

10. Conclusion

The experience of working with a traditional boat builder to develop a chair design for the Icelandic Parliament Speaker, inspired the author to begin this project (see chapter 1.1. page 18). The author's ambition was to share with makers from different Icelandic craft traditions, the experience of designing and making a dining table and chairs which would express their culture, and be suitable for repeat production and export from Iceland to the Nordic market (see chapter 1.2. page 29). The choice to design and make a dining table and chairs was made because they are typical domestic artefacts of the West European home, and furniture making is the author's profession. The choice to make a dining table and chairs and the design brief for them, was confirmed by a survey with Icelandic craftspeople (see chapter 3.1. page 52).

The project has been concerned with the visual and physical communication of knowledge that takes place between makers observing and imitating each others working methods. This communication is presented in the video presentations (DVD [multimedia discs 1, 2 and 7](#)) submitted as research references to this project. These references are of the physical relationship makers have with their materials, tools, environment and culture. The video presentations, the dining table and chairs (Fig. 35 page 108), and the artefacts made by the author, while apprentice to the makers, (described in detail in chapter 4.2. page 76), all represent new knowledge identified, and communicated, through making. A second area of research referenced is the interaction interviews presented on the [multimedia discs 1 and 2](#). These include references as to how the physical and visual nature of the different makers' work influenced the design of the dining table and chairs. One example of this, from [Birger Andersen's](#) interview, is the Viking ship upper deck knees¹⁴¹ that influenced the form and method of making the back leg of

¹⁴¹ T. Hawson, 'Birger Andersen, Shipwright, Denmark, Interaction Interview, May 2003.' *Slide Show*, slides 1-9, Multimedia Disc 1, T. Hawson, 2003. (DVD)

the chair, as described in chapter 4.1. page 74. An example of the cultural insight makers have of their materials is provided in the background section of *Asa Hatun's* interaction interview, where she states her belief that “wool is the gold of the Faroe Islands”.¹⁴²

The methods used by the hands and body in manipulating materials, the rhythm and pace of the work, is knowledge essential to makers who learn process by physical imitation. *Birger Andersen* making a Viking ship upper deck knee in the closing video clip of his interaction interview presentation provides an example of physical knowledge.¹⁴³

The methodology for capturing and presenting the visual and physical knowledge of makers was researched and developed as part of the project. From the related academic research projects, NEVAC and Tacitus (page 41), no references could be found to help develop a method for capturing the relationships and practical communication between makers while resolving a shared design brief (page 55). To develop a suitable methodology, professionals from the film and TV industry shared their experiences of recording interviews and editing, and a pilot interview was completed (as described in chapter 3.3. Pilot Interaction Interview, page 62).

The project created and articulated a democratic system of making. The contributions made by the makers in the designing and making of the dining table and chairs is clearly demonstrated on the *multimedia disc 7*, making the table and chairs. A section of this video¹⁴⁴ captures the shared commitment and the equal influence the makers had in the designing and making process. This section of the video is of the author, and the two makers, *Gretar Thorvaldsson* and *Thorhildur Thorgeirsdottir*, communicating their thoughts openly about design details for the table and chairs. They stand

¹⁴² T.Hawson, ‘Ása Hatún, Wool Worker, Faroe Islands, Interaction Interview, June 2003.’ *Ása Talk*, 2 minutes and 9 seconds, Multimedia Disc 1, T. Hawson, 2003. (DVD)

¹⁴³ Hawson, ‘Birger Andersen, Shipwright, Denmark, Interaction Interview’. (DVD)

¹⁴⁴ T. Hawson, ‘Making the Table and Chairs, 2004.’ 9 minutes and 10 seconds, Multimedia Disc 7, T. Hawson, 2004. (DVD)

together looking and touching aluminium components, gesturing with their hands textures and methods of making, and talking. It demonstrates that makers from different disciplines have empathy for each other's work and share common methods of visual and physical thinking and communication, and reveals these particular forms of knowledge.

