'Exploring Excellence: How Architects Think'

Report for Trustees of the Byera Hadley Post Graduate Travelling Scholarship

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Forward

The objective for undertaking this course of research was to review the mechanisms involved in the architectural creative thinking process at the conceptual stage of design problem solving. Therefore, the purpose of this study was to examine if there was a discernible method by which we can model the mechanisms of creative behaviour in order to achieve the best conditions for designing.

The proposal put forth for the award of the Byera Hadley Travelling Scholarship outlined a course of practical inquiry that would examine the methods used by architects who are critically characterised by their ability to design buildings of outstanding creative content. By the very nature of the Byera Hadley Travelling Scholarship this meant an extensive programme of travel in order to meet and interview those architects whom we assess to be 'peak' achieving individuals and who were willing to take part in the trial.

In essence this research has been divided into three components of study. The first stage was a period of background research to establish a theoretical starting point and method of execution. The second stage was a stage of practical inquiry that involved conducting interviews with some of the world's most recognised architects and the third stage was a period of consolidation and analysis.

The preliminary research for Stage One developed and established the methods by which this course of study was to be executed. An extensive examination of the literature available on both the cognitive and psychological mechanisms involved in design thinking was factored into a hypothesis. This hypothetical starting point was the genesis and the basis for the interviews that were to provide data from which a conclusion could be formulated.

The interviews were carried out using a technique of retrospective recall. The data extracted from these interviews was analysed and assessed against the theories developed as a part of the background research.

By the very constructs of this study, this document has been divided into five parts. These are:

Part One   The Proposal

Part Two   The Hypothesis

Part Three   The Interviews

Part Four   The Results

Part Five   The Conclusion.

The following pages have been designed to elaborate and explain the complexities of the study and its outcomes. This paper has been structured to report on both the experience of the research program and the results obtained during it.

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PART ONE: The Proposal

1.0   Introduction

Fundamentally, the proposal for the course of research undertaken for the Award of the Byera Hadley Travelling Scholarship focused on the generic hypothesis that brilliant architectural design outcomes are achieved through the recognition of inspired thought in the earliest stage of the design process. That is, during the conceptual stage of architectural design the designers have a moment of insight that transcends rational thought and leads to unexpected and astonishing architectural solutions.

This is illustrated very simplistically in the diagram below. This study investigates the highlighted component, the moment when the germ of an idea is recognised.
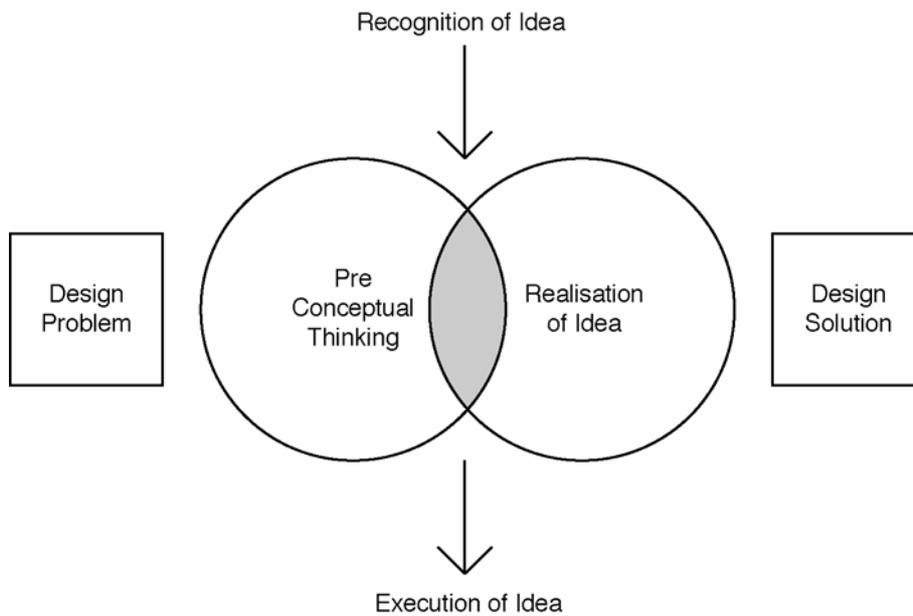
DIAGRAM 1

This study proposes that without the recognition of an idea that is formulated in the subconscious mind and realised in the conscious mind at the 'the moment of insight', [see diagram 2] that the creative design process is handicapped. That is, without this 'moment of insight' genuine design invention does not occur and formulaic extensions of previous ideas are utilised and repeated as design solutions. In this regard, this course of research focuses on the individual architect's ability to recognise the transmittal of irrational thought to rational design idea. This is the factor that sets this study apart from those that have been previously carried out.

Translation of idea occurs at a
'moment of insight' when realisation
of a possibility is recognised
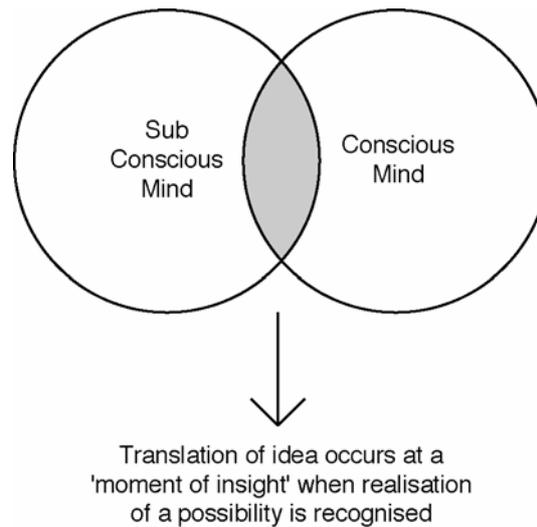
DIAGRAM 2

The idea that the best design solutions are born from inspired thought is by no means a new way of thinking. Numerous previous studies on creative thinking have all agreed that this type of cognitive process does occur. Historically, the marriage or coupling of unusual components has led to many artistic and scientific breakthroughs. This study, whilst acknowledging and drawing from well documented past research, differs from previous studies by focussing specifically on architectural design thinking. This research defines architectural design thinking as a process that is both creative and pragmatic. That is, an architect must be able to think imaginatively to design a building that can be both spatially inventive and capable of being constructed.

In order to focus on the components that allow and encourage the recognition of design ideas, this study set out to investigate the methods of thinking used by architects who are critically acknowledged to achieve consistent excellence in their built and/or written work. By the very nature of the Scholarship an extensive program of travel was undertaken to interview architects about their individual design processes and methods. The proposed outcome of such an undertaking was a more critical understanding of creative architectural thought processes and a more satisfactory platform to pursue further research.

1.1 The Use of the Scholarship

The Award of the Scholarship was based on the proposal that I would travel and interview a number of internationally recognised architects who were consistently able to achieve creative excellence. This proposal grew out of an existing line of study that was being undertaken to assess if there was a genuine model that described the process of creative idea recognition.

In essence, the interviews that were proposed acted as a testing ground for a number of theories put forward through previous studies. The Scholarship also gave the opportunity for a select group of peak achieving architects to be examined, an activity that had not previously been undertaken for the purpose of studying conceptual design methods. The objective was to see if it were possible to develop the model to a point where it could be a generic illustration of architects achieving personal bests.

1.2   Background Research

The background research, which led up to the interviews was based principally on historical models of creative behaviour. The outcome of this background research proved that there was a definite need for practical inquiry into the design process within the architectural profession. This was not only to examine the methods of creative thinking but also to look at creative behaviour in a purely architectural context.

The majority of the published material and existing models that had been formulated to describe creative endeavour were from a psychological reference and drew from multiple disciplines ranging from choreography to writing.

Literature on the subject generally acknowledged that insight, intuition and inspiration were essential psychological qualities that facilitated idea recognition. However, the preliminary research to this study identified that there was a largely unfulfilled area of fundamental inquiry that sought to examine how these were factored into the architectural design process. There was only minimal anecdotal evidence documented to describe how these psychological 'tools' were utilised by critically acclaimed, peak achieving architects.

The background literature openly credited inspired thought for many scientific and artistic discoveries of knowledge and invention. This also held true for most references to architectural design, and in particular conceptual design, or the period in which the idea originates. However, as distinct from other creative disciplines [including the sciences] there was a conspicuous absence of practical research examining the importance of idea recognition and how inspiration could be used as a 'tool' for design. The interviews that were undertaken as the practical component of this study examined how peak achieving architects were able to manage their individual design processes when this unquantifiable psychological element was in play.

Furthermore, most of the literature acknowledged that in addition to inspiration, both insight and intuition were central to creativity and learning. However, this line of legitimate reasoning was not extended to a point where one was able to understand how these 'emotions' could be used to an architect's advantage in achieving creative outcomes to design problems. This substantiated the need for a more succinct understanding of these qualities during the conceptual [or idea formulation stage] of the architectural design process.

1.3   Definitions

Most of the terms used throughout the course of this study were clearly defined and understood. Only 'intuition' and 'insight' needed to be further clarified due to some semantic differences published in the background literature between their operational and theoretical use.

For the purposes of this study, 'intuition' is defined as the abstract idea indicating the possibility of putting unfamiliar ideas together and 'insight' is defined as the thought of how to make the coupling of these unfamiliar ideas possible.

For this study, the 'moment of insight' brings these two necessary components together in the architectural design process.

1.4   The Process in accordance to the background research

Evident frustration at the absence of an understanding of the thinking process leading up to idea recognition is well documented in the published literature relating to inspired creativity. Thurstone laments that, 'Eventually a research program on creative and inventive talent should investigate what happens before the moment of insight'[1]. This statement highlights that there is a significant amount of anecdotal and analytical information available to explain what happens after 'the moment of insight', but very little that investigates the psychological and physiological elements involved in the minds creative process prior to the recognition of an idea.

In regard to process, the literature generally accepts that intuition is the first and most necessary stage of the creative design process. That is, the architect or designer needs to be able to accept that two or more unfamiliar ideas could be coupled together to make a genuinely valid architectural concept – See Diagram 3. This means that the creative architect needs to be mentally open to what may seem to be 'ludicrous' couplings or a 'crazy' inspired thought. It is generally accepted within the available literature documenting the thought processes of creative people that the first mental hurdle to idea recognition is subconscious acceptance of these intuitive thoughts.

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[1]   Thurstone, L.L. , 1962. The scientific study of inventive talent, in Parnes, S. J., and Harding, H.F., [eds], *A Source Book for Creative Thinking*, Scribner, New York. p. 62

Moment of Insight

SUB CONSCIOUS   CONSCIOUS

X   Y

Z   N

X N

Inspired subconscious
thoughts allow unrelated
components to be
connected

The 'moment of insight'
allows the conscious mind
to couple and analyse
this union
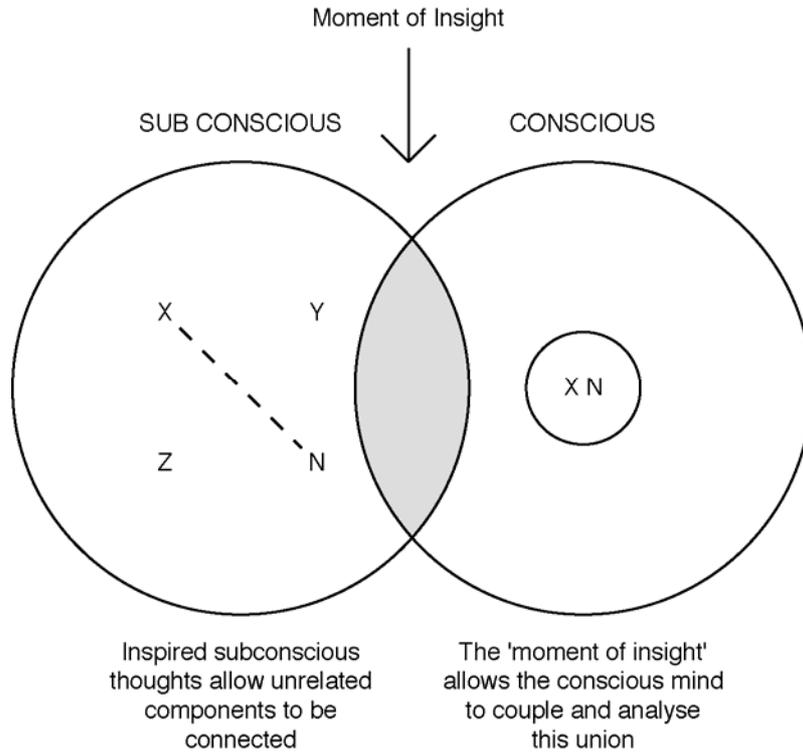
DIAGRAM 3

The available literature on this subject also acknowledges that the ability to accept this intuitive notion without questioning is mostly attributed to personality. The reasoning behind this is if one is intuitively able to recognise a possibility without fully understanding the consequences, the subconscious mind is able to relax the barriers between it and the rational / conscious mind. In 'non-creative' circumstances the mind would normally reject such intuitive thoughts as unreasonable. This study supports this idea and proposes that once this acceptance has been made the interlocking of the rational and irrational thought or 'moment of insight' can occur.

