser cutters, we were the first to bring those in. We had AutoCad before a lot of architect's practices, before most architects in London. So that allowed us to continue to change the way we were producing models. The reason I talk about the difference between the perception and the applied is everyone seems to think that technology replaces something.  People are so used to models that there’s always this feeling that we at some point, they are just going to be completely replaced. Whereas, technology has supported the production of models throughout time. Even through now to 3D printing, which is seen as a huge threat to model making. Of course, it removes certain areas and things that we would potentially have produced for clients, which they can do themselves now in-house or have them printed straight away. But really the value we offer is in that creative process, is producing something that can't be just 3D printed. But a lot of its components can so, that actually removes for us a lot of the laborious, low skilled worked. Whether it's producing furniture or having to produce a huge number of iterations of columns or cornices that might go onto a model or producing complex structures that would take an awful lot of man hours, we can remove that from our production in-house and concentrate our skilled workforce on the things where they add the most value. So, in that sense, it has supported it in a very positive way and then the key is to learn how to harness that and all of those things along with new software packages and quick ways of working. The other side of technology is the perception of it being replaced, like competition between models, in fact CGI's and fly throughs, and that has had an impact on model making and sometimes the impact can be quite acute to a certain point. So, when CGI's first appeared, again people assumed that they were just going to commission those instead of models. So, model making suffered for a period while people moved their budget there, until they realised they serve different purposes. So, whilst CGI means that you don't have to produce probably as many models like you would have done in the past, but it still doesn't replace the most valuable use of models in communication. So, the same problem could be said of VR and AR as technology marches on. But I think we deal with a lot of clients and whilst they are all interested in exploring those things, most of them know it’s about the appropriate use, so all these different options, these channels of communication, CGI's, models, 3D models, programs Sketchshop, VR, AR, they all sit within the same space and the real skill is choosing when to commission one or produce one in order to support new communication.  13:25

DH: Following on from that then it is the audience, who is going to view the final model and how do you choose? When you are doing this, you may have a client, but the client is doing this for a particular audience, so how do you take that into consideration?

**PM:** I'm glad you said that because answering that question is difficult because there are so many different types of models and as soon as I start responding to one, I start talking about Kings Cross and marketing models, but I'm not talking about models that are at planning level or design level or competition level for an architect. So, there are multiple audiences and that’s the thing that we really need to understand at the outset. That will influence everything about the model: what material we are using, the size, the scale, where is this audience, is it an exhibition, do we need to go and chase them around the world, does it need to be mobile and set up in multiple locations.

So, I don't know if we are going through different types of audience. I could try, yes, it is absolutely essential.

DH: What about the general public? Let's say you are selling a development of houses, as you have shown us with the model downstairs. You have your client, the architects, but it is the person who is going to buying that's going to be seeing that.

**PM:** So, probably the easiest way I look at it is a model helps people understand the vision of an architect or a developer. There are multiple audiences; there are planners, politicians, the public, potential investors and potential occupiers, which brings us back to the public because not all development is residential, some will be seen by the general public and as having to talk to a community, others potentially selling a residential flat. So, it's rare that you have just one audience at any one time. You know you are going to have to communicate, for a large development, you are going to have to continue to communicate to those multiple audiences, stakeholders over a long period of time whilst there isn't anything real to see. So, this is why models are so effective because the lead time on such a large development means that it's a hole in the ground or its the existing development. The model allows you to come in and really understand what's going to be happening. What the plans are to interrogate and hopefully it's a positive.16:49

DH: So then with the models you are making, is there a set scale or does all of that change depending on the project?

**PM:** So, there are classic scales we respond best, we try to stick to those and for the most part we are talking about the marketing model, it's probably going to be 1:100, 1:150, 1:200. Similarly, with context models, we are probably looking at 500 scale or 1000 scale. But again, it depends on what we are communicating. We might do interior models where we will look at the interior of a building, apartments, hotel lobby or room and we might look at 1:10 or 1:20 scale that will be only a small proportion. But similarly, we might be producing facade treatments and again you will want that larger scale to really understand what the feel, what that architecture is going to be. So, there are standard scales that we stick to but they vary, probably 1:10 up to, we have done some 1:1 mock-ups. But there are people better at producing those who work closely with the architects. We have done some in the past with 1:10 to up to 1:4000 scale.  18:26

DH: And once the model is completed, you did touch on this earlier about the afterlife.

**PM:** the afterlife, sort of model heaven.

DH: Is it storage, is it built to last? Do you know going in that this is just going to be around for one year? How is that addressed?