The dining table and chairs were taken on an exhibition tour from Iceland to the Faroe Islands, Shetland, Glasgow and Denmark (schedule of tour on page 114, map provided on page 32). During the exhibition tour a survey (page 117) was conducted on the visitors. The results of this survey show that the dining table and chairs were thought (by a filtered sample) to express Icelandic and Nordic culture well, a mean answer of 4 on a scale of 1(not at all) to 5(very well) was given, and a mean 70% (of the same filtered sample) felt that products with Nordic cultural identity had added value (page 121). This project has demonstrated that culture is passed on through time in the hands of makers, and, if this making knowledge is used to design and make contemporary artefacts, it can provide those artefacts with cultural value and a higher market value.

The feasibility study (page 109) was conducted to consider the commercial viability of the table and chairs to go into repeat production in Iceland, one at a time and in batches of 100 or 1000. This presented problems to the relevant Icelandic companies and makers, and when asked to consider these batch sizes they were found not to be familiar with production on this scale and they were reluctant to provide estimates. It may have been more appropriate to request estimates for smaller batch sizes to suit the companies and makers' production capacity. However the study predicted an approximate price for one-off production, not including the costs of the woollen elements or delivery, of £2975 for one table and £452 for one chair (page 112). These prices could feasibly compete in the one-off and bespoke furniture markets of Nordic Europe.

The research has demonstrated that the democratic making experience was a positive one for the makers that participated in the project. The evidence demonstrates the makers recognized that the table and chairs had cultural

expression (confirmed by the exhibition survey to also have value in the Nordic market), and the benefits of a cross discipline approach were realized. This new and shared experience amongst the makers constitutes new knowledge. This new knowledge gives the makers a new way of reflecting on and learning from their practice and regional craft traditions. The interaction interviews and the making of the dining table and chairs presentations (multimedia discs 1, 2 and 7), provide references for this new knowledge. These presentations enhance any reflections by the makers of each other's work and the democratic making experience in which they participated. The project has created and illuminated a template for democratic making, which could be used in other areas.

The interactive making process and recording methods developed in this project are part of the 'toolbox'¹⁴⁵ of strategies that have been developed out of the author's designer/maker practice, and consultation with makers participating as co-researchers in the project. These strategies have provided a practice-based research method, which has enabled project participants to reflect on the visual, tacit, and contextual knowledge embodied in their own and each other's making practices.

The literature review of reflective and practice-based research (page 125) illuminates the constructivist paradigm in which the project took place. It reviews the founding theories for the present field of art and design practice-based research. Within the constructivist paradigm the Iceland projects approach to knowledge is relativist, the epistemology is subjectivist and methodology is hermeneutic and dialectic (page 125).¹⁴⁶ The making practices, peculiar to each of the participating makers, is the relativist knowledge of concern to the project; it is relative to their environmental and cultural context and is experientially based.

¹⁴⁵ Malins, Ure, Gray.

¹⁴⁶ Gray, Malins, p.19.

Practice-based research in art and design has been developing since the late twentieth century from founding theories in social science and anthropological theory. From correspondence with Icelandic academics in the field of art, design and technology (page 145), it is apparent that there are no examples known of practice-based research concerned with designer/maker practice. This project brings new knowledge, in theories of reflective practice, and a demonstration of practice-based research in art and design, to Iceland's designer/makers and the academic art and design communities.

With consideration to the literature review of reflective and practice-based research the different phases of the makers' journey have been reflected upon (page 152). These phases include; apprenticeships (page 153), practical experiments (page 159) and making decisions (page 164).