The available literature also accepts that intuition is followed in creative problem-solving, by the logical verification of the intuitive thought. That is, the inspired and intuitively recognised thought is first seeded in the realm of the unconscious but is then transmitted into consciousness [through insight], so that it can be ordered and verified as a solution to a design problem – See Diagram 4. This is at first a linear and then cyclic process and occurs immediately after the moment of insight – See Diagram 5
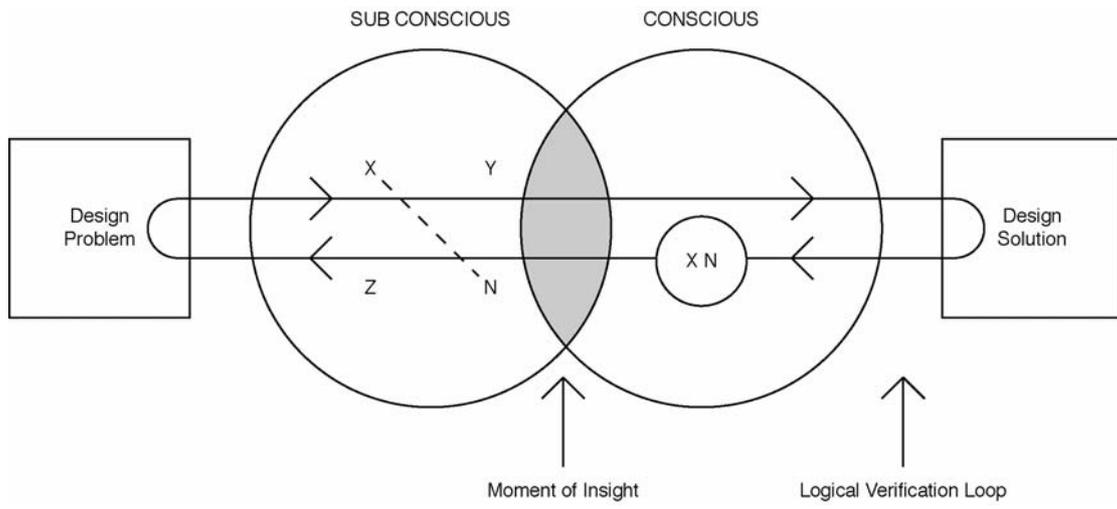
DIAGRAM 4
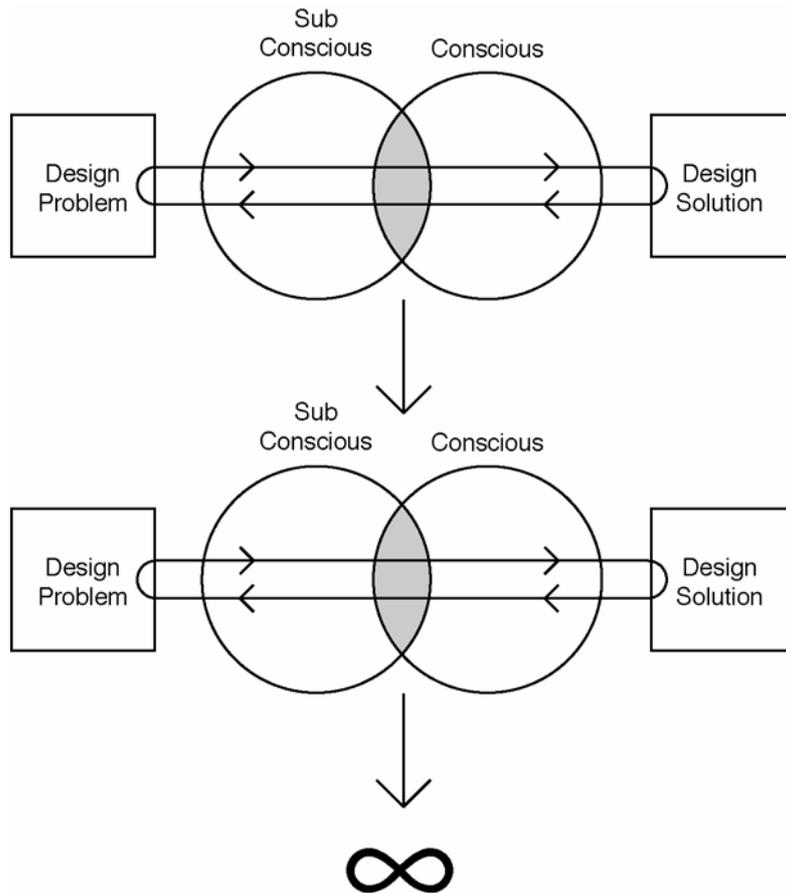
DIAGRAM 5

1.5   HISTORICAL MODELS OF THE CONCEPTUAL DESIGN PROCESS

1.5A   Explanation of the Two and Four Stage models of Creative Thinking

The process of inspired creativity has historically been the source of much speculation. There are generally two schools of thought amongst the published stages involved in the process of recognising inspired thoughts. These are a four stage process and a two stage process. Clinchy and Hutchinson are examples of those who see the process in four stages, e.g.. '...preparation, incubation, illumination [insight] and verification'[2], while Bastick, Mackinnon and Slicker are examples of those who see the process in two stages , i.e., intuition followed by verification. Both of these are cyclic arrangements [see diagrams below] and occur throughout the whole of the designing process. However, a general acceptance within the literature states that an inspired creative outcome is the result of a temporal process.

DIAGRAM 6

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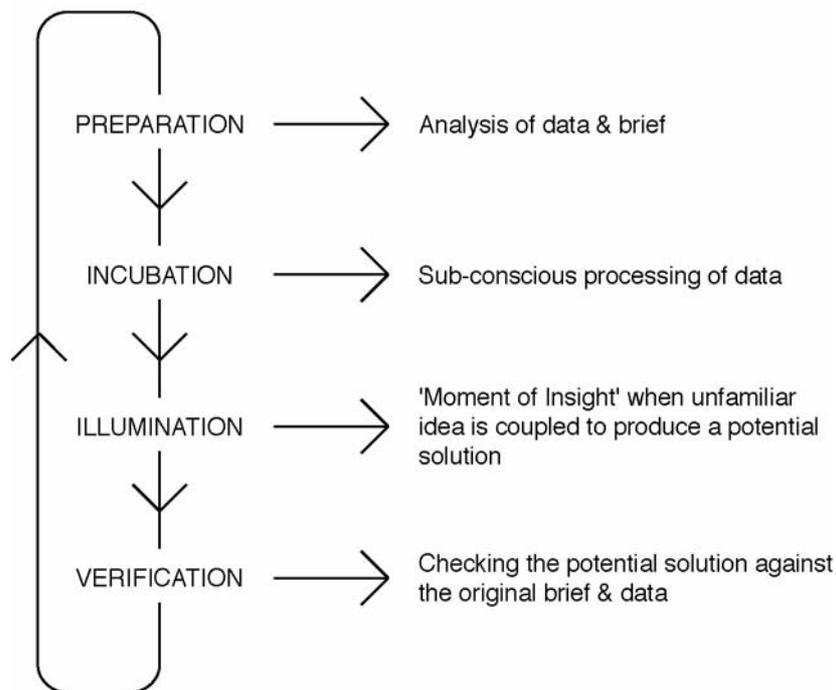
2   Cinchy, B., 1974. The role of intuition in learning, Todays Education, 64[2], April, pp. 48-51, in Bastick, T., Intuition: How we think and act, John Wiley and Sons, Chichester, 1982,
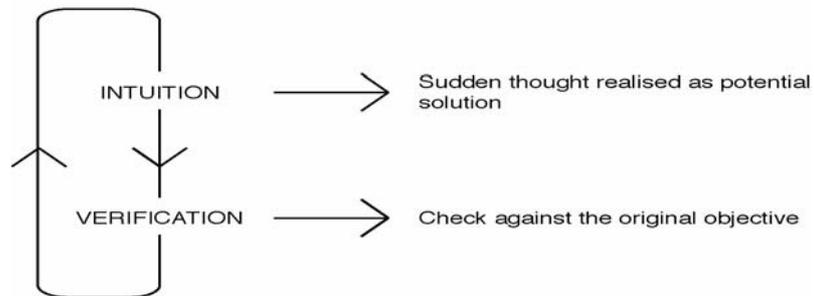
DIAGRAM 7

Bastick in his definition of the theory of intuition and its associated stages [which according to him is a two stage process], puts together a model which is the first definition of a theory which is consistent with the role of intuition that has been described in part 1.4 of this paper. It may, therefore, be considered a consensus definition of intuition, and for this reasons this study elected to use it as a platform for the initial architectural investigation.

Bastick's theory states that inspiration is not available on demand in even the most brilliant achievers. It did, however, recognise the need for particular enabling conditions[3] to be present for an individual to be able to accept an intuitive thought as a potentially valid idea. This component of Bastick's theory was adopted in the early stages of this study and was elaborated on by a five-stage model [to be described in part 1.5B] developed by Rob Cowdroy [The University of Newcastle, Australia] and Erik de Graaf [Technical University of Delft, the Netherlands].

Pilot studies with designers, writers, musicians and artists, conducted by Cowdroy and de Graff showed that limited management of the stress combinations required to accept intuitive thought were achievable, and that the onset [or preclusion] of insight in individuals is predictable and in some cases manipulable. These findings challenge many assumptions about inspiration and intuition as essentially instinctive and involuntary and suggest that the onset of insight may be controllable and therefore potentially teachable, or more appropriately, learned. These findings are a direct precursor to the proposed study of architects who are consistently able to achieve design innovation.

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3   In theory, these enabling [and disabling] conditions are established in the background literature as those emotions which control the onset of insight. That is the conditions that allow an individual to make the connection between the subconscious and conscious minds. They have been positively identified as particular combinations of positive and negative stresses arising from current life issues [referred to as the profile of the individual] and act unconsciously on the individual.

1.5B   Explanation of the Five Stage Model of Creative Thinking

Cowdroy's and de Graaf's research established the recognition of inspired thought as a 5 stage process, rather than a four or two stage, or instantaneous event. The stages in their model for recognising inspired thought are:

A]   A preparative stage

B]   An unconscious re-ordering stage

C]   A point of departure from accepted rational design processes [leading to the 'moment of insight';

D]   The emergence of [conscious] insight ; and

E]   A consolidation stage, which commences a process of continuous concentration leading to a specific creative outcome. That is, the stage of logical verification.

Support of the general concept of this model comes from Watson who gives four conditions under which insight occurs. He says, 'The experience of learning by sudden insight into a previously confusing or puzzling situation arises when[4]:

A]   There has been sufficient background and preparation

B]   Attention is given to the relationship operative in the whole situation

C]   The perceptual structure 'frees' the key elements to be shifted into new patterns, and

D]   The task is meaningful and within the range of ability of the subject[5]'.

In the five stage model the pivotal stage is identified as that of unconscious thinking [stage B] which has conditions attached. Cowdroy's pilot studies show that B, C, and D must occur contiguously for inspiration to occur and to be recognised. This in turn supports the idea presented in part 1. 4 of this paper that the logical verification of the outcome of these stages creates a continuous information loop throughout the design decision making process both before and after the initial breakthrough has been made.

1.6   Conclusion to Preliminary Research

From the initial research that was carried out it was evident that a course of practical inquiry was required to establish if there was any facility or method that could be adopted by architects to recognise the transmittal of irrational thought to rational design idea. It was evident from the background research

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[4]   Watson, G., 1964. What psychology can we trust? in R.E. Ripple [ed], Readings in Learning and Human Abilities, Harper and Row, NY.

[5]   The term 'cognitive reorganisation' is sometimes applied to this experience. This is where the scene is suddenly turned into something more familiar which can be coped with. This is also called recentring.

that there was a need for a more succinct understanding of how ideas are recognised by those who are able to achieve creative solutions to design problems.

Research into historical models of creative thinking highlighted a need for validation of these processes through field testing. Testing was required to assess if architects were able to manage their individual design processes when the unquantifiable psychological elements of inspiration, intuition and insight were in play. It was proposed that this be done through a series of interviews that retrospectively investigated the psychological and physiological elements involved in the minds creative process prior to the recognition of an idea.

PART TWO: The Hypothesis

2.0   Introduction

Based on the preliminary research outlined in Part One of this paper, this line of study focused on the generic hypothesis that brilliant architectural design outcomes are achieved through the recognition of inspired thought in the earliest stage of the subconscious design process. That is, in the pre-conceptual stage of the architectural design process the designers have a 'moment of insight' that transcends conscious thinking into the irrational subconscious ordering of the design problem and brings these ideas into the rational world of consciousness, thus allowing for an unprecedented reasoning of the original design problem.
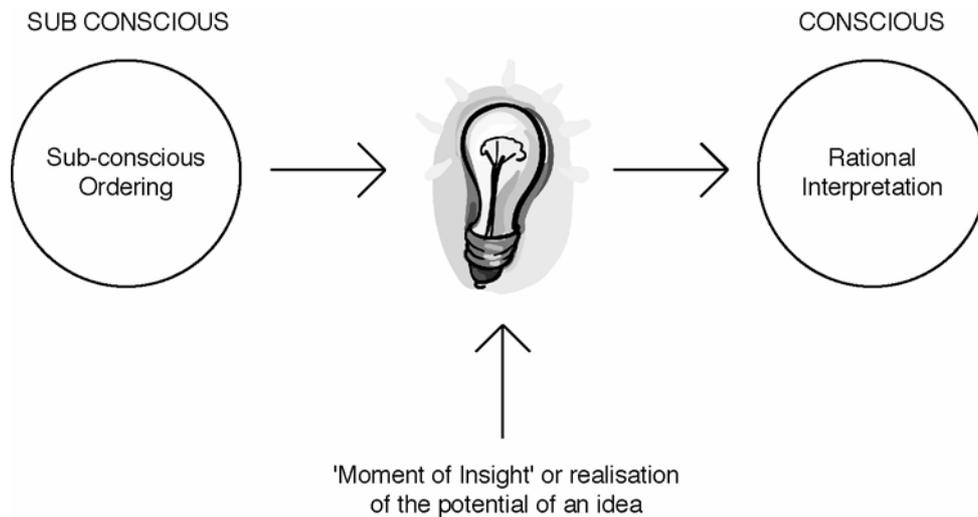
DIAGRAM 8

As a hypothetical starting point, this study adopts the idea that this process may be managed by all architects in the lead up to the recognition of a concept in architectural problem solving. This study acknowledges that this process of creative thinking occurs with varying degrees of clarity due to individual traits of behaviour [or enabling conditions – see 1.5A] and needs to be managed in different and complex ways depending on the individual designer.