**PM:** Again, we try to eek that out as much as possible at the discovery stage, things change, but we'll have an idea of what’s going to happen with the model.  If it's a marketing model, we can assume that it's probably going to be around for a minimum of 3 to 5 years and then, there might be an appeal beyond that to have it featured in the lobby of the development, or for the developer to maintain it as part of their portfolio of projects if they have a central marketing suite. So those models are built to last, to be updated, they need to be maintained. We give instructions, operation manuals for them, for these types of models so that the clients know how to look after them, but we will also support those as well. With the smaller, the more immediate projects, a lot of the times those don't have the same shelf life. If you've got something for a planning meeting or a design model. But that doesn't mean that they go into the “model afterlife”! They are often showcased by architects who like to have lots of physical examples of their work in their office. The major constraint is space. So, technically we all work in real estate and we know how expensive property in London is. So, I think it's brilliant when you produce a model, if there is an opportunity to have it on display somewhere going forward, that is great. We do ask those questions and it’s the practicality of being able to move it or where you can house it. But large models; people commission large models that no longer have a use, that's more likely to be decommissioned and by decommission, I mean thrown away, unfortunately, because that's what happens. There's another type of model that, we have a number of models of London that we produced and those are built for the very long term as something that we can continually update. The City of London model, which is in the Guild Hall, we produced just over 25 years ago, and we continue to add new developments in the City once they receive planning or are being built, some that received planning and then have been removed because they were never constructed. And that’s the model that is potentially interactive as well. Last year we updated all the lighting systems, putting in new switches and components so that we can integrate an interactive kiosk. These are built to last. So, it's easier to plan for that if you know and there has still got to be a purpose or a reason to have a model of the City, which can chart its change and how people understand that. There is a reason for a marketing suite to continue to explain a complex development through potentially a 10-year development cycle. There's a reason for architects to keep an archive of their work and show how different ways it was represented. But they also need to balance that with the financial cost of maintaining and the space that they take up.22:55

DH: Has there been a change in the materials that you are using? Because you are talking about models for 20 some years, has there been a change?

**PM:** So, I think 3D printing is quite an interesting part of that, because that is a big change in materials and that is something that is yet unproven as to how well it will last. It’s one on the reasons why we still do a lot of CNC machining, which is where you are essentially working with the material and paring it back to end up with an object, a component, but you understand the material. With 3D printing you are working with lots of powders and polymers, which are materials that we don’t typically work with and know what happens to them after a number of years. If you think of 3D printing in the past, this is a fast-moving industry, and fade quite quickly. So, I think that's where we'll be looking and seeing how that's going to change as there’s no doubt that's going to get better and better, so they'll be introducing new materials there. We are always challenging the materials that we are using (timber and Perspex) but there are lots of other materials that we're experimenting with our machines as well. So that moves, but probably not the same pace as software development; that's really where materials are going to be changing.24:59

DH: So that leads to this last question here, about the challenges going forward, as you have seen the changes in the materials

**PM:** Challenges going forward, I think, like any business, this is what we have to think about. As part of the Architectural Model Network, we talk to different people, I've met with, we are the commercial end of it, so we have to think about the commercial challenges of a business. There are lots of competing substitutes, for instance the impact of CGI's, fly throughs, VR, AR, those are going to have an impact. I still believe and talk to most people that actually they don't replace the model, they offer different things. They can do some fantastic things that models can't do, but it’s all about understanding what the value is. As long as we're talking to clients about that, all of them still have value and we can see that. That's going to be one challenge. The other one is making sure we have the right people in the industry. It’s keeping those hand skills whilst everything moves into drawing packages, it’s very easy for people to think that that's the only way to produce these things, to produce 3D models to print, to use laser cutters and CNC's and we've seen this for years. The people who are really, the truly brilliant model makers are those who are able to learn those new skills, but not lose the other core skills and know when to apply which. This is the real challenge we have; architectural models are expensive to produce and our responsibility is to keep challenging how we can give our clients the tools they need at a price they can afford. So, having the right team, we are very lucky because we have a fantastic team and are constantly challenging.

DH: how big is your team here?

**PM:** 42 that's spread between London and our studio in Ashford in Kent. So, having the right people who constantly are pushing boundaries of what's possible with materials and software and technology, and it all starts with listening to the client about what we are trying to achieve. Because, if we are just doing that in isolation, it’s all very well for us to make beautiful models, but if they are not delivering value to our clients then that's no good to anyone and no one is going to pay for them. That's the real challenge we face, and I think we are up to it. 28:38

DH: Is there anything that I didn't ask you that you would have liked me to ask you, is there something else that you can add?

