

# Changing the Architectural Profession – Evidence-Based Design, the New Role of the User and a Process-Based Approach

Kerstin Sailer<sup>1,2</sup>, Andrew Budgen<sup>2</sup>, Nathan Lonsdale<sup>2</sup>, and Alan Penn<sup>1</sup>

<sup>1</sup> *The Bartlett School of Graduate Studies, University College London, 1-19 Torrington Place, London WC1E 6BT, United Kingdom*, <sup>2</sup> *Spacelab, 33 Boundary Street, London E2 7JQ, United Kingdom*

Contact: *k.sailer@ucl.ac.uk*, *andrew.budgen@spacelab.co.uk*, *nathan.lonsdale@spacelab.co.uk*, *a.penn@ucl.ac.uk*

**Abstract** The construction industry is characterised by ever-changing projects that constantly involve new clients, teams and people. This results in the need to build up new sets of relationships each time. Within these relationships the perspective of the users of space is mostly neglected, partly due to the ephemeral nature of the industry, but partly also because of the character and culture of the architectural profession. In contrast, this paper argues that the architectural profession needs to make a double turn: firstly, the needs and wishes of the user need to be in the centre of the architectural business. Secondly, the whole industry may change from a project-centred one into a process-based one where the process of finding out what the client needs, of engaging the users, proposing a design solution, managing the project, and evaluating its use and appropriation in the end in order to learn from it, is nearly as important as aesthetics, form and function. This involves a lot more intelligence and research about cultures and characteristics of the client, may it be a private person, a city council or a corporation, hence architectural and organisational research may play a new role in the architectural professional culture.

**Keywords:** architecture, theory, research, ethics, user, evidence-based design

## Introduction

The construction industry is predominantly structured around projects. The process of designing a building and managing the construction on site is unique every time for it involves a different client, a distinctive location and setting as well as varying construction companies and sub-contractors. Whereas other industries have more recently begun to capitalise on project work as an additional organising principle beyond traditional corporate structures like functional divisions for example, architects and construction engineers do hardly anything else but working on one project after the other including the need to manage the professional relationships with ever-changing clients, teams and people (compare Pryke and Smyth 2006; Smyth 2000). While architects<sup>1</sup> tend to commission the same sub-contractors again once they have found someone they trust and enjoy collaborating with, the clients with their specific needs, wishes and conceptions hardly stay the same as architects move onwards from one project to another one.

This paper is interested in this relationship between the architect and the ever-changing client. It analyses the role and position of the user in the design process, comes to the conclusion that their ideas and wishes are often neglected, poses ethical concerns on this 'disrespect' of the user and suggests a new professional practice on this basis.

## The Nature of Architecture as Profession

Before analysing the role of the user in the design process, a deeper understanding of the nature of architecture as a profession is required.

Architecture is often described as an art as well as craftsmanship, as a social science as well as engineering. The well-known architect Renzo Piano has once described architecture as a 'dangerous

---

<sup>1</sup> Since the interest of this paper lies in the profession of architecture, the role of other partners in the construction process is not elaborated any further.

activity' that is in constant limbo and has to deal with all sorts of resources, not only concrete or wood or metal, but also history and geography, mathematics and natural sciences, anthropology and ecology, aesthetics and technology, climate and society (Piano 1997: 10).

The design process as the core of the architectural work has often been described by different scholars, for example as a process of making (Schön 1991), as experimental in nature and a trial-and-error approach (van Schaik 2005), as 'learning by doing' phenomenon where the problem and solution emerge together (Lawson 2006), as neither procedural nor systematic, but as a process where multiple alternative solutions are simultaneously tested (Dursun 2007).

The highly open and intuitive design process leaves architects as well as clients uncertain of the outcome. Neither the architect nor the user knows in advance whether a design solution is going to really suit the client. Growing experience and a good intuition however increase the likelihood that the suggestions of an architect will finally meet the client's needs, but still they won't know for sure until a design is realised. Even then they do not necessarily know, since architects usually don't give their best attention to previous projects or to previous clients. The reasons for this behaviour are manifold: firstly, there is no budget for this type of backwards looking evaluation, hence it hardly ever happens. The relationship between architect and client typically ends as the project ends, i.e. as the architect finishes the management of the building process on site and hands over the keys of the property. Secondly, architects were not taught the methods and rigour of a systematic evaluation of building performance. Although so called post-occupancy evaluations (POE)<sup>2</sup> have started to emerge out of the academic discourse in the early 1970s as a method to analyse efficiency and building performance, architects never really became interested in it. It seemed to be too technical, limiting and irrelevant so it was finally left to the newly born discipline of facility management. Thirdly, knowing how a previous building performs or how satisfied a client is may do an architect harm in terms of legal responsibilities. It is the architect's duty to *"act competently, conscientiously and responsibly. (...) [They] must be able to provide the knowledge, the ability and the financial and technical resources appropriate for their work."* (RIBA 2005: 3) Of course architects follow these professional guidelines to the best of their knowledge, but if they knew even better by systematically looking back and evaluating their previous projects, they could be sued by their clients for certain shortcomings and no one wants to be exposed to potential litigations. Last but not least, architects are usually accounted and judged by their professional peers. The opinion of a specific user does not count much. Even worse, usage sometimes seems to disturb the beauty of a building in the eyes of some architects. At least it is very common to publish and advertise projects in glossy magazines with highly aesthetic pictures, usually without any signs of usage or people. The Dutch architect Herman Hertzberger has once complained about the attitude of most of his colleagues and expressed his incomprehension and disapproval:

*"When you look at one of the vast number of books on architecture that are being published nowadays and you see all those glossy photographs, taken without exception in perfect weather conditions, you can't help wondering what goes on in the architects' minds, how they see the world; sometimes I think they practice a different profession from mine! For what can architecture be other than concerning oneself with situations in daily life as lived by all people; it's rather like clothing, which must after all not only suit you well, but also fit properly. And if it is the fashion nowadays to concern oneself with outward appearances, however cleverly vested with references to higher things, then architecture is degraded to sculpture of an inferior sort. The point is that whatever you do, wherever and however you organise space, it will inevitably have some degree of influence on the situation of people. Architecture, indeed, everything that is built, cannot help playing some kind of role in the lives of the people who use it, and it is the architect's main task, whether he likes it or not, to see to it that everything he makes is adequate for all those situations. It is not only a matter of efficacy in the sense of whether it is practical or not, but also of whether what we design is properly attuned to normal relations between people and whether or not it affirms the equality of all people. The question whether architecture has a social function is totally irrelevant, because socially indifferent solutions simply do not exist; in other words, every intervention in people's surroundings, regardless of the architect's specific aim, has a social implication. So we are not in fact free to go ahead and design exactly what we*

---

<sup>2</sup> nowadays also called facility performance evaluation (FPE), for more details compare: <http://www.wbdg.org/design/fpe.php> (last accessed: 29.08.07)

*please – everything we do has consequences for people and their relationships. (...) The art of architecture is not only to make things beautiful – nor is it only to make useful things, it is to do both at once – like a tailor who makes clothes that look good and fit well.” (Hertzberger 1991: 174)*

With Hertzberger it becomes clear that not all architects see it as their first duty and responsibility to serve a client and to deliver a design that fits well.

The affinity of many architects towards 'outward appearances' as Hertzberger called it can easily be understood as the struggle for uniqueness and a specific aesthetic that differentiates an architect from their competitors; it forms their USP, the unique selling proposition. However, this focus on aesthetics, form and look may complicate the relationship to a client. Once the client has chosen an architect – usually on the basis of a portfolio and thus a specific aesthetic – there is no way a client may criticise a proposed design solution later if they feel it doesn't suit them, because they will only get what they have chosen.

Above that, the nature of the architectural profession bears even more problems. Although being acclaimed as so diverse, broad and all-embracing, architecture as a profession is rather limited to exactly this intuitive, experimental practice of designing buildings as described above; in its everyday professional culture it hardly reflects all the sciences that Renzo Piano ascribed to it. Thus the profession is mostly preoccupied with practice rather than research or theory<sup>3</sup> as the following quote from an architectural encyclopaedia may further show:

*“Although there is a concept of the term Investigation / Research as a profound study of a subject, advanced architecture prefers its meaning related to inquiry or search. This alternative meaning incorporates emotional factors that affect cognitive factors. (...) Research moves from intuition towards decision on the basis of better science, providing a response to uncertainty. Investigation / Research seeks to foster links between variables. Going beyond simple analysis therefore requires new instruments and methodologies.” (Ignasi Peréz Arnal in: Gausa et al. 2003 (ed.): 526)*

In this definition architectural research doesn't really exist; Arnal and his colleagues completely ignore all efforts undertaken by researchers and claim that new methodologies are needed without even acknowledging previous work (an overview of architectural research methods is given by Groat and Wang 2002). At the same time defining research as inquiry that shall incorporate emotional factors shows how the intuitive design practice tries to claim research credits.