2.1   A Hypothetical model

This study does however depart from other theories on pre-conceptual thought processes by proposing that it is only through the recognition of the mechanisms leading to this moment of insight and through a secondary or supporting insightful recognition of the conscious but irrational thought being connected as a possible solution to the design problem that truly skilled architects are able to achieve brilliant architectural design outcomes.
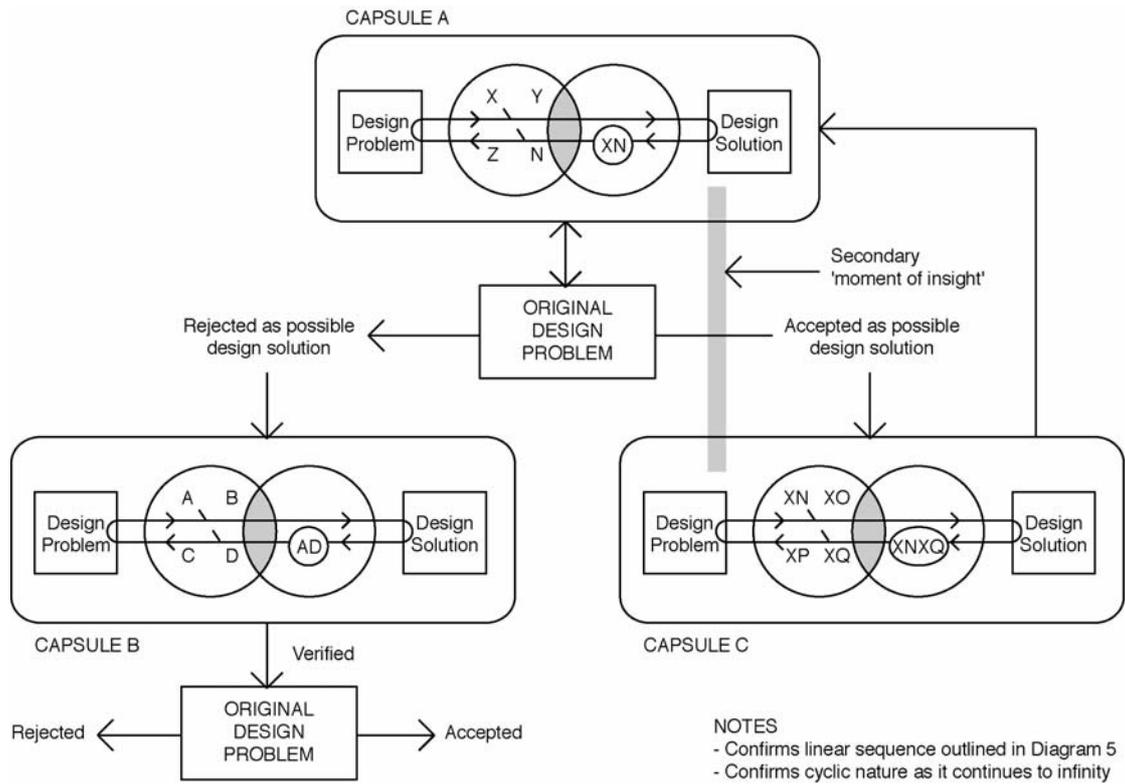
DIAGRAM 9

The diagram above illustrates this process. It examines the initial moment of insight [as illustrated in Diagram 4] and elaborates this in terms of the minds conscious ability to verify the unexpected and unfamiliar couplings of elements as potential design solutions.

The diagram above shows how this initial recognition is verified or checked against the original design idea and either accepted or rejected as a legitimate possibility for solving the design problem. These steps are illustrated as 'capsules' within the thought process and are connected in a linear sequence. However, it is important to recognise that whilst this diagram can potentially multiply to an infinite number of thought 'capsules' in a linear sequence [see diagram 10] , once an idea is accepted it begins a cyclic check against the genesis of the thought represented in capsule A.
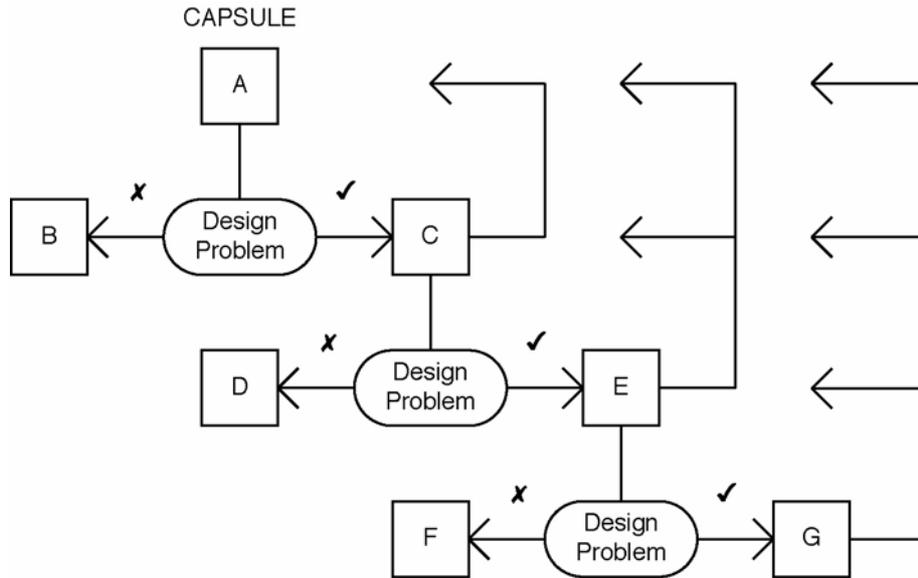
DIAGRAM 10

2.2   The effect of this model

The development of this model impacts significantly in a number of areas of architectural theory, education and design. It is thought that should the hypothesis be proven as a method then individuals would have a powerful resource for understanding their own thought processes in regard to creative invention.

The notion of discovering and harnessing this type of resource is not new to architecture. Buckminster Fuller was the first architect to write a book on intuition[6]. However, his book was devoted not to the architectural study of intuition but was in part pseudo-scientific and in part fairytale and as a result was not considered a serious examination of the issues relating to design. Alvaar Aalto was another of the world's master architects to attribute much of his design success to the confidence he allowed himself to have in his intuitive ability. In his famous essay of 1932, 'The Trout in the Stream' [7] he was the first architect of such an extreme calibre to try and explain his individual techniques of achieving inspiration and insight. More recently Princeton has transcribed Louis Kahn's Berkeley lecture, which appears to be the first instructional lecture from an architect on his personal intuitive process[8].

6   Buckminster Fuller, R. Intuition, 1972

7   'Alvaar Aalto: Points of Contact'; Catalogue of Exhibition, Aalto Museum, 1994, p14-17

8   'Architects, Process, Inspiration'; Perspecta 28, Yale Architectural Journal, MIT Press, Cambridge, 1997, p1-33

2.3   Intuitive Thinking

Intuitive thought is considered in historic models [see part 1. 5 of this paper] to be primary-process thinking[9]. That is, the process of gaining insight begins during relaxed states. The relaxed states, in this arrangement then occasion the onset of something called hypnogogic reverie, which is the seemingly chaotic associations of images or ideas that occur during very relaxed, near sleep like states. Reverie, like intuition, is reported as primary process thinking and occurs particularly in the first intuitive stage of creative design, the period that this study identifies as the ordering of illogical thoughts prior to the initial moment of insight. This study proposes that in this period, information recall and associations are not consciously directed. It is not until the time of the initial moment of insight that the idea is recognised and, according to the hypothesis of this proposal, not until the secondary moment of insight [after illogical ordering has taken place] is the idea logically 'attacked' or critiqued in the conscious mind.

In additon to this the literature generally attests that intuitions come in a 'whole' form. That is, intuitive products realised through insight, are the final state of a global intuitive process. The intuitive process, by selecting relevant and redundant information at what this study identifies as the first moment of insight increases the global nature of the process. This results in the intuitive products of:

Intuitive recognition;

Intuitive acceptance - With recognition and without recognition, and;

Intuitive judgements - of similarity , and of suitability

Intuitive acceptance and judgements are made in relation to the second moment of insight identified in this study.

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[9]   'Primary-process thinking is unreflective and lacking temporal orderliness; contradictory ideas are tolerated side by side; ideas freely shift about, and reversals of figure and ground occur easily'. Klein, G. S., Perception, Motives and Personality, Alfred A. Knopf, New York, 1970.
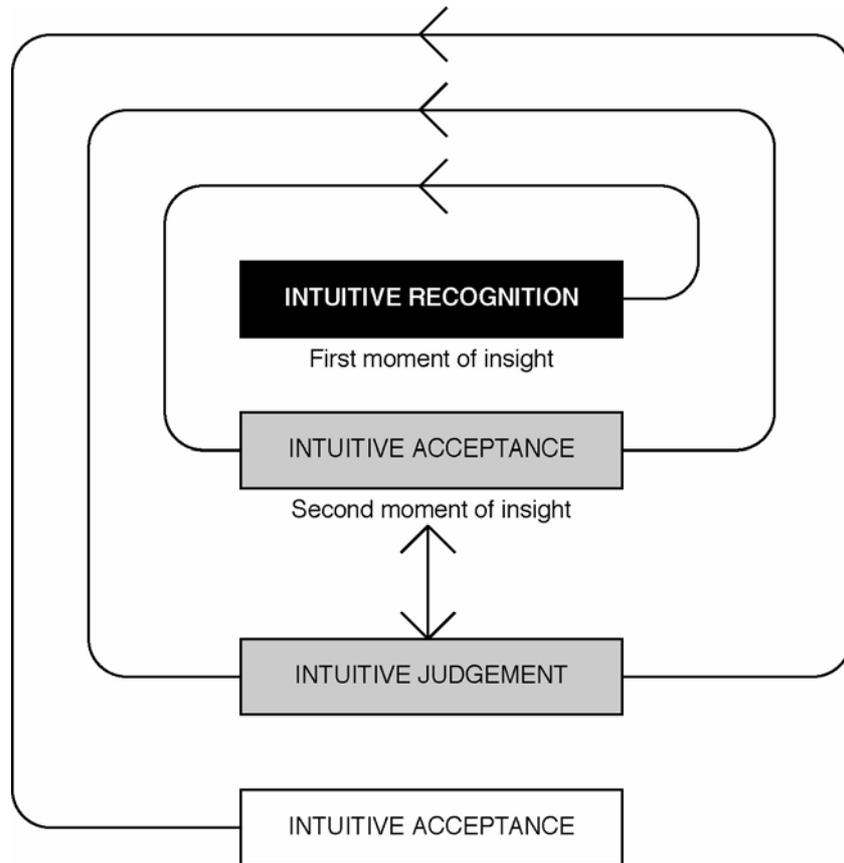
DIAGRAM 11

Architecture is validated as a discipline to examine the effects of primary-process thinking in regard to the global nature of intuition and its stages of recognition, acceptance and judgement. This is due to the nature of the design process and the consequential built resolution of the idea. Qualities that are often attributed to architectural thinking are both artistic and technical in nature and in accordance with this the discipline rests on the cusp of science and art.

The literature points out that the difference between creative ability in art and creative ability in science is that, although both fields require technical expertise to communicate the original intuition, in scientific creativity the intuition must be verified by being consistent with present knowledge and this restriction does not necessarily apply to artistic creativity. This restriction does however, apply to architecture since creative design outcomes ultimately need to be buildable.

Frank Gehry has been quoted saying his buildings are never as good as they appear in his head due to the physical parameters of building. The technical expertise required to communicate the original intuition in this regard, therefore, requires an intuitive understanding of the analytic techniques available so that the choice of technique and guidance in its use, throughout the design decision making process, may be intuitively directed as indicated in part one of this paper.

2.4 The Factor of 'Logical Verification'

Logical verification also plays a significant role in this process as it creates a continuous information loop based on reactions to 'emotional sets'[10] during the concept formulation period. This study hypothesises that this stage of verification is analytic in nature and the methods used for verifying the intuition and the direction of their use is also guided by a combination of intuitive belief and experience.

This theoretical standpoint follows the consensus of recent discoveries in sociology and psychology that show that unconscious activities are in part personal/individual and in part universal and common to all. The personal/individual components of unconscious activities are those that regulate insight and inspired thought and are related to the 'emotional sets' or the enabling conditions that allow for insight to occur. These are defined as mental or physical triggering devices due to stress combinations that allow for inspiration to be recognised. The universal and common component identifies with the mental process that the individual goes through in order to procure the idea. This element of unconscious activity relates to the idea of this study that the process of gaining insight is essentially an unknown but controllable process.

Carl Jung hypothesised that the most constructive creative experiences come from the universal part of the unconsciousness which Jung called the 'collective unconscious'.[11] The 'collective unconscious' is defined in this study in the same manner as Jung defined it. That is, it represents a 'living creative matrix of all our conscious and unconscious feelings, and is the essential structural basis of our psychic life'[12]. This matrix is informed by a number of factors that define a designer's life and in this study exists in parallel with a proposed personality matrix. The personality matrix proposed for this research contends that if a designer is of outstanding ability, then he or she will, in addition to basic theoretical and technical skills, have a higher level of intellect as well as advanced personal and social skills[13].

This notion of inspired creativity is tied to the idea put forth in this study that claims that inspired thought is manifested in the unconscious/irrational mind and through the mechanism of insight is transmitted into the conscious mind for logical verification before being submitted to the cycle once again for logical verification and further development.

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10   also known as 'enabling conditions' and explained in 1.5a

11   Jung, C., in Wild, K., Intuition, Cambridge University Press, London, 1938, p.51

12   Minai, A., Architecture as Environmental Communication, Mouton Publishers, Berlin, p.xii

13   Cowdroy, R. and Crick, M., Empowerment for Self-Evaluation and Assessment, Paper presented at PBL Conference 1999, Montreal

2.5 The Six Stage Model

In light of the above hypothesis and the conditions that are required to facilitate their progess, a six stage model is proposed. Modifications to the Cowdroy's five stage model are made and the stages are outlined below:

A]   A preparative stage

B]   An unconscious re-ordering stage

C]   A preliminary intuitive insight into the possibility of coupling irrational thought

D]   A point of departure from accepted rational design processes [leading to a significant 'moment of insight';

E]   The emergence of [conscious] insight – which is a secondary and supporting moment; and

F]   A consolidation stage, which commences a process of continuous concentration leading to a specific creative outcome. That is, the stage of logical verification.

The most significant departure form previous models is at point C where the preliminary recognition of insight is subconsciously recognised.

2.6 Ego Control

As shown in the models and diagrams above, creativity starts with global intuition which is then verified by guided analysis. In the second verification state of creativity, a second factor of ego control is introduced and is required to change between primary and secondary thought[14]. This is so that intuitively guided analysis can bring the initial intuition to fruition as a creation. In this study, analytic thought for this process is based on detailed and defined relations between two elements at a time. That is, intuitive thought is based on an emotional state associated with all the elements in the field of knowledge [or the overall impression] of the architect being profiled. As stated above, intuition as primary-process thinking occurs in regressed ego states [relaxed states][15] and the emotional state of the architect in this period of regressed ego acts as the facilitator to insight in all three stages [recognition, acceptance, judgement] in both primary and secondary thought processes. This prompts the need for practical research into this field of study as it further implicates intuition as the first stage of creativity by showing that the initial stage of creativity is primary-process thinking in a regressed ego state and that this acts as a catalyst for the stages B, C, D [and E] identified respectively in the five and six stage model.