'Apprenticeships' consisted of working alongside the six participating makers and carrying out the interaction interviews. This was a two way 'learning through making'¹⁴⁷ experience that took place between the participating makers and the author. The author used the tacit, visual and contextual knowledge learnt through the apprenticeship experiences as references for preparing the design proposal for the table and chairs. The participating makers were provided with cognitive scaffolding¹⁴⁸ by the author, who made the thinking behind the project visible and explained the story, nature, reflective methods and aims of their collaboration with the project. This scaffolding invited the participant makers to join the author as co-researchers in reflecting-in-action¹⁴⁹, and to influence the projects creative enquiry. Shared ownership and an equal sense of authorship were developed between the participating makers and the author. This in turn provided for a 'mutually beneficial transformation'¹⁵⁰ of the projects developments and

¹⁴⁷ Crafts Council, 'Learning Through Making', Conference Report, 25 November 1998, <<http://www.craftscouncil.org.uk>> (accessed 15 August 2005).

¹⁴⁸ Collins, Brown, Holum.

¹⁴⁹ Schon.

¹⁵⁰ Scopa, p. 183.

outcomes. The collaborative focus of the design brief and the project's aims provided confidence and a framework for the participant makers to share, in depth, their specialized knowledge. The nature and value of openly communicating through making was explored by the author and participant makers and was reflected upon and recorded in the interaction interviews. These interviews, presented on the multimedia discs 1 and 2, are a record of the knowledge and reflective experience shared between the participants and the author. This record may be used for reflection-on-action¹⁵¹ and re-interpretation of the apprenticeship phase, by the participant makers, the author and outsiders to the project.

Artefacts, made by the author and collaboratively with the participating makers, as learning aids and practical experiments, are references and evidence of the scholarly¹⁵² inquiry into the practice of designing and making the project table and chairs. A multimedia record of these practical experiments was made by the author and includes; artefacts, sketches, photographs, video and audio recordings (multimedia discs 1 to 6). The visual, tacit and contextual knowledge held in this multimedia record informed the design of the table and chairs. Looking, touching and hearing this multimedia record throughout the design process enabled the author to relive the apprenticeship experiences and remember the knowledge learnt from the participating makers. This process facilitated the author's intention to embed in the design of the table and chairs as much of the visual, tacit and contextual knowledge learnt from the participating makers as possible. This multimedia narrative also provided the participating makers with an additional means for reflecting on their practice and actions within the project. These methods of reflecting on practice and actions within the project have been new experiences for the participant makers and the author. These reflective

¹⁵¹ Schon.

¹⁵² Marshall, Newton.

methods have provided for the participant makers, the author and outsiders to the project, an 'interpretation of the experience that makes us learn'.¹⁵³

The project received from the participant makers a democratic and sensitive commitment to the collaborative reflection-in-making experience and in return offered an opportunity for learning.

The activities of the project are considered as an inquiry into the practice of designer/makers and a rigorous 'reflective conversation'¹⁵⁴ with materials and contexts. This reflective conversation included reflection-in-making and reflection-on-making practical experiments. The outcomes, artefacts and multimedia record of this reflective conversation, through the making of practical experiments, are accessible to the participating makers and knowledgeable peers, but outsiders to the field may find them less so. Outsiders to the field, it may be argued, will find the tacit and contextual knowledge present in the multimedia record of little relevance or transferable value. What outsiders may find of transferable value to their field is the reflective, democratic and interdisciplinary nature of the methods developed out of creative designer/maker practice.

Inter-subjective views¹⁵⁵ of the participant makers have been developed and considered throughout the designing and making of the table and chairs, providing the collectively reflected outcomes of the project with some objectivity.

The 'making decisions' phase of the project includes the decisions made by the participating makers and the author on the design and methods of making the table and chairs (page 164). Four 'critical decision points'¹⁵⁶ in the making of the table and chairs have been identified as examples that reveal

¹⁵³ Friedman, December 2005.

¹⁵⁴ Schon, p.79.

¹⁵⁵ Gray, Malins, p. 23.

¹⁵⁶ Jerrard.

the learning through making and reflective 'conversation with the situation'¹⁵⁷ that took place.