**PM:** I think the one question you mentioned before the interview is where our staff come from and where people trained as model makers. So, we've got a nice blend of people but, there are traditional model making courses at university. They are typically a mixture of architectural and special effects, so you go and learn lots of different ways of working with materials to reproduce things, be that buildings, sets, or scary faces in horror films. And then, we've got a good working relationship with different universities and we would work with the lecturers and talk to the tutors about who the really promising talent who are interested in a career in architectural model making. We offer paid placements during the holidays. We interview for those and if we think we have people who have a future, we bring them in for a placement, paid, during that. We’ve brought in some fantastic talent and those are the same people who want to come back and work in their Christmas holidays and Easter holidays as well. Then they come and work for us full time. There is that angle as people who have studied architecture and have realised during that process that actually it’s the model making and the fabrication side they really enjoy. We've had people from marketing and advertising backgrounds who understand that what we do is produce an advert for a building, a development or for an architect. So just that thinking, product designers and furniture makers, people who are passionate about producing fabulous objects, but understand the rigour that goes into being able to work with someone else's design. So, working with someone else to help them produce a representation of that and find the solutions. This is something in which we’re talking about the ability to inspire and amaze people, and that's what we look for, people who've got that level of enthusiasm, excitement, that want to produce things which will do that, so lots of different backgrounds, largely creative.32:01

**Break in recording**

DH: (question not recorded asking about the use of 1:1 models)

**PM:** The 1:1 that we did, we worked to producing mock ups of hotel rooms, it probably just demonstrates what the ability is we have within the business. I don't think it's what we should be doing. I think there are other people who are set up to do that. I'm a firm believer in focusing on what you can be best at, then you keep on getting better. That's what we set out to do with architectural model making.  Along the way, we drift into other things (DH: adaptable) and explore them. Being the fact that we were able to produce fantastic 1:1's of mock ups of rooms and we were able to do. So, it's a reflection of the creative people we have here and the fact that we've set a task and problem, we'll always set a way to figure it out. It's not really what we are set up to be best at. The machinery you need to support that, while we've got some of it, if you want to do more of it you would probably invest in different machines, CNC's, lasers, 3D printers. The space you need actually, it's something that can be done in a warehouse somewhere else and then it is brought in. Whereas the work we do is very collaborative with the designers and it's important that they are there throughout the process and if you had too many 1:1's in our workshop we wouldn't have room for much else. I think that is the creative business; people ask you if you want to do something, you usually say why not.

**Break in recording**

DH: Tell us how you influence the design process

**PM:** Excellent question, I don't think we do, I think the models do. The idea that we would influence it, but it’s not as individual, it’s not that we are sat down and asked to consult on what we think the development should look like or the architecture. I think that what we find is that there’s a process when you start to model things, physically, that is a stepping stone for the likes of some of our clients who prefer to have a point in time where you can take it and then respond to it again. So, I think models play a crucial part in that. I know there areother, not just us, architects using models in-house. I would say there is a time where actually before you get into producing something that is a finished article, you want to see the ugly side of a building. So, you question yourself and you question the design and by producing a physical representation of it and without feeling like you have to defend your design, it allows you to interrogate and then move on, it’s an iterative process. We are involved in that and the models are involved in that. We wouldn't influence the design directly, but I certainly think models do.

SR: You've worked with a lot of established, major architect firms who could potentially produce these models themselves, so there is a reason they outsource these to you and do you think, like you said, the models have some role in the design process? Do they want distance or does the iterative process come back again?

**PM:** I think it depends on the practice and I think it's not as simple as whether it’s us or distance, it's how they are set up and whether they have the resources in-house, the processes they use. Some of the major architect practices, model making is integral to everything they do. They would produce models for every meeting they have, internal and external. One very famous practice that I can think of, they have a larger model making operation than we do, and they still give us lots of work because it is part of that process. With other practices it might be less important, it might be that the architects want to be close to it and do it themselves. What we will always do is to talk to them and say, how we can help. That might be that we give them some materials, we might laser cut some files for them so that can get on with it. We advise them on how they may set up a space in their offices, so they can do that. For me it's interesting that some of the smaller practices are very close to model making and still do it a lot in-house with their teams. The very large practices use a lot of models. I think the models that medium to large practices, they have moved away from using models and bringing in Sketchup and other 3D programs and CGI's and we have been advising them on how they can set up their own facilities and support that because they are really keen to get people back to model making as part of that process. Whether we are involved or not, I think it’s really important that it is happening in the practices and there will be times when it makes sense to involve us because of the quality of the finish or the complexity of the design they want produce. It might be because they don't have the equipment in-house. Lots of architects have 3D printing that allows them to continue that process quite easily. So, it's not a simple solution for anyone because of the different sizes, types of projects, ways of working, resources available to them. We always try to nurture a relationship where, when what they are capable of doing in-house reaches its limits, that we are there to help with the next stages.