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14   Pollio, H.R., [1974] implicates primary-process thinking with the production of insights in the early stages of creativity, and implicates secondary process thinking with the verification of these insights. From Bastick, op. cit., p321.

15   'ego regression [primitivisation of ego functions] occurs not only when the ego is weak -sleep, falling asleep, intoxication, psychosis - but also during many types of creative processes. This suggests that ego uses the primary process and is not overwhelmed by it. The idea is rooted in Freud's explanation of wit according to a preconscious thought 'entrusted for a moment to unconscious elaboration' and seems to account for a variety of creative or other inventive processes'. ibid. p76.

According to some studies this part of the process is partially controllable due to its relationship to the emotional sets which direct the emotional state required for unconscious reordering to take place in the subconscious mind just prior to the first unrecognised moment of insight. The control of these sets or gatekeeping mechanisms is of primary interest to this proposal as it is the identification of these which will allow for a model to be developed that shows the process of inspiration and the achievement of insight to be a controlled procedure.

2.7   Emotional Sets

To achieve this the mechanisms of primary process thoughts and their relationship to the emotions which allow or preclude insight need to be examined thoroughly. One of the mechanisms Freud describes as characteristic of primary processes is: 'Condensation, which results in the fusion of two or more ideas or images'[16]. This is explained by Bastick in his Theory of Intuitive Thought [which was used as the initial platform into the architectural implications of this research] as a result of combining emotional sets. Cowdroy and de Graaf on the combination of emotional sets, positively identifies the emotional set as combinations of positive/negative stresses arising from current life issues and acting unconsciously on the individual. He reports that at one level these mechanisms have shown to distort perceptions arising from enculturation and acculturation while at another level they distort the reflective loop which is essential to all current generic models of the design process. These types of distortions effectively enhance or negate the contribution made by the reflective loop and by the designer's experience, in the individuals design process and thus impacts on the quality of the design outcome.

Psychological experiments in the past have cited examples where during insightful behaviour subjects exhibited what was termed activational peaking [AP]. It was also found that during these periods of insight the subjects were mostly unaware of the transmittal of the ideas and were unable to consciously control them. Physiological experiments[17] have also shown that activational peaking is associated with definitive insightful behaviour. These experiments have proven two preconscious[18] aspects of the intuitive process. These are:

1]   The subject lacks conscious awareness of the activational peaking accompanying insight, and;

2]   the subject lacks conscious control on the physiological process on which intuition depends.

It is the objective of this research [by examining peak level architects] to understand if these two stages become identifiable.

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16   Freud, S., 1916, the theory of dreams, Collected Pepers 4, Hogarth Press, London, 1948, p146

17   Simonton, D.K., 1975, Creativity task complexity, and intuition vs. analytic problem solving, Psychological Reports, no. 37, p. 351-354

18   'Preconscious' refers to material which, though at the moment it may be unconscious, is available and ready to become conscious. Drever, J. A Dictionary of Psychology, Penguin Books, Harmondsworth, 1974, p219. This is effectively Stage C in the 6 stage process.

In identifying these two stages this study is trying to negate the disabling effects of emotional stresses and manage the conditions required for the recognition of inspired thought.

2.8 Methodology

The proposed method used to validate the above hypothesis was psychological profiling through retrospective interview. A number of architects were approached to take part in this trial. These architects were selected on the basis that they were internationally recognised for their ability to lend originality to their architectural problem solving techniques in order to achieve critically recognised excellent design outcomes. Further qualification for an interview was that the architect needed to exhibit an ability for consistently evolving their creative thoughts. That is, each project / concept was not simply a formulaic extension of an existing idea. This condition was to be adhered to especially in the cases where the architect was working within a strong theoretical and philosophical movement.

2.9   Conclusion

The above hypothesis seeks to validate the qualitative decisions used in the design process thus rendering this generally practised approach to design development collectively acceptable to professional practice, educational institutions and the wider design community.

The study seeks to promote the idea that intuitive thought in regard to architectural creativity is not a redundant method of design but a legitimate signifier of thought processes currently unknown and uncontrollable by the logical rational mind. The hypothesis of this proposal intends to exhibit that primary-process thinking is ideally suited to breaking down patterns of usual thought and that individuals who are able to access and understand their predisposition to this type of thinking through the mechanisms of insight are exactly the people who are able to achieve inspired creative design.

PART THREE: The Interviews

3.0   Introduction

The interviews were enjoyable and informative and, as a whole, presented an extraordinary opportunity to collate information from an outstanding selection of talented architects. The assembled data has contributed significantly to the research into the creative design process and thinking patterns of highly creative architects.

Summaries of each of the interviews are outlined below:

3.1   Will Alsop

The interview was held in Alsop's studio in Battersea, London on 4 May 1999

This was a lengthy and 'fun' interview. Alsop had a very relaxed attitude and approach to his work which was deeply rooted in his interest in creating art and what he calls an architects 'social contract' to 'make life better'.

His process departs from the model outlined in Part Two in so far as he avoids intensive research into the project type prior to beginning any conceptual thinking. He likes to enjoy an 'ignorance' about the project which he believes opens up new possibilities. This is in line with the definition of intuitive thinking given earlier in this paper. He says:

> 'Ignorance is very useful because you can act in a very innocent way. I need something in my brain before I can absorb all the necessary information. This is a way for me to measure what I am being told.'

This technique could be interpreted as a way for Alsop to consciously accept unfamiliar ideas and rationalise them against known criteria. Thus becoming a form of logical verification.

Alsop is disciplined and believes in setting objectives in his creative thinking process. He describes a period in his life where he met every Thursday evening with the artist Bruce McLean with the aim of painting one large canvas in this meeting. He claimed it was an essential part of his creative development to start and finish a piece of art every Thursday evening.

Similarly he spent three years disciplining himself to explore ideas by designing a building every day [in sketch format]. This was a theoretical exercise that he admits was 'hard work' but says he was motivated to do it because you 'learn from designing buildings'. He explains:

> 'If in three years you design 1000 buildings [which I did] you learn a lot more about thinking creatively from those than the 20 –25 buildings you might be able to design in your professional life. You take yourself beyond what you know. You develop techniques that allow you to do that and it becomes part of your working process. You need to set objectives to appreciate your creativity'.

He sincerely enjoys the discovery of concepts. He describes it as:

> 'I think that ideally when you are starting out you want to surprise yourself. You want to confront the unexpected and discover what it is and hopefully it's an enjoyable thing that you discover! [laughs] I often describe architecture in those early stages as a void of discovery. You are there to discover the architecture.

3.2   Alberto Campo Baeza

The meeting took place in his studio in Madrid on 30 June 1999 at 9.30 pm

Alberto Campo Baeza was extraordinarily charming. He was willing to discuss ideas and was accommodating with both time and answers. In line with this research Campo Baeza could be identified as having all skills outlined in the personality matrix proposed in Part 2.

He identified himself as having very clear patterns of thinking and working.

He sketches intensively, using colour and always dates the drawing when he knows that what he has drawn is the concept for the development of the design solution. This is a process of a visual logical verification. He presented me an A4 drawing as an example of this [see below].

He likens being an architect to being a surgeon. He explains:

> 'My father was a surgeon. You have to make the prognosis and then the diagnosis. It cannot be the other way around.'

This concurs with the model outlined in Part Two of this paper in so much that it indicates an immersion into the design problem. He further validates this by insisting that there are three things he needs to design. These are freedom to develop ideas without pressure or interference; time to make the 'prognosis'; and money [in line with normal compensatory rates and guidelines] to achieve this.

He claims he has been successful in achieving these three requirements on all of his jobs as:

> 'People can smell I am not a madman. They are able to trust what I am doing without thinking I am crazy. They allow me to work in the way I insist on operating'.

He believes that personality factors into successful architectural concept making. He is experienced enough to understand the enabling conditions necessary for him to work well.

3.3   Juan Navarro Baldeweg

We met in his studio in Madrid on 29th June 1999 at 8.30pm

Baldeweg was able to concisely articulate his process by describing his use of art to generate and communicate architectural concepts. He identified that he was able to consciously recognise the

translation of subconscious thought to rational and logical verification in a very mechanistic and observational fashion.

He describes this process in the following way:

> 'I very often explain that inspiration or the beginning of the idea occurs in two conceptual 'rooms'. One 'room' is where I am working continuously in a kind of abstract way – in a kind of artistic way. The main creative activities are in this room. And in this 'room' I cannot make a distinction between my work as an artist and as an architect.
>
> And then in the other room – which is perhaps this office- I start the process of embodiment of the ideas that I have been working on in a more pure way. I then apply these ideas to the projects.
>
> If I have to offer something in a creative way, it is through continuously and repeatedly working in a very free way. I do a lot of research – continually painting and making little models – especially with what I call 'gravity pieces' which are a kind of sculpture that relate to structure in a building.
>
> Many small ideas are always coming from a world that is free. And you see art always makes this freedom true. What you see in my work from this studio is new imput for ideas - new ideas. Perhaps my ideas are not so many but they have some central goal in which I am dealing again and again in my art.
>
> For instance some phenomenological aspects in architecture have appeared in my work from the beginning – from the first works. Light is always the sensual architectural variable. And this is the basic structure that always appears in my work. I work with these continuing themes but somehow I am trying to deepen these basic ordinants and then to build something new.
>
> All my work is done in the brain. I can't help working intuitively. Some things are sure to me, because I know what I am thinking even before it has [consciously] arrived. These moments come suddenly and are ideas, even metaphors, even words. I like to use myths.
>
> Now, that I am beginning to be a bit old [laughs], I can see my life suddenly. And I have produced some key images which are often condensed into a metaphorical image. I can really use these and produce a lot of possibilities from them. This is a kind of philosophy or a way to understand myself.'

Baldeweg is aware of his need to explore art independently of his architecture for the benefit of his architecture. To this extent he leaves the city for the 'peace' of his art studio outside of Madrid. He goes to his art studio for several days every week.

Baldeweg uses cultural references such as the bullfight to describe the arrival of the 'moment of insight'. He says 'You never go to the bull. The bull comes to you. It is a kind of goal; it is a kind of directive. And you must wait until something comes to you.' This is followed in the interview by a methodological description of the way he is able to paint ideas:

'I realise ideas by just working. Just working. This is very, very, very clear in painting. Painting is an activity that is clearly made by 'two persons'. One is you and the other is perhaps the painting itself. There is an abstraction in working together. The result is when you suddenly know when something is good, because you see something and you think: 'well this is fine! This is fine. This is working fine'. Its very simple, it just happens.

However, you must be sensitive to realise this. For instance you must be in a way open or without conducers; or without many goals. You must be generous with this. You should not try and find a solution. Wait! Wait! You should be clear and open to work. It happens.'

He was clearly somebody who had considered his own ways of accessing inspired and intuitive thought and had factored these techniques into his creative thinking process.

3.4 Mario Botta

The meeting took place in Botta's office in Lugano, Switzerland on 4 February 1999 at 10am.

Mario was able to explain the precursor to his process as a direct connection to site.

'Every time I have a new project it is always a little bit different. It is not a process that is always the same. However, I consistently have the strongest idea for a concept once I see the site. If I don't see the site and look to where the building should be located, I can't work on that project.Once I am on the site I have a way of thinking that questions the placement of the proposed building in relationship to the site. The site always has the answer to my questions.

Similarly, Botta was able to identify a method in his working pattern

' How focused I am both before and after the arrival of a concept is determined by a lot of the work we have in the office. I generally have a lot of things to think about. But every time I have something new, it is only natural that it attracts my attention and I usually want to start on it. But until the moment has come when I am able to go and see where the building is to be, nothing is too focussed in my mind. I am generally preoccupied and concerned by the prospect of the project but I am not yet fully focussed because there is a lot of other work and projects to keep me occupied.

However, immediately after I have been to site and had the idea the will to move on and the motivation to move through the project happens. I want to work this idea out and develop this first idea to see what happens.'

3.5 Lindsay Clare

Interview took place at 6pm at Department of Public Works, Sydney on 15 February 2000

Clare's methods of working in the pre conceptual stage of a project are disciplined. He works collaboratively with his partner, Kerry, and this is factored into his design methodology. Their 'values are

compatible' and in this regard the design process becomes interactive, with together and away time spent on the design problem.

Clare's method of working is similar for each project. He and Kerry workshop the problem then one or the other goes away to resolve the solution. For Lindsay this 'almost always' involves closing the door , turning on music and becoming absorbed in the problem.

However, he is very disciplined in judging when is the right time to observe intuitive reactions. He claims to have learnt a technique over time whereby he delays the onset of intuitive responses. Clare reasons that he needs to 'consciously avoid' intuitive thoughts until he has fully understood the problem on a pragmatic level. He explains that 'intuition does not deny knowledge or experience but the problem needs to be understood before you are free to act on these things'. This supports the idea of an immersion in to the problem prior to concept realisation.

3.6   Neil Durbach

The interview took place Thursday, 24 February 2000, in Kent Street Sydney.

Durbach did not nominate a specific project but spoke generally of his approach to realising ideas.

Durbach stresses that for him the pre-conceptual and conceptual periods of design are the most important. He maintains that this is when he works his hardest. He says: 'It sounds incredibly pretentious but in many ways the concept is the only thing that we strive to be happy with. And sometimes the realisation of it is tortured'.

He continues: 'We work incredibly hard at this stage and I am slightly suspicious of the idea that you just sit around and doodle an idea. All ideas feed off one another, off other ideas that you have had before, and also off an awareness of what is going on in architecture. And that is why we prescribe to the idea that [the concept] is knowledge based rather than imagination based. This is contrary to the idea of the architect as an artist waiting for flashes of inspiration form somewhere'.

For Durbach, intuition is a guide for verifying a path to pursue. He says: 'Intuition comes into play in that you decide to follow one thing more specifically but it does not mean that you are not acutely critical all the way through'.

He claims he is 'greedy for ideas' but is very specific in the way he approaches a design problem. He claims he does not rely on a 'flash' but is more deliberate in his search for solutions. This, he says, is a 'laboriously slow process'.

A method, or starting point in his thinking is often to anticipate how various other people might solve the problem. He explains: 'It is a presumptuous way of working but it allows me to knock off the conventional solutions quite quickly'. From this point in the pre conceptual process he is able to work towards a more precise response to the problem. He says: 'there are sometimes when you know exactly the idea but don't know how to get it. But, then, with more work, there is that point where you say 'of course'. So in this regard it is more of an editing process than a collaging process. At this point, I very seldom add things. I usually take away.'