However, a recent initiative by the Royal Institute of British Architects (RIBA) has underlined the importance of architectural research and made it very clear that designing and researching are two different activities. They argue against the often stated myth that designing a building is a form of research in its own right by comparing the process of designing a building with Bruce Archer's definition of research as 'systematic inquiry whose goal is communicable knowledge':

*“Architects clearly have to be thorough, but they are not necessarily systematic. Choices and decisions are made but not normally through systematic evaluation. More crucially, whilst architects may believe that knowledge is there in the building to be appropriated by critics, users or other architects, they very rarely explicitly communicate the knowledge. It thus lies tacit, thereby failing Archer's second test of communicability. Designing a building is thus not necessarily research. The building as building reduces architecture to mute objects. These in themselves are not sufficient as the stuff of research inquiry.” (Till 2007)*

But why is it so important to understand the affection of the architectural profession towards an experimental, intuitive practice and its widespread indifference about rigorous research? The answer may lie in the professional culture and the relationship between the architect and the client.

---

<sup>3</sup> Apart from academia and even there architecture is mainly a practical hands-on discipline rather than one where theories are taught, discussed and developed.

## The Relationship between User and Architect

As long as designing a building is widely acknowledged as an intuitive process with an uncertain outcome, the architects have managed to place themselves in a very fortunate and powerful situation towards the clients' pretensions, as the architects can always claim artistic freedom and subjectivity for their work and thus argue for any possible design alternative they favour. The client has to respect the authority of the architect and trust the provided design solution because there is no way to objectively challenge a design. Donald Schön has described this relationship as a traditional contract, a 'set of shared norms governing the behaviour of each party' (Schön 1991: 292).

In contrast to this traditional and mechanistic professional-client relationship, Schön suggests the so called 'reflective practice' as an alternative where the relationship with the client shall become a reflective conversation. Whereas the architect recognises that his expertise is embedded in a context of meanings and that his actions may have different meanings for his client than he intends them to have, the client agrees to join the architect in inquiring into the situation for which he seeks help, confronts the practitioner when he doesn't agree and appreciates the competence demonstrated. The design process could change into a form of negotiation aiming at overcoming different sets of meaning and understanding, thus turning into a process of communication.

Yet this reflective practice is difficult to achieve as Schön (1991: 292-99) himself points out, as it can be time-consuming and requires a new understanding of roles from both sides, but also different sets of competences. It can easily end up in communicative misunderstandings, troubled with problems of authority and uncertainty of where such a relationship may lead to.

To summarise and review the character of the professional culture of architecture as described above, the client or in other words the user of a space plays a rather weak and neglected role in the whole process of designing and making a space for various reasons:

- The project character of the industry and its ephemerality weaken the role of the client. Architects that only deal with a client for a short and determined period of time may not be able to invest much in this relationship.
- The experimental and intuitive nature of the design process gives the client no real chance to challenge a design solution. Designing appears sacrosanct and distant to the user.
- The liability of an architect does not include usage or occupancy issues; additionally budgets don't cover for post-occupancy evaluations. Hence architects never systematically look back to analyse their previous projects.
- The accountability of architects through peers allows architects to be more interested in images, form or aesthetics than in the occupancy of a building and its usage.
- The research phobia in architecture results in a small base of explicit knowledge and a widely accepted attitude to ignore the few approaches of true architectural research. Architects can easily extricate themselves from the obligation to provide evidence for their actions.
- Only few architects follow the route of the 'reflective practitioner' as outlined by Schön because it seems too tedious, uncertain and difficult.

This professional culture in architecture with its ignorance of the user can also be interpreted as an ethical problem.

## An Ethical Take: Involving the User

During recent years ethical aspects have become increasingly important in the architectural discourse, as recent publications by Nicholas Ray, Tom Spector, Barry Wasserman, Patrick Sullivan and Gregory

Palermo, and Karsten Harries show (Harries 1997; Ray 2005; Spector 2001; Wasserman et al. 2000). They raise questions like what makes a good building or a good architect, what are the social implications of architecture or what are the ethical and legal responsibilities of architects.

Rather than reviewing the ethics of architecture in general this paper argues that from an ethical point of view the architectural profession needs to make a turn to integrate user needs in a very different way than it has done previously. It shall be explored in the following section why this turn is ethical, what it may look like and what could be possible implications for the professional culture and the construction industry.

Going back to Aristotle and his take on ethical behaviour, his response to the central ethical question 'what ought one to do?' was that all human activity shall aim at happiness (eudaimonia) and living well (eu zên). This happiness and living well can only be reached through virtuous activity and this activity, as Aristotle argues, has to combine excellence with ratio:

*"The good of a human being must have something to do with being human; and what sets humanity off from other species, giving us the potential to live a better life, is our capacity to guide ourselves by using reason. If we use reason well, we live well as human beings; or, to be more precise, using reason well over the course of a full life is what happiness consists in. Doing anything well requires virtue or excellence, and therefore living well consists in activities caused by the rational soul in accordance with virtue or excellence."*  
(Kraut 2007)

According to Aristotle every human being striving to reach happiness needs to act rationally and use reason in combination with virtue or excellence. To interpret this argument regarding the role of the professional architect, it is suggested that relying purely on excellence, i.e. accumulated experience and tacit knowledge on how to intuitively design spaces is not enough to meet Aristotle's demands on ethical behaviour, but ought to be combined with reason, for example objectively gathered evidence and explicit knowledge as provided by architectural research.