The first critical decision point is about the redesign of the aluminium table under frame components that took place at Gretar Thorvaldsson's workshop (page 164). In his workshop Gretar Thorvaldsson rejected the proposed design and the author drew up a new one. While making the design changes the author learnt about and reflected on Gretar Thorvaldsson's practice and workshop capabilities. Being in Gretar Thorvaldsson's workshop and having the visual and physical references of his practice around him illuminated the author's reflections and learning. The author's use of visual references from his sketchbook to influence the form of the table components was a surprise to Gretar Thorvaldsson. This provided Gretar Thorvaldsson with an opportunity to recognize the potential for this unfamiliar method of using visual references in his own work. Through working and solving problems together Gretar Thorvaldsson and the author have shared their reflections and learning, through making. They have both reflected upon the tacit and visual knowledge, within their own and each other's practice, to collaboratively reshape and inform the making of the table and chairs.

The second example concerns the benefits of a group meeting of participating makers (page 165). Thorhildur Thorgeirsdottir came to Gretar Thorvaldsson's workshop to discuss and confirm the surface finish treatment of the metal components with him and the author.¹⁵⁸ This group discussion around the aluminium components, the wooden patterns and drawings in the context of the workshop, resulted in rapid decision-making. It was the only time in the making of the table and chairs that two of the participating makers were together in a workshop with the author and direct sharing of knowledge and confirming of ideas were made possible. The combined knowledge and openness within the group made solving problems and making decisions straightforward. It would have been of benefit to the project and the making of

¹⁵⁷ Schon, p. 79.

¹⁵⁸ Hawson, 'Making the Table and Chairs', 9 minutes and 8 seconds (DVD).

the table and chairs if meetings with more than one participating maker could have happened more often.

The third example describes how Fjolinir Hlynsson in his workshop, developed the chair seat with the author (page 166). Fjolinir Hlynsson and the author discussed their ideas around the half made elements of the chair in the workshop¹⁵⁹. The half made chair gave ‘access to tacit knowledge’¹⁶⁰ and stimulated Fjolinir Hlynsson and the author to ‘employ their tacit knowledge to form new ideas’¹⁶¹ and proposals for a chair seat. Fjolinir Hlynsson did not like the proposed ply wood or woven nylon string infill panel and instead proposed one made of thin oak boards. The author did not recognize Fjolinir Hlynsson’s seat description as having any reference to wooden boat deck boards until he described it as such:

I would say a thin wooden seat of oak, which might have the appearance of a ship deck...¹⁶²

Without Fjolinir Hlynsson’s help in developing this chair seat the author may not have thought of this obvious idea for some time, if at all.

The fourth example (page 167) concerned the cutting of aluminium disks to fit holes in the table top as decorative inlay, and this construction problem was solved and explained to the author by Geir Oddgeirsson’s assistant Bjorn Hrafnsson.¹⁶³ Bjorn Hrafnsson’s explanation is an example of how the tacit knowledge of makers was employed to make decisions about appropriate methods of making. This knowledge was much appreciated by the author, who, with such guidance, did most of the making himself. Without the considerable contribution of making knowledge from all the participating

¹⁵⁹ Hawson, ‘Making the Table and Chairs’, 12 minutes and 26 seconds (DVD).

¹⁶⁰ Rust, 2003, p.8.

¹⁶¹ Rust, 2003, p.8.

¹⁶² Hawson, ‘Making the Table and Chairs’, 12 minutes and 51 seconds (DVD).

¹⁶³ Hawson, ‘Making the Table and Chairs’, 15 minutes and 33 seconds (DVD).

makers, the table and chairs could not have been made.

The visual and oral data (on the [multimedia discs](#)) presented with this thesis have uses in further research as references to the different makers and their disciplines. The data from the exhibition tour survey (page 113) will have applications, particularly for Icelandic craft organisations, for interpreting the Nordic communities reaction to the project and their perception of craft traditions and cultural values.

Having completed the project the author is inspired to continue developing his skills at initiating projects to work in partnership with makers from different disciplines, and in reinterpreting traditional making skills in his own work.