3.7 Peter Eisenman

This interview took place Saturday morning, 17 July 1999, in New York City.

Eisenman was perhaps the most concise of all architects profiled. He was very sceptical of the validity and motive behind the study. He refused to speak of a specific project. However, he was open to discussing general tendencies. He explained that he has been in psychoanalysis for more than 20 years and has a clear understanding of himself as a complex individual. He identified himself as a Jungian – whereby his strongest trait was intuition. He is committed to 'evolving unconscious thought compressions into active play'.

Eisenman identified strongly with the proposed personality structures required to be successful [outlined in the proposed personality matrix in Part Two of this paper]. In his opinion the traits for success are 'aura and ambition'. 'Aura' being an undeniable self belief and an 'ego related narcissistic desire' whilst ambition is in his words 'an intelligence unrelated to talent'. He claims you can cultivate aura if you have ambition. His office is aware of his thoughts in regard to this. It was clear that this was a mantra for him.

Eisenman described his personality as 'para-psychological' and identified with both aura and ambition. He claimed he did not have ambition until he was 23 [when he 'fell' into architecture at college] and did not have a developed conscious 'aura' until he was 25 years old.

On levels of energy he describes himself as 'physically old but mentally young' – which he attributes to his young wife and children, as well as teaching.

He explained that he is very disciplined and has a routine lifestyle. He wakes daily at 6am, reads the New York Times and showers. It is in the shower where he thinks creatively and claims that all of his new ideas are thought of by 7am. The rest of his day he describes as existing in 'la-la land'. He is regularly in bed by 10pm and knows that he is not a 'night person'. In this regard he never works in the evening.

He is extraordinarily confident. He says: 'I am at the top of my tree. I can make artistic decisions just like that. I am comfortable with this. I am a good architect.'

Questions 12 to 16 in the results tables in Part Four are assumed responses based on information given throughout the interview.

3.8 Nicholas Grimshaw

The interview took place at 2pm in his offices on Fitzroy Square in Central London on 10 May 1999

Grimshaw was instantly charming and enthusiastic about the interview. He had just been in a developmental meeting about the project he wished to discuss. There had been a design breakthrough in that meeting and he was keen to speak of the process.

On reflection of the initial concept Grimshaw was reminded of what inspired him. He was sitting in the sun, with his notebook, staring at leaves. This gave him the initial breakthrough 'clue'. He elaborated on this anecdote by saying that he is able to realise ideas through 'storage of impressions'. He explained that, 'you collect things, as you walk around, in your mind. You know, you have ideas. I think you have to compose something relatively in your mind and then you look for examples to reinforce it. After that you get the concept first off.'

When questioned if this was a regular method for recognising a concept Grimshaw explained his working process:

> 'I work initially in my mind. I can feel a concept building up. I kind of put it together layer by layer , sort of piecing it together in my mind before drawing it on paper. I always draw it, not doodle.
>
> I tend to do this in very short bursts- like half an hour and then close the book and let it go on simmering. Because what I don't like doing is fiddling with things. I don't like this kind of doodle idea. Whereby, ok you've almost got it and you go on and on and on. I like to put it down and shut the book and go on thinking.
>
> To me this is developing the idea then having another go. I see the creative process as going round in circles with the centre gradually moving forwards. That's the way I see it. So you are progressing but you are also doing forays out in different directions BUT the main line is gradually moving forward.
>
> It is not until I have done a recognisable drawing that the idea or concept becomes a reality. When you put it down, when you draw it. Up to that point it is being composed in my mind. There is a natural point where you have been mulling something over and you just feel like putting it down. It could be at any point,…….'

3.9   Juan Herreros

This meeting took place on 15 March 1999 in the bar of the Architectural Association in London where Herreros was a visiting teacher.

Juan Herreros and Inaki Abalos work as creative partners. Herreros was the only candidate interviewed that worked in this manner. He claimed that concepts for their projects never came solely from him or Inaki. Rather, their ideas/ concepts were always developed 'symbiotically'.

Their methods of working were described as disciplined. They always made the first visit to the site together. Their impressions and reactions were always workshopped in the studio in the afternoon.

3.10   Daniel Liebeskind

The meeting took place in Liebeskind's studio in Berlin on 5 July 1999

The first and most immediate impression of Liebeskind was his abundant energy. He spoke quickly and was very animated.

Liebeskind was able to identify a common thread in his process. He claimed that most of his projects, leading up to the recognition of the best concept, follow a similar path.

> 'My usual pattern is that I work on a completely different track for some time. I don't know whether others have this, but my initial thinking is TOTALLY different and then at the last minute I get an idea which totally subverts everything that I have done before and people completely shout about all of the work that they have done – like 3 weeks or something and I say just 'throw it out' then. So I think that that is a pattern.
>
> The idea comes to me clearly only after working on the same issue but in a completely different way. It's never a kind of development that is consistent from the beginning and sort of comes to fruition. But it is always a sudden reversal. Something that is like a turn.'

He stipulated that this only happens on projects where his interest is peaked.

> 'I think that this happens only with the projects that I am really interested in, and the projects that I am just 'working on' – ah, it doesn't. So it does have some connection to my real interest – which is not just to build projects.

When asked if this provided an impetus to carry him through the whole of the project Liebeskind replied:

> 'It gives me motivation that goes beyond the project. Its not even about realising a particular problem – it is a bigger project which is actually immune to the vicissitudes of any one practical realisation or not.'

When asked if he was able to control the onset of what he calls a 'turn' in his thinking on a project, he explains:

> 'Absolutely Not! Its an uncontrollable thing. Sometimes I try – but it never works out.'

When asked if this stressed him he says:

> 'Yes. - but its not external stress. Its not stress from the outside because of dates or responsibilities. Its actually a self imposed stress– it's a certain kind of tension which is individual.

When asked how he managed this he is able to identify a type of pattern that is not associated with routine.

> 'I try to leave one area of my life - the creative area - without any discipline. Everything else is really smooth – I have to meet deadlines, I have to do all those things. But the one area which you need some true – just some open space with no parameters is that creative area. And sometimes you don't have enough of it – well I don't have enough of it. And I feel I could just leave for some months and not come back! [Laughs] But I can't do it!'

35

3.11   Thom Mayne

The meeting took place in his office on 22nd Street Santa Monica, at 4pm on 13 July 1999

Thom Mayne was simultaneously articulate about his thought processes and suspicious of the idea of defining or formalising them. He maintains that he would 'honour a randomness, a radical or asymmetric thinking' and further elaborated that he would 'do anything not to formalise or systematise logic in a conventional sense.'

The arrival of conceptual ideas was not distinct for him. He saw his creative thinking processes more about framing the right questions for the design problem. He explains:

> 'For me its an oscillation of different types of logic and different types of questions. Creative problem solving of all types starts with posing questions and defining the problem. In architectural problem solving it starts by asking what does architecture contribute to the solution. Identifying the issues establishes the mental framework, which in turn establishes your creativity'.

Mayne believes that his 'mind is always working on something' and thinks that his ability to realise ideas has more to do with 'being able to focus and be disciplined and have an excitement or engagement to stay with something'.

He maintains that the only pattern he follows is that of immersing himself into the problem. Which, he explains:

> 'It means that you are always working on it [the problem] both consciously and subconsciously. So there is a division between intuitive logic and more conventional logic. The intuitive logic is in tune with your subconscious and interpretive world and the other extreme is the logic that comes out of a mathematical, Euclidian logic. But like a jazz musician or a painter like Jackson Pollock, architecture needs spontaneity. And because of architecture's very long cycle and repetitive nature for attacking problems from various points of view – programmatic, economic, structural, site, environmental etc – it has a continual layering and by this is inherently enormously logical in a conventional sense. I believe that architecture is not as intuitively creative as many of the other arts because of that.'

He elaborates by explaining:

> 'An idea is incremental. I don't all of a sudden say 'I have it'. That doesn't happen. Little pieces come together until it is clearer. Then at some point, maybe after 1000's of decisions, you look at it and it is complete. Its cooked'

Mayne in his explanations of his working methods typified those described in Diagrams 9 and 10.

3.12   Richard Meier

This meeting took place in his office in New York City, at 3pm on 22 May 2000

Richard Meier was unable to articulate his process prior to concept recognition. He was very able to explain the process thereafter and had various methods, or as he called them 'patterns', of working on different scales of projects.

Meier saw the process as 'not an instantaneous event'. This may have been due to the scale of the project he was speaking about. The Getty Centre was worked on across a 15 year period and as Meier explained it was years of meetings and debates before he could even begin to consider the design. This could be attributed a combination of circumstance and an immersion, by Meier, into the problem.

He explained that although his process is an evolutionary one it always 'begins with an understanding of what it is, where it is and what makes it possible'. He continues to explain that the brief gives him 'certain prescribed relationships which have to do with the place, what is around it and how the proposed building should respond to these things.' He says : 'But after that you can read into it what you want because there is no further dialogue'.

Meier works exclusively in the office and always in a team even at the stage of conceptual thinking. He claims the ideas never come as 'an image because it is a building. A work of architecture. It has to be resolved in stages'. He clarifies this be explaining 'It's not a question of discovery. I think it is just a question of working it through. It is not as though all of a sudden the lights go on.'

Interestingly Meier also describes the best evolutionary process as a 'linear development'. He says: 'This is best for architecture as once you establish what it is you are doing, once the idea is clear you just take it and move it along'.

3.13   Ian Moore

The meeting took place in his office in Rushcutters Bay, Sydney at 4pm on 16 February 2000

At the time of the interview Ian Moore and Tina Engelen worked on all design projects together. However, unlike Abalos and Herreros who worked mutually on design ideas, Engelen and Moore each brought independent thinking to the project and then workshopped those ideas. Ian explained that the way he and Tina interacted was very important to the process. He described their partnership as 'a balance between pragmatism and intuition'.

He explains 'because my background is in structural engineering, whenever, I draw something I am always thinking about how it stands up. Tina's approach is quite different. She does not care how it stands up. And that makes a nice balance because I am pragmatic and she is not. Between the two of us, she pushes me beyond where I would normally stop and at the same time I pull her back from dreaming about something that will never happen'.

Moore acknowledges that experience and his working relationship with Engelen has developed his design thinking process. He explains that 'the process is different for me now as compared to 10 years ago. Now we have a body of experience, knowledge and built work that informs everything that we do.

Intuition now flows more easily'. This itself implies that Moore believes in conditioning and learning conditions for creative thinking.

In terms of method, Moore explains that they are somewhat formulaic in their approach to the design thinking process. Their experience and natural inclination leads them to always begin with the plan. In the conceptual period he works in 2 dimensions whilst Engelen works in 3 dimensions and usually in perspective. He explains that in this vain the 'building becomes a container and then we layer ideas into and onto it.

Moore edits his thinking temporally. He explains ' I am not a great doodler. I do it in my head, and when I have formulated something it usually comes out as a reasonable well ordered diagram. I tend to edit in my mind. Over the years I have learnt that it is a waste of time to draw everything and then dismiss half of it. I only draw when I need to draw, once I have resolved it in my mind'.

3.14   Eric Owen Moss

The meeting took place in his office in Culver City, Los Angeles, at 6pm on 12 July 1999

Eric Owen Moss was from the outset very sceptical of the notion behind this study. He chose not to follow the questionnaire format as he felt the questions to be irrelevant to him. He felt that it was 'dangerous' to try and decipher the thinking codes behind creative thinking. He felt that there was difficulty in deciphering how one thinks architecturally because 'there are parts of the mind that would not necessarily lead to architecture or a certain type of architectural approach.'

He was also sceptical of the idea of all life issues factoring into a matrix that predisposes an individual to being creative. Of this he said:

> 'You run the danger of an Andrew Carnegie / John Rockefeller proforma – like hard work and long hours and self confidence and other stuff makes you successful. I mean what is hard work? What is self confidence? I am not sure any of those things finally account for one achieving something.'

He explained that he believed in instinct but not in a traditional sense. He felt that for him instinct was more about what he wont do as opposed to what he will do. That is 'what is ruled in is not always as clear as what is ruled out'.

He also spoke of an inner stress and tension that, he believes, is a direct result of his not wanting to 'identify myself with any movement, method or allegiance'. He described this as an inner 'stress or 'tension zone' which denies him the ability to say he is 'right' or 'knows'. He claimed that this enabled him to see 'when it is wrong even if I don't know exactly when it is right.'

He resists the idea of a Jungian collective unconscious. And explains that he has always instinctively fought to not 'belong to anything'.

He cited the need to be careful of 'not existing on an *a priori* format by taking something that doesn't fit and making it fit'

He conceded that 'there are all sorts of things floating around in my head that have to do with things that I have half read; half said; half remembered; or mattered to me. Things that become clear in the process of doing various things.'

When thinking creatively he explained he worked almost exclusively in the middle of the night after he had been sleeping. He believed this comes about through requiring a separation from the office. That is 'there is something about being a little detached from the immediacy of the office environment where there are telephones, faxes, emails and guys that are mad'. In this regard he also works on 'the back of United Airline menus and hotel stationery'.

However, on waking in the night to think creatively he says:

> 'I honestly don't know what wakes me except sometimes I fell like the literal, physical distance of separation allows my mind to start working in a different way. As soon as it starts to work, and there is some need to actually put it down, to draw it or write it, I do that. I have done that for years'.

On the office he says:

> 'There is something about this practice that is both very collective and something that is also isolated and personal. There are a lot of good, intelligent people who have been here for a long time. This allows for very idiosyncratic and individual expeditions'.

His thoughts on process are as follows:

> 'I do not know that a process is conscious or articulate. When I have something in my head I don't think about anything. It's just about this, this and this - or this line, this line, this line etc. But it does always have something to do with the shape or form of things. Never about the more pragmatic issues.
>
> I am never aware of the process happening. Sometimes it can go very fast and other times it might take a couple of hours.'

He admits to being very confident in himself, his work, other professional responsibilities and life in general – 'Yeah. I have a lot of self confidence. I think I can do anything' [laughs] He does however admit to becoming more 'judicious' with age and experience. He attributes his 'convictions, confidences and optimism' to his late father who was a writer.

He was able to recognise times when he had 'got the architectural idea right' but dislikes the 'Target image'. He thinks that you experience this as 'meaning combined with feeling'.