At the same time integrating reason and evidence into the design process automatically means to integrate the context and setting to a greater extent and in a more systematic manner, hence it also involves the users, since they form an integral and important part of the context and setting. But to be able to do so it is of importance to understand who the user really is.

## Who is the User?

Different types of users and their distinct roles and agendas have to be distinguished in order to pay the users' interests more attention. Two completely different types of projects can be identified: purpose-built spaces involving a private or business client on the one hand or on the other hand generic spaces involving a speculative developer as client.

For the first type the size and sector of the project determines whom an architect deals with: is it a private person having his new home built? Is it a city council having commissioned a new residential area and thus the architects deal with professionals from the public sector? Or is the client a corporation that have their new office building designed, thus turning the one single client into a multitudinous complex of roles, interests and perspectives. In the latter case at least three levels of users have to be dealt with in different ways:

- The owner of the company or a managing board have most probably chosen and commissioned the architects. Usually there is only little contact between the architects and the decision-makers apart from the beginning and end of a project. Their interests in the project may include space or financial savings, a new representative looking building etc.
- On a day to day basis the architects deal with their counterparts in the organisation being responsible for the project, for example a property management team. They are professionals within the same industry, i.e. construction, but have to represent the perspective of the client and thus may be accustomed to a different set of professional cultures. Since they will have to manage



the new property afterwards they have their own agenda, for example the wish for an easy to handle building.

- A third group of users can be identified in the staff working for the company. Usually they have no exposure to the architects and no chance to have their views heard. However they form the majority of the people who will be using the new space later; thus they have legitimate interests in the functionality and practicability of the building, its facilities and layout.

The interests of these three groups do not necessarily overlap; in fact it is even most likely that they don't. Thus it is a true political or ethical issue to balance these interests of the multitudinous user(s) with the interests of the architect that may be a representative project for their portfolio with their typical aesthetics. Using an evidence-based design approach would make it easier to achieve this goal.

But how about the ladder type, the speculator developer where no one knows who the client will be in the end? Due to system inherent limitations it won't be possible to implement a standard evidence-based approach involving the user and suggesting specific solutions suited to them, yet a different way of applying evidence may be suitable, based on what Hillier called 'generic function':

*"Generic function refers not to the different activities that people carry out in buildings or the different functional programmes that building of different kinds accommodate, but to aspects of human occupancy of buildings that are prior to any of these: that to occupy space means to be aware of the relationships of space to others, that to occupy a building means to move about in it, and to move about in a building depends on being able to retain an intelligible picture of it. Intelligibility and functionality defined as formal properties of spatial complexes are the key 'generic functions', and as such the key structures which restrict the field of combinatorial possibility and give rise to the architecturally real." (Hillier 2007: 223)*

As shown by Space Syntax research people move through a space according to the configurational logic of it based on intelligibility and functionality as outlined by Hillier; that means the more integrated a space is the more people can be found moving through it. A recent sophistication of the theory of movement specifically for office spaces has been suggested by Sailer (2007) taking not only configuration but also the placement of attractors like the coffee machine, the copy point etc. into account.

Thus with the help of Space Syntax even speculative developments could be designed evidence-based with respect to a generic user by taking basic anthropological principles of human movement into account.

### **Evidence-Based Design – a New Approach to Integrate the User**

In order to implement these ideas of a new professional culture relying on evidence and integrating the user, The Bartlett School of Graduate Studies at University College London (UCL) and Spacelab architects have started collaborating on a project on 'Effective Workplaces'.

Its main aim is to produce knowledge on the powerful relationship between spatial configuration and social behaviours in workplace environments and hence influence future design processes as well as outcomes. The basic idea is striking and simple: by investigating the spaces, cultures, behaviours, and space usage patterns of an organisation, this detailed knowledge may help to suggest better design solutions that perfectly fit the clients' character and needs. Moreover, solid and comprehensible evidence can be provided to back up discussions with existing clients to argue for the most adequate solution, and new clients may be acquired that are interested in looking at space, property and effectiveness in line with an organisations' business objectives (for more details see: Sailer et al. 2007).