Throughout the interview he provided analogies to make critical points. He explained the way he would like architectural thinking to be, by combining two analogies.

> ' If you could combine the 19th Century attitude of the British Empire [who won and lost wars irrelevantly] with the 20th century instinctual finesse of the Brazilian Soccer team then maybe you would have something'.

Questions 12 to 16 in the results tables in Part Four are assumed responses based on information given throughout the interview.

3.15   Glenn Murcutt

This interview took place at Glenn Murcutt's home in Mosman. 28 February 2000 .

Of all the candidates profiled Glenn was the only who admitted to a lack of confidence and nervousness when approaching a design problem. He says: ' The anxiety of design is incredible. Sometimes it makes me feel sick'.

He described design as a consequence of discovery rather than a creative act. He was very interested in the 'path to discovery' and attributed his concepts to a long gestational period. In general he has a waiting period of 3 years, which he claimed allowed him time to absorb and react to the information of brief, client and site mentally over a long period. This he explained gave him a starting point that he described as an 'evolutionary process that is subconsciously developed'. He claimed that all of the design decisions he makes subconsciously during this time are rationally edited. Good design, according to Murcutt is always 'hard won'.

He had a belief of intuition being the basis of thinking. He likened designing to dreaming, where every line that he draws is visualised prior to it being realised.

3.16   John Pawson

We met in his offices at Kings Cross, in Central London on 14 April 1999.

Pawson typified the personality matrix – he was intelligent, skilled and social. Unprompted, he outlined the human qualities he thought were required for success …..

> 'Well, I've always said that for somebody to be very successful, and that goes for a creative person, they need a huge and deep inner conviction. Obviously they also need talent, and an intelligence of sorts. Also, incredible energy, and an ability to communicate ideas to other people, which means, probably charm of some sort. I think if you analysed Mies van der Rohe, or Corbusier, or Picasso, or Donald Judd, that you'd find that they probably had all of those things……..I mean, I once mentioned this to Philip Johnson, concerning Mies, and he said, 'Well I never thought about him as charming – I mean the only time he was ever interesting or fun was when he had had 10 martinis.' But he did concede that English was not his first language'.

Pawson also believed that one could apply themselves to being creative. This revelation came about during a discussion about being able to recognise patterns in the creative process.

> 'I was always inhibited about the idea of actually, personally creating anything, because I thought well,….' that's what other people do'. But with training, and with application I found that I have become creative. I mean at school you did watercolours and you were a little bit more artistic than the other guys which implied some artistic talent, but I think with good schooling and good teaching and good application, that a lot of people can be creative. I have found that I

have become more creative and more intelligent, and better at using my brain. It seems to be only practice.

The thing is the ideas, they are hard, but they do come to me – they can come at any time. And its odd, you set up a series of things that have to be solved, then you will suddenly, get a 'why didn't I think of that before?' moment.'

On his own personal process Pawson says the following:

'I am not very musical so if I go to the opera I am unable to follow it. It's not like being shown around a Mies Van der Rohe building for the first time where I'm totally captivated. With Opera I sort of stray and start thinking about solutions for the staircase – and then you suddenly think, 'Why don't I turn it at the top?'. Or how am I going to do the handrail, or how am I going to connect the two rooms , and the roof.....and..

I think more clearly when I am put in a situation where you cannot do anything else apart from think'.

Pawson had admitted earlier in the interview to being prone to procrastination or, in his words, being a 'great pencil sharpener'.

He has a system whereby he has an initial intuitive thought that he follows with research or data collation.

JP: I think that anytime you see something you have very quickly a sort of initial idea, which doesn't often change very much. That is, you don't suddenly, radically change it. And then, it's a question of refinement. I tend to make exhaustive research and investigations, before I start. I am quite obsessive. For example, for the house I went through the geological strata [laughs] - and it is totally irrelevant. I was just curious.

MC: Does all of this happen in the period leading up to the arrival of the idea? Do you undertake this research prior to actually seeing the site and the arrival of the idea? Or is the idea an intuitive thing that comes first, and then the research follows up the initial intuition?

JP: It follows up the intuition. You would tend to try and restrict yourself to thinking too much before seeing a site. But you come, already with a history, and I have said this before about architecture and architects, that without a rich personal experience it is difficult for somebody to be a good architect. And therefore, and that is why, I think traditionally, 50 is young in architecture. Whereas, in mathematics for example, it is way past it.

Pawson is also able to reach 'moments of insight' through dream recognition. However, he believes that this is a technique that can be learnt or applied

JP: I am digressing, but if you run through the problem, or the design, or the thing you want to try and achieve in bed before you go to sleep, you can often wake up with it.

MC: Does this work for you? Has this happened on multiple occasions?

JP: Oh definitely! Yes, definitely. Yeah. I mean it's a good thing. I think a lot is to do with training. Well not training, but application of yourself.

I think the brain is like a computer – totally under used. You could use it a huge amount more creatively than you do. I think if you could introduced a culture of more creativity you would probably produce more. This is a pretty creative office but I still think that we are running way under – and it's a question of organisation.

MC: Do you attempt to discipline yourself towards a more applied creativity?

JP: Well…..I mean maybe. I know that Salman Rushdie said that he watched a huge amount of junk television to relax himself - and there is an intellectual. I am nowhere on that level of intelligence, but I do a lot of going into the back room and sorting through stone, and throwing things away and tidying up and generally avoiding important things. I mean really, like this morning, I mean, we have this big new job in Vienna and I left them to start on it. You know, anything to sort of not start.

3.17   Ric le Plastrier

The interview took place at Middle Head, Sydney, 15 February 2000

Le Plastrier felt that ideas came to him through osmosis. He rarely experienced 'the thunderbolt' saying that, 'after sufficiently submerging yourself in the place it was more likely to come from all corners'.

He works intuitively and trusts his 'intuition above almost all other things'. Le Plastrier claims that his intuition has 'sharpened over time' He says: 'Problems that used to confront me as a younger person – and take an incredible amount of time to sort out – now come to me much more rapidly. And my fascination with the detail of things has lessened.'

Le Plastrier knows the conditions needed for him to think productively. He explains:

'I cant work at night. I work best when I have had a block of time to myself. When I have taken my little skiff out for a sail and I come home and the house is clear, and clean and beautiful; and I can sit quietly for a block of time – 2 to 3 days to sort things through. That means I still go outside and wander and catch fish. But you've got something that's on the go for a block of time'.

He describes the way his mind works by explaining:

'I think that the way the mind works is by filtering. It filters through like the fastest possible system that discards and accepts certain things. It ends up tracking along a certain way – a way that is only 'your' way and not somebody else's. And then what you do after that is you start to check that out – you start to see how it actually works. And it is in discovering its workability that it hones itself. But it is the starting point that springs from intuition – not from any sort of formal analysis'.

Le Plastrier methods of thinking are compatible with those described in diagrams 9 and 10 of Part Four.

3.18   Peter Tonkin

The interview was conducted in Sydney, 15 February 2000

Peter Tonkin is a great believer in 'the subconscious grinding away by itself', and trusts in his design intuition and questions his intuitive design decisions only when challenged. He translates his subconscious thoughts through doodling. For Tonkin, doodling is a tool to clarify his architectural ideas. He says: 'Just relaxed doodling, marks on a piece of paper is enough to generate a whole building. For me, it is the process of letting the subconscious mind come through without consciously thinking of the logistics'.

He does however, concede that his best chance of achieving these doodles is when 'I know enough in my head. Trying to design something when you don't know enough about the project is fatal'. He explains that this is not a matter of intensive research into building typologies but is more to do with the projects parameters. Tonkin is opposed to very in depth research into building and precedent types as he believes that this 'weakens my thinking because it often means that I don't challenge my preconceptions or things from first principals. This type of research unduly influences my thinking'.

Tonkin also acknowledges that he is able to 'feel' when the subconscious process is progress. He is able to sense when the time for idea formulation is right. However, he is not able to identify any triggering factors to put this in place. He has learnt over time, not so much when the idea will come to him but more precisely when it will not. If this is the case he will do something else rather than try to design.

Tonkin's design thinking process relies on drawing for clarification. He says that the 'architectural aims of the project are always realised through thinking. Thinking through doodling'. He explains that the doodles can be made comprehensive to others through a glossary but they are mostly a subconscious reference for him. He is 'often very surprised when at the end of a project, I rediscover the drawings, and the building matches the doodles'.

3.19   Alec Tzannes

This interview conducted in his studio, Chippendale, Sydney, 16 February 2000

Tzannes was very articulate about his personal design process and the methods that he used to create the ideal circumstances for design thinking.

He placed particular importance on needing extensive analysis and a full understanding of all parameters associated with the project prior to beginning to think creatively about a design solution. His process is ritualistic and systematic. He describes it below:

> 'I have a very clear way of enticing my mind to work. And it is very curious. I find that the best
> thing that I can do, to be productive is to prepare my thoughts by reading what I have to read,
> evaluating the site, researching the development controls, looking at the research drawings
> that we have prepared, and if it is a contextual issue, looking at all the analysis that we do -

form issues, climactic issues, landscape issues - which makes me informed. And then I do nothing. It is very important that I do nothing. And I have learnt this. And the minimum time is 24 hours. I factor this into my deadline and make sure I am to have this. I will do other things like go to sleep or the movies.

What I have found by using this method is that I open up and things just come more quickly. I am very productive'.

He has a very methodical, and articulate way of communicating the ideas that he says 'strike him but come through hard work'. He uses:

'.….three pencils. They are all in black casings but there is a black, red, and a blue lead. I draw free hand to scale. Black initiates ideas. Blue discusses ideas and red audits. So they work in a collaborative way. And they communicate my thought process with the office'.

Alec also acknowledges the need to accept ones cultural beliefs as part of the design process, thus confirming the idea of enculturation and sociability factoring into the success of access to creative outcomes.

'All of it starts with something that is outside of the particular project – that is, there is a context for the project. And that context is the sort of thing that informs your belief systems and guides you towards your design objectives which are beyond the scope of the project, as well as things that have inspired you in the past and present – ideas that you want to bring to that particular situation. Biases if you like.'

He believes that teaching people to think is not only a 'noble task' but one that is missing from architectural education. From his experience he thinks that being aware of ones own design methods leading up to conceptual realisation of an idea 'lubricates and facilitates the process, and creates the basis of creativity'.

3.20   Peter Wilson

After Peter had to cancel a meeting in Münster, we met in London at a café in South Kensington – 4 October 1999

Wilson was obliging and had insight into his process which could possibly be attributed to the time he spent teaching at the AA.

He indicated that he was suspicious of a generic model for thinking:

'I am very suspicious of this idea. As I was studying in the late 60's there was something called 'design method' which was meant to teach that. It was actually a complete waste of time because it was a kind of check list'.

However, he did confirm his belief in intuitive and inspired thought:

'Intuitions are useful in that they let you know how something culturally fits.'

He had been reading a text by Kevin Rowbotham which stated ''Let us finally put an end to these ideas like God and intuition – neither exist'. He disagreed with this idea and explained:

> 'I am sure neither do exist for him, but that's personal. He doesn't have the mental insight to make illogical jumps which is what intuition is. However, you can't systemise it because each person - and one knows that everybody's personality has a different method of triggering or connecting – is different. I mean my teaching was always about people finding their own individual personal style, which is a very exhausting way of teaching because each individual – well one is like a psychoanalyst with each one and after a day with 15 students one is exhausted'.

Asked if he has been able to identify any personal triggers to help encourage insightful thought. He answered:

> 'No. Well for me geometry is really important but that is very out of fashion at the moment. Sort of Euclidean or Cartesian geometry are bad guys in terms of a theory that everyone is trying to transcend.
>
> For me [like Mies] very simple geometric rules are always part of intuition. It triggers ideas. And not necessarily a geometric idea. I mean I am still very fond of perspective – although it's also a bad guy at the moment. Perspective is also relative. It locates the viewer and the view. It separates as well. I think that visual lines still do run along the surface of a cone. One can't bump into anything'.

On methods of design Wilson responds:

> 'You have to load yourself up with information. You have to really work on simply the facts of the project until you understand it. I mean until you know it almost intuitively. Until you understand what the groupings of what various parts of the building are. I mean all the normal bubble diagram stuff. Once one learns that, one almost forgets it. But one has that structure. And then, usually by chance, one sees something, like that axis, and says 'Oh! That gives the structure the order it needs.' I rarely get to that point by any method. It is always some chance association but then because one has done the groundwork one knows that you are looking for some key to fit it all together.
>
> You must have objective understanding of the program and of the situation. Then one finds intuitively some key which binds it all together.
>
> I don't ever use that comparative method like, say, Rem Koolhaus. Who lines up all of the options and says 'well that's been done, that's been done, that's been done – oh here's one that hasn't been done – we'll take that'. I admire his discipline, firstly for being able to bring such an encyclopaedic list. For me it is simply based on feeling - which is sort of the most irresponsible way. But one has to trust ones intuition.
>
> However, if you look at the process of true inspiration – its not true, because there is so much knowledge that one builds up, with which one checks with, at every point along the way'.

When asked how the process worked for him once the idea had been recognised, he described the following as being typical and comfortable for him.

> 'It [the idea] has to ferment. I read something about Barragan. Barragan had a fantastic philosophy. He called it a 'philosophy of idleness'. When he got a contract he would say 'Good. I will do that but I will have to wait for the idea'. And sometimes it would take half a year, and sometimes it took a year. And the client would ask how it was going and he would say; 'I haven't had it yet'.

3.21   Peter Zumthor

We met at the Harvard Inn in Boston for breakfast, 24 April 1999.

Zumthor was teaching at the Harvard Graduate School of Architecture. The meeting was very difficult to arrange.

Of all candidates interviewed for this course of research Zumthor exuded the most confidence. All questions were answered with an absolute certainty. Where basic questions were asked, a degree of annoyance and aggravation was delivered with his answer. It was obvious when he felt that a question was not relevant to him.

His answers were specific and direct. They are outlined in the results tables in Part Four.

PART FOUR: The Results

Introduction

The interviews that were undertaken as the practical component of this research examined how peak achieving architects were able to manage their individual design processes when the unquantifiable psychological elements of insight, intuition and inspiration were in play.

A series of questions were asked during interviews that used retrospective recall techniques. Answers to the questions and the relevant supporting quotes are tabled below. The tabulated results for each interview can be found in Appendix 2.