Thus evidence-based design may emerge, a design that is based on evidence gathered previously and continuously rather than a design that is purely fed by the intuition and experience of the individual designer. The development of an evidence-based practice started in the medical profession some decades ago and has since become increasingly popular. Evidence-based medicine was defined as 'conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients', thus integrating individual expertise with the best available evidence from systematic research (Sackett et al.

1996). Recently, ideas on how to transform the evidence-based approach into management practice were published by Pfeffer and Sutton, suggesting to 'ground decisions in the latest and best knowledge of what actually works' with special regard to an organisation's own specific character, culture, and context (Pfeffer and Sutton 2006a, 2006b).

By integrating architectural research methods like Space Syntax, Social Network Analysis, ethnographic space observations, questionnaires etc. directly into the design practice and conducting case studies on life projects, a new evidence-based professional culture of architecture and design is formed and new relationships between the design practice and architectural research are created. This also influences the role of the user, as outlined in figure 1.

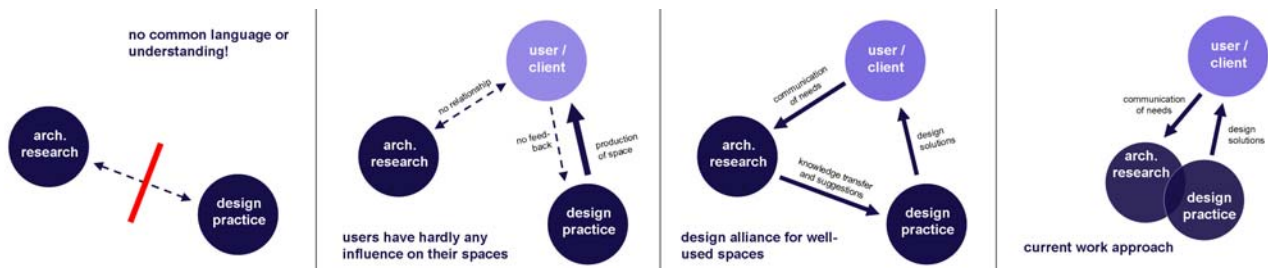


figure 1a-d: re-defining the relationships between architectural research, the design practice and the user

In the following section an example of Spacelab's current work is presented to explain this approach in more detail.

### Case Study – Business Integration of a Media Company

Spacelab architects have been commissioned in 2006/2007 to assist a large UK-based media company in the process of relocating different departments and sections of the corporation, comprising a total of 1,400 staff and coming from six different buildings throughout the city, into one big new building.

Although the original project only involved a new design in the beginning, Spacelab began to engage with the client and the users in a more intensive way later in the course of the project as a result of the collaboration with UCL that had started in the meantime. The project was made into a research case study accompanying the design and building process and was set up in two stages, one round of investigation a few weeks before the move and another one six months after everyone settled in the new building. The knowledge generated out of this case study is supposed to feed back into Spacelab's design processes as evidence on how space influences organisational behaviours. The setup of the study included interviews with the management, space usage observations and evaluations, and questionnaires on satisfaction with the space as well as on personal relationships within the office. In the end Spacelab wanted to find out how their design intervention influenced the organisation in its work efforts.

At the same time the interest arose to monitor the effects of physically integrating different sections of a business. It seemed that the decision to integrate the business was driven by the property team of the client who wanted to ease their task of managing the different properties. The executive management used this attempt to restructure the business, e.g. by creating a central marketing team out of the marketing staff of all the various small business units and making people redundant. However, the departments within the organisation – most of them magazines, information businesses or organisers of events – expressed very diverse views on moving in together with everyone else when interviewed: while some were enthusiastic to be in closer relationship with other interesting businesses and expected synergies and inspiration (as depicted in figure 2 by green dashed ties), others felt their in-house competitors or simply irrelevant business units would pester them too much in the future (depicted by red dotted ties).