4.0   The projects

Projects Selected as the subject of retrospective interview

Will Alsop	C-PLEX, West Bromwich, Birmingham,UK
Juan Navarro Baldeweg	His Paintings
Alberto Campo Baeza	Telefonica competition, Madrid
Mario Botta	Chapel of Mount Tomara – la Capella del Mont Tamaro, outside of Lugao, Switzerland
Lindsay Clare	House in Buderim, Queensland
Neil Durbach	-
Peter Eisenman	-
Nicholas Grimshaw	Exhibition Hall - Frankfurt
Juan Herreros	Municipal Hall, Madrid
Daniel Liebeskind	Jewish Museum, Berlin
Thom Mayne	-
Richard Meier	Getty Centre, Los Angeles
Ian Moore	House in Neutral Bay, Sydney
Eric Owen Moss	-
Glenn Murcutt	Cultural Centre, Lightning Ridge, NSW
John Pawson	His own house, London
Ric le Plastrier	House on Green Island, Queensland
Bernard Tschumi	Parc de la Villette, Paris
Peter Tonkin	Private House
Alec Tzannes	Federation Pavilion, Centennial Park, Sydney
Peter Wilson	Münster Library, Germany
Peter Zumthor	Museum in Cologne - Kolumba, Diocesan Museum, Germany

4.1   Question One

Having developed the design so far, was there a better concept at any stage?

Will Alsop	yes
Juan Navarro Baldeweg	yes
Alberto Campo Baeza	no
Mario Botta	no
Lindsay Clare	no
Neil Durbach	no
Peter Eisenman	-
Nicholas Grimshaw	yes
Juan Herreros	perhaps
Daniel Liebeskind	no
Thom Mayne	no
Richard Meier	no
Ian Moore	no
Eric Owen Moss	-
Glenn Murcutt	no
John Pawson	no
Ric le Plastrier	no
Bernard Tschumi	no
Peter Tonkin	no
Alec Tzannes	no
Peter Wilson	no
Peter Zumthor	no.

Supporting Quotes:

WILL ALSOP ON A BETTER COMPLEX FOR THE C-PLEX

Well I'd like to express that in another way. I think that this period that we are now talking about - pre concept realisation - is my time. It's my enjoyable time. It is me trying to discover a single or lot of different starting points. And that doesn't belong to anyone but me. No one pays me. All the drawings – they're mine that's it. But once a result of that activity- you put it out into the world – it belongs to the world. And therefore, it can be attacked, enjoyed, modified and everything else. So you can go into a period of compromise. And compromise in a positive way rather than in a negative way. So you are using what you have done to actually get more noise into the system. Probably at that time you couldn't do another drawing because you wouldn't know what to do. You could go and explore a whole range of things, possibilities of ' where do we go from here?'. And the next stage is to use the client as part of the design team, maybe people funding it, maybe the local planner, these sorts of things.

So the better concept for the CPLEX was when I started to imagine what it would be like in West Brom if it was the only town in the whole world where you can only ride through it on horseback. [laughs] That was the best concept because West Bromwich is not a very inspiring place. This then developed into the notion of having to recognise that there still is, particularly there, on the site, the car, and that it will probably continue to be. Anyway when we get rid of the cars there will be some other form of personal transport, that will need to be parked etc. So then you look at it as a sort of divisional space. There is what you call 'heaven' – which is your horse riding and other things - and then there is 'hell' [laughs] which is down below, which is your superstores and your parking and everything else. And you have to interact between the two.

I think the building, as it has now evolved, is still very much related to this compromise.

MARIO BOTTA ON NOT HAVING A BETTER CONCEPT FOR THE CHAPEL AT MOUNT TOMARA:

I had already recognised on the site that this was the best idea. It was the very first idea, and it was the strongest idea, and it became the concept. But once I got back in the office and was working on it, and sketching, I took a very long and detailed laborious route, which involved a lot of different ideas. I found, I was, however, constantly testing those ideas against the strongest idea and because of this it remained the core of the project.

LINDSAY CLARE:

I worked on the concept of this house for three months, never quite getting it right. Then it gelled. It felt right.

NEIL DURBACH:

I always have the ideas but sometimes not the resolution. I can always go back and say that the idea was spot on. That it was incredible precise.

JUAN HERREROS ON NEVER KNOWING IF THERE IS A BETTER CONCEPT:

My partner, Inaki Abalos, and I work symbiotically. So we can never really see the others thinking but we understand the best of both of each other minds. This means we never have the true picture of what something should be. But it also works that all of our individual ideas are explored and interpreted differently by each other. I think this makes the ideas more interesting.

NICHOLAS GRIMSHAW ON COMPROMISE:

Sometimes I think that if you can hold onto your first concept very strongly, with great clarity – that you can get the best thing for the project. Nearly all buildings suffer from compromise. And to some extent it's the degree of which you can avoid the compromise and be absolutely clear about what you are doing that factors into the buildings success. A sort of take it or leave it type approach. That's probably when you get the best building.

I'm not saying that your ideas don't get modified but that's different to being compromised.

DANIEL LIEBESKIND ON NOT HAVING A BETTER CONCEPT FOR THE JEWISH MUSEUM:

I remember working on this….. on a completely different track. TOTALLY different and then at the last minute I get the idea which totally subverts everything that I have done before and people completely shout about all of the work that they have done – like 3 weeks or something and I say just 'throw it out'.

JOHN PAWSON ON THE CONCEPT FOR HIS HOUSE:

 'No. Because everything that I do, I search for the best possible, solution.'

RIC LE PLASTRIER:

For Green Island it took me a year to site the house then an hour and a half to design the building. It didn't come together all of a sudden. There was an idea there for siting the building but it had to be worked on and worked on. Its like polishing a good stone. The question becomes when to leave off.

PETER WILSON ON THERE BEING NO BETTER CONCEPT FOR THE MÜNSTER LIBRARY:

No. Because the idea that we had then was to cut the building in half. To pick up the axis of the Church nearby. And that was something that nobody else in the competition did. It was something that you would never contemplate doing from looking at the plan. And I think that that is the idea that won us the competition. And I think that that is the idea which gives the building its …… – it starts off everything else that happens there. As soon as you cut it you overlap the public spaces and the interior spaces. All of the other things that happen are subsequent.

PETER ZUMTHOR:

'I always follow the best concept. Otherwise I would not do it.'

4.2 Question Two

If possible, please identify the day of the week?

	Cant remember	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Will Alsop	4							
Juan Navarro Baldeweg	4							
Alberto Campo Baeza	4							
Mario Botta	4							
Lindsay Clare	4							
Neil Durbach	-							
Peter Eisenman	-							
Nicholas Grimshaw								4
Juan Herreros	4							
Daniel Liebeskind	4							
Thom Mayne	-							
Richard Meier	4							
Ian Moore	4							
Eric Owen Moss	-							
Glenn Murcutt	4							
John Pawson	4							
Ric le Plastrier	4							
Bernard Tschumi	4							
Peter Tonkin				4				
Alec Tzannes								weekend
Peter Wilson	4							
Peter Zumthor	4							

4.3   Question Three

If possible, please identify the date?

Will Alsop	-
Juan Navarro Baldeweg	-
Alberto Campo Baeza	-
Mario Botta	Winter – concept confirmed in Spring
Lindsay Clare	-
Neil Durbach	-
Peter Eisenman	-
Nicholas Grimshaw	-
Juan Herreros	-
Daniel Liebeskind	-
Thom Mayne	-
Richard Meier	-
Ian Moore	-
Eric Owen Moss	-
Glenn Murcutt	-
John Pawson	April 1997
Ric le Plastrier	-
Bernard Tschumi	-
Peter Tonkin	January 2000
Alec Tzannes	-
Peter Wilson	-
Peter Zumthor	-

Supporting Quotes:

MARIO BOTTA:

The first impact was in winter when there was snow. When I went back in Spring I saw the site again and my idea was confirmed. Then, in the spring, seeing the site, and the ground and how it was going [undulating] further concluded my initial reaction on the site. Also, seeing more clearly the relationship from this point to the plains in the valley below, was confirmation of the idea that I had when I first went to the site.

4.4   Question Four

If possible, please identify the time of day?

Will Alsop	afternoon
Juan Navarro Baldeweg	-
Alberto Campo Baeza	afternoon
Mario Botta	Morning – approx. 10am
Lindsay Clare	evening
Neil Durbach	-
Peter Eisenman	- [but by routine mornings]
Nicholas Grimshaw	daytime
Juan Herreros	afternoon
Daniel Liebeskind	-
Thom Mayne	-
Richard Meier	-
Ian Moore	Middle of the day
Eric Owen Moss	- [but by routine] in the middle of the night
Glenn Murcutt	-
John Pawson	daylight
Ric le Plastrier	During the day
Bernard Tschumi	3am
Peter Tonkin	evening
Alec Tzannes	mid afternoon
Peter Wilson	Night time
Peter Zumthor	morning

Supporting Quotes:

JUAN NAVARRO BALDEWEG:

MC   Do you work in the evenings or in the mornings?

JNB   No. Continually. For instance in painting I usually work in and out of Madrid. I usually go for several days to work with the paintings specifically. I go out of the city where I have a studio.

In the architectural studio my problem is my time schedule. I have to work creatively outside of office hours.

JUAN HERREROS

We always workshop our ideas in the afternoon.

IAN MOORE:

I am a middle of the day person.

JOHN PAWSON

JP   Well I think with the house ….We could probably identify the day I first visited the site. My wife Catherine bought the house without me seeing it, so I didn't have any involvement with the purchase. And it was a London Terrace house. The British terrace house is a very well worked out plan, dating back a few hundred years. So there are not many variations. I kind of knew what we were going to get. What I could not visualise was the aspect. I can't remember what day of the week it was, but it will be in a diary, so it can be identified. And, I think that it would have been in daylight.

BERNARD TSCHUMI

I was at home and making a model on the end of our kitchen table. It was 3 am in the morning. It was the days when I had to work in the evenings as well as through the day.

PETER WILSON:

We went to the site at night time. And just standing on the site at night time one knew straight away what one had to do. One had to operate on the axis of the Church. I think – I often try to visit sites at night time because you don't see any detail. You only see the basic form of the city and its context. So everything is quite good, quite simple, and quite clear. It's quite obvious that would fit and that wouldn't.

4.5   Question Five

Where were you at the time?

Will Alsop	Portugal – on the beach
Juan Navarro Baldeweg	Always in my studio outside of Madrid
Alberto Campo Baeza	On a site visit organised by the competition committee
Mario Botta	On the site with the owner
Lindsay Clare	Alone in our office
Neil Durbach	-
Peter Eisenman	- [but claims all new ideas come to him in the shower]
Nicholas Grimshaw	At his country house
Juan Herreros	In the studio
Daniel Liebeskind	At home
Thom Mayne	-
Richard Meier	In the office
Ian Moore	On site
Eric Owen Moss	-
Glenn Murcutt	Cannot recall
John Pawson	Cannot recall
Ric le Plastrier	At home
Bernard Tschumi	At home
Peter Tonkin	At home – dining room table
Alec Tzannes	Home
Peter Wilson	On the site
Peter Zumthor	In a briefing introducing the competition

Supporting Quotes:

WILL ALSOP:

There a number of places where I like to go to think. The beach is always good. I also have a hut at the end of my garden [laughs] which is also a good place. Increasingly I find it difficult to design here in the office. Because I find I need a notion of sort of serviced solitude. That is, there is coffee and beer and wine around and not too far away [laughs]. But not many people. And sometimes I need the familiarity of my own surroundings as well. You don't have to think about it – you know where everything is.

MARIO BOTTA ON REALISING THE IDEA ON SITE:
I was there with the owner of the site and I was going up the hill and had arrived at the point where the chapel is located. Generally, while I am on the site I do some analysis, but I finally work it out in my head afterwards. While on the site I am able to focus on everything and observe everything. Through the analysis I am able to back up what I am creating in my head.

IAN MOORE:

The house at Neutral Bay was interesting because it was existing and was a type of house I was familiar with from New Zealand – a weatherboard cottage. Almost instantaneously on the back of an envelope at our first site meeting I tried to explain the idea that I had in my head to the client. And I just drew this little drawing.

GLENN MURCUTT ON NOT HAVING A DEFINITIVE MOMENT OF CONCEPT REALISATION:

There are so many factors in determining an idea. There is no one recognisable moment where you say 'there it is'.

JOHN PAWSON:

JP: A house has 200 plus 'aha' moments

Funny enough, with something like my own house, I tend to work on it at the weekends and in the evenings and things , and on planes and generally on the move.

What I tend to do, is the vague marks on paper, and try to convey it to the people here. And then I leave it to the poor guys to actually find out if you can get a straight run of stairs [laughs] ……

Immediately after visiting the house I took away the Estate Agent's particulars, and immediately started sketching over those. But I think that it was a battle.

RIC LE PLASTRIER:

My best thoughts come at home in the studio. When you are detached and away from the project, only the most powerful impressions of the place come through to you. And that is what you build on.

PETER WILSON ON PREFERENTIAL LOCATIONS FOR CONCEPT REALISATION:

We have done projects where I haven't seen the site. Sometimes you do them by just keeping with the rules. Learned rules. One comes to quite a responsible and reasonable answer. But the projects that I like the most are when one goes to the site. Or at night time. Or when one is there alone. And one is thinking intuitively. One feels something. And that makes complex questions easy – simple.

PETER ZUMTHOR ON HIS METHOD OF WORKING AND HIS LOCATION WHEN THE IDEA CAME TO HIM FOR THE MUSEUM IN COLOGNE:

PZ   'There was a big meeting introducing the competition. There were 500 architects and some guys on the podium were introducing this kind of thing and so on…And then they showed the first slides…And I drew because I thought 'I don't like to listen to this long informations'. So there I made the sketch and the base idea is already there.

MC   OK- So it was no response to an actual brief. It was more intuitive?

PZ   No. It was a response to this briefing - but it was a negative response. I said 'Please! Shut up!, 'let me do my thing!', 'I don't listen to you'; 'I don't want to know all about that'; 'I want to do things myself'

MC   So, it was as immediate as them introducing the project? You hadn't actually read a solid brief or a programme?

PZ   No. I wait a long time until I read everything that I have to read so I can make it. But I know a little bit of what it is about.

MC   So had you seen the site?
PZ   no. Actually….no.
        I was reacting only to the photographs and the presentation.