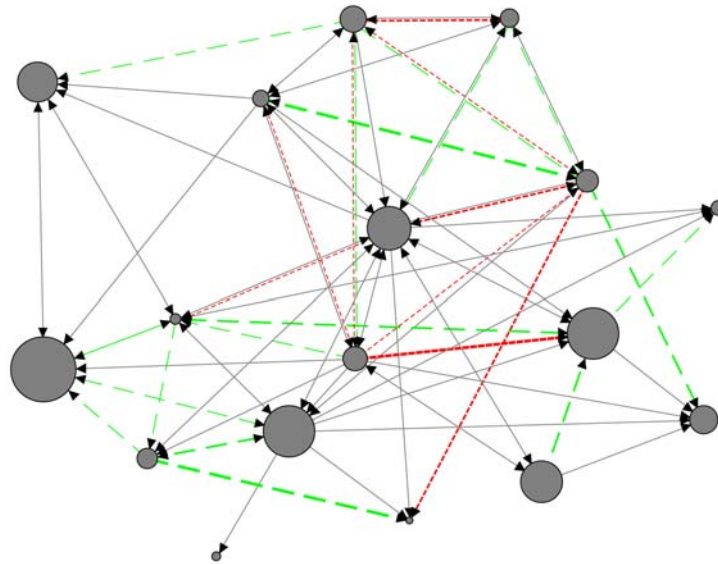


Figure 2: Expected difference in interaction activity between business units once the move is finished. Green links (dashed) between units show relations that ought to intensify, grey links are thought to stay the same and red ones (dotted) depict relations that ought to weaken after the move. The size of the nodes reflects the number of staff.

In the process of conducting the first phase of the case study and for sure partly initiated exactly through the participant observations and interactions with staff, people started airing their displeasure about the move in Emails and comments on the questionnaire, specifically about the fact that they had never been asked or involved in anything, or that what they had been advising was never heard. In fact, an internal work group on the 'Best Use of Building' was only created a few weeks before the start of the construction on site, way too short notice to really have an impact on how the building would be designed. It became obvious that the management didn't want to reveal too much information too early in order to avoid any reactions by the staff, let alone actively involve staff in the project.

Although the case study is still ongoing<sup>4</sup> and thus no results on the influence of space on organisational behaviour can be presented yet, two interesting lessons concerning a new evidence-based professional practice can be learned from this study: first of all, that in the process of designing workplace environments architects never deal with a single client but rather with different people from one organisation who play different roles and have their own distinct agendas influencing the way architects can act. Whereas the property team in this case simply wanted to have everyone in a single building to manage space efficiently, the top management wanted to save money; whereas some of the unit managers were looking forward to the chances brought about with the change, some of the staff were quite angry about redundancies and not being involved. Secondly it can be learned, that sometimes it is exactly some forces on the side of the client who wish to not involve staff too much. Because of the fact that the timing of the study was not ideal – it was not possible to start it early enough to influence the design of the project itself – it was made easy for staff to turn their anger on the belated research. Still it became clear from the communication with the management that they would have been quite reluctant to have an early phase research going on, because it would have forced them to communicate more openly with their own staff which was surely not their strategy.

But even as a pre-post-comparison in the style of a post-occupancy evaluation, the study raised important issues and will create valuable knowledge to inform similar design projects at Spacelab in the future.

### Ethical Reflections on Evidence-Based Design

Evidence-based design is an interesting approach to integrate the user which has been argued above to be ethical, yet there are potentially also ethical problems involved in evidence-based design.

<sup>4</sup> It is due to be finished in spring 2008.



One argument against an evidence-based practice from an ethics point of view could be centred on the concern for privacy of information. The evidence-based case study of the media company as outlined above involved gathering information about individuals within an organisational context, for example their observed behaviours in the workplace, but also information on which colleagues an individual found useful. Although the research was registered with the data protection office at UCL and received ethical approval, and though individuals were informed about all procedures and in cases where they entered personal information (e.g. in questionnaires) an informed consent was involved, still at times staff felt uneasy or ill informed about the procedures of the research.

Hence the two contradicting interests, the interest of the individual to keep their privacy and the interest of the evidence-based practitioner who is aiming at common benefit need to be balanced and this is a true ethical question.

Moreover, issues of disclosing information to other parties in the relationship could be considered ethically problematic, because an evidence-based practice either means to carefully apply representative evidence or general knowledge already created with scientific rigour onto a new case. Or it may mean inquiring into a specific situation in detail in order to generate specific and new insights and explicate knowledge. It could be argued now that certain issues may better not be communicated or explicated, or in other words, by inquiring into a situation and thus disclosing information harm could be done to the people involved. In the presented case study the media company wanted to make the firm more efficient, reorganise and make redundant. If they would have been honest about their motivations and engage in full consultation the whole social system might have collapsed. But what has an evidence-based research approach to do with that? If one agrees that at times not knowing the truth or polite ignoring of it can hold social structures together, this may become more difficult when following an evidence-based approach where knowledge is explicated.

Yet this paper would argue against the attitude of not wanting to know: first of all not knowing is never better than knowing, at least in a professional practice where decisions have to be taken and where people are not too deeply involved personally or emotionally (as would be the case in a love relationship for example)<sup>5</sup>. Taking a decision consciously and with good knowledge of the circumstances of a situation increases the likelihood of the decision being appropriate. Even if the 'good' role of fictions and myths in holding social structures together is acknowledged, an evidence-based approach does not necessarily mean to disclose everything to everyone. Arguing with Aristotle again a 'Good Mean' has to be applied, i.e. the right balance between the extremes, thus involving a choice:

*"Virtue as habit disposes one to choose in the right way among actions and passions, and that the right way involves a mean between extremes. Such a mean proportion may be determined in action by habit without explicit knowledge, but if it is to be stated it is made a rational rule (...): 'Virtue, then, is a habit concerned with choice, i.e., the mean relative to us, this being determined by a rational principle, and by that principle by which the prudent man would determine it.'"*(McKeon 1941: 274)

However, Aristotle also points out that *"the mean is to be determined in a way that takes into account the particular circumstances of the individual"* (Kraut 2007). Hence an evidence-based practitioner needs to choose and decide what information s/he needs to gather, what will be disclosed to whom and of course how to implement the results of the inquiry process.

Having a closer look at the practice of evidence-based medicine is inspiring for this aspect again, as it is argued there, drawing on Wittgenstein's *Philosophical Investigations on rules*, that every judgement is based on an element of tacit knowledge and that for this reason *"even explicit research-driven evidence-based medicine rests on a background of implicit or tacit knowledge"* (Thornton 2006). Exercising judgement which

---

<sup>5</sup> Of course one could argue that people do get emotionally or personally involved in work which is also one form of a social relationship, especially if one thinks about someone being unhappy in their job which can massively influence their overall happiness. However there is a difference in the depth of involvement between a love relationship and a work relationship. Moreover, the paper would argue that in love relationships there might be more cases where one doesn't want to know certain things with good reason in order to keep social structures (e.g. in case of a love affair in a marriage) stable, but in business relationships one would always want to know in order to ground decisions as good as possible.

clearly is the most important point of choice or decision in an evidence-based practice (e.g. on what medication or therapy to follow or, transferred to design-related issues, on how to layout and configure spaces) thus relies on implicit skills as much as on scientifically provided evidence. As Thornton argues further this may also influence a more user-centred practice:

*"The underlying metaphysics of user centred care is the patient as a whole person, the meaning of whose life is a structured – though in mental illness perhaps fractured – whole. The metaphysics of tacit knowledge is one of clinicians as embodied whole persons exercising judgement in the face both of complex data and guided by only partial codifications. These two views fit together with a much more humane account of the relation of 'subject' and 'object' in clinical judgement: a relation that will be better understood through a contribution from philosophy and the humanities as well as the hard sciences."* (Thornton 2006)

To summarise, the main goal of an evidence-based approach is to take conscious and knowledgeable decisions in a balanced and considerate manner to the benefit of the ongoing work processes of the professional practice and thus also benefiting the user.

## Conclusions

This paper outlined aspects of the professional culture of architecture and how this culture may be changed on various levels: how it could become more open towards research and objective scientifically produced evidence; how it could integrate the users, their specific needs, character and organisational or individual culture; and how it could become more operational and process based by focusing more on the procedure of systematically finding out what the client needs, of engaging the users, proposing a design solution, managing the project, and evaluating its use and appropriation in the end in order to learn from it for future reference.

At the same time another aspect of processes and long-term commitment could be implemented: by knowing more about the client than they know about themselves, it may be possible to offer designs for other properties the client may own (in case of a bigger company), but more importantly to continuously consult a client on the most adequate and efficient spatial solution fitting to their actual needs that could change quite rapidly. One could think of a growing and shrinking business, an organisational restructuring or new technologies affording new ways of working, not only organisationally, but also spatially. It would also suit a family in the course of their life who may want to adapt their home to the varying needs over the years, e.g. as the children grow up, move out or as the elder generation moves in again. A client may hence not only buy an architectural service once, but become a satisfied repeat client receiving continuous services specifically suited to them.

In the end this approach may not only pay off for architects as well as clients, but also be an ethical one and one that may enhance the quality of architecture. In a very specific and certainly narrow definition of what architecture is Bill Hillier has defined only this as architecture what is reflected and aware of cultural and social characteristics and circumstances:

*"Architecture begins when the configurational aspects of form and space, through which buildings become cultural and social objects, are treated not as unconscious rules to be followed, but are raised to the level of conscious, comparative thought, and in this way made part of the object of creative attention. Architecture comes into existence, we may say, as a result of a kind of intellectual 'prise de conscience': we build, but not as cultural automata, reproducing the spatial and physical forms of our culture, but as conscious human beings critically aware of the cultural relativity of built forms and spatial forms. We build, that is, aware of intellectual choice, and we therefore build with reason, giving reasons for these choices."* (Hillier 2007: 32)

Therefore a lot of the alleged architecture we see around us may be only buildings or even sculptures, but not architecture. It is to be hoped that the process of building with reason and thus architecture in the sense of Hillier may flourish in the future creating a new professional culture and architectural practice that is evidence-based, intelligent, social, user-oriented and procedural.

## References

- Dursun, Pelin (2007), 'Space Syntax in Architectural Design', in Ayse Sema Kubat (ed.), *6th International Space Syntax Symposium* (Istanbul), 056/01-56/12.
- Gausa, Manuel, et al. (2003), *The Metapolis Dictionary of Advanced Architecture. City, Technology, and Society in the Information Age* (Barcelona: Actar).
- Groat, Linda and Wang, David (2002), *Architectural Research Methods* (New York: John Wiley & Sons).
- Harries, Karsten (1997), *The Ethical Function of Architecture* (Cambridge: MIT Press).
- Hertzberger, Herman (1991), *Lessons for Students in Architecture* (Rotterdam: Uitgeverij 010 Publishers).
- Hillier, Bill (2007), *Space is the machine. A configurational theory of architecture* (newly published version of the 1996 book: Space Syntax Ltd.) <<http://www.spacesyntax.com/tool-links/downloads/space-is-the-machine.aspx>>, accessed 04.09.2007.
- Kraut, Richard (2007), 'Aristotle's Ethics', *The Stanford Encyclopedia of Philosophy* (Fall 2007 Edition), <<http://plato.stanford.edu/archives/fall2007/entries/aristotle-ethics/>>, accessed 28.08.2007.
- Lawson, Bryan (2006), *How Designers Think - The Design Process Demystified* (4th edn.; Oxford: Architectural Press).
- McKeon, Richard (1941), 'Aristotle's Conception of Moral and Political Philosophy', *Ethics*, 51 (3), 253-90.
- Pfeffer, Jeffrey and Sutton, Robert I. (2006a), 'Evidence-Based Management', *Harvard Business Review*, 84 (1), 62-74.
- (2006b), 'Treat Your Organization as a Prototype: The Essence of Evidence-Based Management', *Design Management Review*, 17 (3), 10-14.
- Piano, Renzo (1997), *Renzo Piano - mein Architektur-Logbuch, Publication for the exhibition 'Out of the blue' 1997 in Bonn* (Ostfildern-Ruit: Hatje).
- Pryke, Stephen and Smyth, Hedley (eds.) (2006), *The Management of Complex Projects - a Relationship Approach* (Oxford/Malden: Blackwell Publishing).
- Ray, Nicolas (ed.), (2005), *Architecture and its Ethical Dilemmas* (London/New York: Taylor & Francis).
- RIBA (2005), 'Royal Institute of British Architects: Code of Professional Conduct', <<http://www.architecture.com/The%20RIBA/Organisation/Constitution/Code%20of%20Conduct.aspx>>, accessed 04.09.2007.
- Sackett, David L., Rosenberg, William M. C., Gray, J. A. Muir, Haynes, R. Brian, and Richardson, W. Scott (1996), 'Evidence based medicine: what it is and what it isn't', *BMJ*, 312 (7023), 71-72.
- Sailer, Kerstin (2007), 'Movement in Workplace Environments - Configurational or Programmed?' paper given at 6th International Space Syntax Symposium, Istanbul, 12-15 June 2007.
- Sailer, Kerstin, Budgen, Andrew, Lonsdale, Nathan, Turner, Alasdair, and Penn, Alan (2007), 'Effective Workplaces – Bridging the Gap between Architectural Research and Design Practice', paper given at 6th International Space Syntax Symposium, Istanbul, 12-15 June 2007.
- Schön, Donald A (1991), *The Reflective Practitioner: How Professionals Think in Action* (Aldershot: Ashgate Publishing Limited).
- Smyth, Hedley (2000), *Marketing and Selling Construction Services* (Oxford/Malden: Blackwell Publishing).
- Spector, Tom (2001), *The Ethical Architect. The Dilemma of Contemporary Practice* (New York: Princeton Architectural Press).
- Thornton, Tim (2006), 'Tacit knowledge as the unifying factor in evidence based medicine and clinical judgement', *Philosophy, Ethics, and Humanities in Medicine*, 1 (1), 1-10.
- Till, Jeremy (2007), 'What is Architectural Research? Three Myths and One Model', *RIBA Research Wiki*, <<http://ribaresearch.wetpaint.com/page/What+is+architectural+research%3F>>, accessed 28.08.2007.
- van Schaik, Leon (2005), *Mastering Architecture. Becoming a Creative Innovator in Practice* (Chichester: Wiley-Academy).
- Wasserman, Barry, Sullivan, Patrick, and Palermo, Gregory (2000), *Ethics and the Practice of Architecture* (New York/Chichester: John Wiley & Sons).