4.6   Question Six

What were you doing at the precise time?

Will Alsop	Sketching
Juan Navarro Baldeweg	Painting
Alberto Campo Baeza	Talking to the other competitors.
Mario Botta	Walking on the site
Lindsay Clare	drawing
Neil Durbach	-
Peter Eisenman	-
Nicholas Grimshaw	Sitting in a deck chair – in the sun looking at leaves.
Juan Herreros	Work-shopping the idea by sketching with Inaki [partner]
Daniel Liebeskind	Thinking
Thom Mayne	-
Richard Meier	Workshopping
Ian Moore	Visiting the site for the first time
Eric Owen Moss	-
Glenn Murcutt	-
John Pawson	Viewing the house. No distinct image arrived but he knew intuitively the concept was centred on the stair
Ric le Plastrier	Drawing
Bernard Tschumi	Working at the kitchen table
Peter Tonkin	Doodling over notional plan
Alec Tzannes	Sketching in red lead
Peter Wilson	Looking at the city in the quiet of night
Peter Zumthor	Feeling frustrated, annoyed, and impatient and sketching.

Supporting Quotes:

WILL ALSOP ON SKETCHING:

Sometimes I work on canvas, sometimes on plastic or mylar, and sometimes on paper. It doesn't really matter. Increasingly I work in sketchbooks. So in this particular case it was on the beach, in an A3 sketchbook.

The interesting thing about the sketchbooks is that you put all of this stuff in – I write and I draw and I do all of these things – but I never look at them again. Because the actual act of putting them down means that you then automatically edit it in your brain. So you don't go round thinking 'Oh what was I thinking about?'. On the other hand some of the guys here use the sketchbooks a lot – or photocopy them – so it is a sort of a communication tool within the office.

MARIO BOTTA:

The first impact that I had was on the site and with the site. When I first came up the mountain and looked around it was very difficult to figure out where to place this building. And I had an idea of putting the chapel more into the mountain. But then, finally, I walked away from the mountain and followed a path. It was then that I had the idea, which was much more interesting. This idea was to make a path going further around the mountain. This created a horizontal walkway and gave me the idea to develop the chapel underneath and to open it up to the panoramic views that you would have from underneath the walkway.

So the idea, on this occasion, was to build not something coming out of the mountain but to develop something that would develop out of sight.

RIC LE PLASTRIER:

I draw a lot. When you draw you look at things more critically.

ALEC TZANNES:

Earlier in the day I had been reading the 'History of Australia' by Manning Clarke, then in the afternoon I began sketching.

4.7 Question Seven

At the precise time, how did you feel physically?

	Fighting Fit	A bit energetic	A little tired	Worn out
Will Alsop			relaxed	
Juan Navarro Baldeweg	4			
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare			4	
Neil Durbach	4			
Peter Eisenman	-	-	-	-
Nicholas Grimshaw	-	-	relaxed	-
Juan Herreros		4		
Daniel Liebeskind	4			
Thom Mayne	-	-	-	-
Richard Meier	-	-	-	-
Ian Moore	4			
Eric Owen Moss	-	-	-	-
Glenn Murcutt			4	
John Pawson	4			
Ric le Plastrier			relaxed	
Bernard Tschumi		4		
Peter Tonkin			4	
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

WILL ALSOP:

'Relaxed – feeling totally relaxed lets the movement of a few lines create the starting point'

MARIO BOTTA:

I cant really remember for this project, but generally as soon as I have something like this to do, the idea generally puts me into a euphoric state and I feel enthusiastic about it.

JUAN NAVARRO BALDEWEG:

No. I never feel myself tired. On the contrary…. I must say I feel without enough time. I have this feeling continuously. I would like to have two or three lives. I am not tired. LAUGHS. Physically I am tired but not creatively. I'm not. LAUGHS

NEIL DURBACH:

Its kind of exhilarating. There is a sense of urgency once you've got the idea. You do feel kind of 'speeded' up.

NICHOLAS GRIMSHAW:

Relaxed. I am always relaxed when an idea comes to me. Whether it is whilst I am walking across the park from home to work, or after a meal. I need to feel calm and cool.

IAN MOORE:

'Its great to get to a point when the idea is really singing'

JOHN PAWSON:

I think if you are very, very interested in something, you've always got the energy. You are never really too tired. I tend to work very long days. I'm an early morning person and tend to be better at thinking then. So certainly I'm never …..worn out.

RIC LE PLASTRIER:

Calm. Relaxed. I always pull the phone out so that there are no interruptions.

PETER WILSON ON WHEN THE IDEA CAME TO HIM IN THE DARKNESS, ON SITE, IN MÜNSTER:

Oh! It was fantastic! That's it, when one walks up and down that line. And then you, yourself, you actually pace it out. You measure out the griding that you want to do. And each time you turn you say 'Yes! And that will be there! And that will be there!'.

PETER ZUMTHOR:

There was a lot of things that I had to do, like always. I have the capacity ….I am sort of a long distance runner. See, I can work long . As soon as something arouses my interest I can work very long at it.

4.8   Question Eight

At the precise time, how alert did you feel?

	Very excited	A bit alert	A little lethargic	Very tired
Will Alsop			4	
Juan Navarro Baldeweg	4			
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare		4		
Neil Durbach	4			
Peter Eisenman	-	-	-	-
Nicholas Grimshaw	4	4		
Juan Herreros	4			
Daniel Liebeskind	4			
Thom Mayne	-	-	-	-
Richard Meier		4		
Ian Moore	4			
Eric Owen Moss	-	-	-	-
Glenn Murcutt		4		
John Pawson	4			
Ric le Plastrier	4			
Bernard Tschumi		4		
Peter Tonkin	4			
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

WILL ALSOP:

I do get tired. I know that the people here and the family and those who talk about me say that I have extraordinary energy. But I do get tired.

JUAN NAVARRO BALDEWEG ABOUT THE FEELING HE GETS WHEN AN ARCHITECTURAL IDEA COMES TO HIM:

My work comes mainly from competitions. A competition is very exciting. Also it is good work and also sometimes it feels exhaustive. Ah but it is exciting. It is very beautiful even if the studio is distracting. It is very interesting to see how everyone is fighting the ideas. And this is very nice.

I think the reality part of the architecture is the beginning. This is the creative period. So when you find something that is precious to you – this is a good prize.

MARIO BOTTA ON HOW HE FELT THE MOMENT HE IMAGINED THE CHAPEL:

Alive!

LINDSAY CLARE ON SUSTAINING MOTIVATION:

You do need a bit of space. You cant go speeding along exuding creativity wherever you go. You need a bit of down time.

NEIL DURBACH:

You always have a sense of 'the wheel has just turned'. That is when you know the idea is very precise. There is this amazing sense that you have rationalised it to the point where it is the most liberating thing. And it sounds like a contradictory position but it is almost as if you have understood the order of it and in doing so have established an incredible freedom. And then after that, the way it is resolved is often beyond your control – budget etc. But you try and keep the idea.

NICHOLAS GRIMSHAW:

I think that you can be relaxed and alert. I would say very alert. But not excited. I am however motivated.

IAN MOORE:

I was not feeling creatively exhausted but I was physically exhausted.

JOHN PAWSON:

I am a driven person. But I've only become this way because I found something that I enjoyed doing. And I wanted to do more of it. You become more of an ambitious person, and more energetic. Very successful people like Calvin Klein or Martha Stewart are very egocentric. This is because they get more and more interested, and they get more and more encouraged to do better. It picks up your own physical ability to do, you become more energetic. The more interested, the more you do, the more motivated you become.

RIC LE PLASTRIER:

Anticipation is the exciting stage of the design. It's a question of when you are actually going to see the solution. This is not always in the early intuitive stages. Sometimes its when you get into it. It's when all of the pieces finally come together. In photography it's the moment before you push the button.

ALEC TZANNES ON WHEN HE 'DISCOVERED' THAT A ROTUNDA WAS THE BEST DESIGN SOLUTION:

I was frightened by it. And also felt that it was a milestone in my architecture. I realised that in facing that task that I had actually achieved a process in my work that would guide me forever more. So it was both frightening and also kind of exciting.

PETER WILSON ON HOW 'ALERT' HE FELT:

It really has an electricity. I think as an architect one learns to read spaces and read cities. And if one enters a good building by another architect one sees that as well. It's a similar feeling.

PETER ZUMTHOR

'I can only work at peak level – this is always the same. And when this is not so, then I don't work.'

4.9   Question Nine

At the precise time, what was your general mood?

	Very happy	Reasonably happy	A little unhappy	Very unhappy
Will Alsop	4			
Juan Navarro Baldeweg	4			
Alberto Campo Baeza		4		
Mario Botta	4			
Lindsay Clare		4		
Neil Durbach		4		
Peter Eisenman	-	-	-	-
Nicholas Grimshaw		4		
Juan Herreros		4		
Daniel Liebeskind			4	
Thom Mayne	-	-	-	-
Richard Meier		4		
Ian Moore		4		
Eric Owen Moss	-	-	-	-
Glenn Murcutt		4		
John Pawson		4		
Ric le Plastrier	4			
Bernard Tschumi		4		
Peter Tonkin	4			
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor				4

Supporting Quotes:

ALBERTO CAMPO BAEZA:

I am generally a happy person. I like to balance my life. At the time my first premonition for an idea came to me I was at the briefing and I was struck at how charming all of my fellow competitors were. I understood why they were invited to compete and why they got so many jobs.

JUAN NAVARRO BALDEWEG ON THE CONFLICT HE FEELS WHEN HE IS HAPPY WITH A CONCEPT:

I am basically a happy person. But my problem comes always from trying to impose an idea in architecture that I feel very few people will understand. And I must say that in architecture there is a difference between a good job and a job done well in the cultural and social aspects of architecture. There is a big problem in this difference.

LINDSAY CLARE:

When you realise that an idea is right to pursue, you can't see the whole thing but you almost can. You can feel the whole thing and you know you can go down to a macro level and be able to make the right decisions.

NICHOLAS GRIMSHAW:

I would say reasonably happy. I was not ecstatic but I was reasonably happy as I had achieved something.

DANIEL LIEBESKIND ON HIS MOOD WHEN DESIGNING:

DL   There is a certain critical mass. You work on certain areas but you know its not really what you are going to wind up doing. You try your best and you convince yourself and others that this is the right thing but somewhere deep down you know there is another parallel course in your mind or somewhere, which is developing.

MC   And you know that?

DL   You feel it. Yes. You do. I do. Yeah, you feel it.

MC   Does that cause you frustration because you cannot access it?

DL   Yeah. My wife dreads whenever I do something that is not how I want it to be. I am a miserable human being for several months whilst this happens. [Laughs]

JOHN PAWSON ON HIS INDIFFERENCE TO HIS GENERAL MOOD:

There is a down side to success and ideas. It is much more difficult to switch off. There is no such thing as holiday; there is no such thing as relaxing. For me, I can never be distracted from say, designing the house. It would not matter if I was depressed or happy, I wouldn't say 'Well I'm not going to get out a bit of paper today, because I feel low'.

PETER TONKIN:

As the projects aims crystallise, the excitement of the possibilities build. Ideas always embody some emotion of the architectural or tectonic language. And that is the exciting thing because in a sense, you have a germ of an idea that will become a building.

PETER ZUMTHOR ON HOW HE WAS 'PROVOKED' TO GIVE A DESIGN RESPONSE FOR THE MUSEUM IN COLOGNE:

PZ   I was angry.

MC   Angry. Is that something that occurs often in your design process?

PZ   Ja. I will be provoked by something I don't like; or by something that should be different; or by people going on and talking about something. This is because before they even open their mouths I already know what they are going to say

MC   Is this the case at Vals or any of your other well known projects? Have you been provoked into those responses? Or is it quite different?

PZ   In many places there is an element of…its lacking something and I am reacting to that. Many places I think; 'No. Not like this. Please! Like this!'

4.10   Question Ten

At the precise time, how confident were you about your ability to produce a design?

	Very confident	Reasonably sure	A little worried	panicking
Will Alsop	4			
Juan Navarro Baldeweg	4			
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare	4			
Neil Durbach	4			
Peter Eisenman	-	-	-	-
Nicholas Grimshaw		4		
Juan Herreros		4		
Daniel Liebeskind	4			
Thom Mayne	-	-	-	-
Richard Meier	4			
Ian Moore	4			
Eric Owen Moss	-	-	-	-
Glenn Murcutt				4[cautious]
John Pawson	4			
Ric le Plastrier	4			
Bernard Tschumi		4		
Peter Tonkin		4	4	
Alec Tzannes		4		
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

JUAN NAVARRO BALDEWEG ON PERSONAL CONFIDENCE IN HIS IDEAS:

MC   Do you feel that what you are proposing is 'right' for the problem that you were trying to solve?

JNB   Yes. I am clear and sure of the validity of these ideas. Perhaps in the world of architecture these ideas are not so good but in my painting they are absolutely right. I mean sometimes I am not so sure. But in this 'first room' [see JNB profile for explanation] what I am beginning to make is very prevalent.

MC   You are confident about it?

JNB   Yes. Very much confident. So I translate this confidence to an architectural concept.

MARIO BOTTA:

I work on many different projects at the same time so I am generally confident with what I am doing. I am like a painter who needs to have many canvases to work on.

NEIL DURBACH:

You know that if you just keep working you can get it to that point. Its almost a case of questioning if you have the stamina to ride out the intention.

NICHOLAS GRIMSHAW ON THE EFFECTS OF EXPERIENCE ON HIS CONFIDENCE:

I would say reasonably sure because experience has led me to know that there is always the point where something may come along and sabotage the idea. You might find out something that will send you back again.

JUAN HERREROS:

This was an important project for us so even though we are very excited we are also know how important it is to do it well.

GLENN MURCUTT ON HIS LEVEL OF CONFIDENCE:

You have to have a level of confidence at the beginning that allows you to withdraw and say when something is not good enough.

I am very cautious.

JOHN PAWSON ON HIS CONFIDENCE IN HIS ABILITY:

I didn't go to the AA until I was in my thirty's – I thought that being creative was something that other people did. I am still mystified by how you write a song or how you get a tune. And I shouldn't be because it's the same sort of basis.

Since I started I've never really thought about my ability to design, only because it has never failed yet and its only getting better. I mean we've been asked to design a range of cook pots. I know that if I sit down – and I don't have an idea at all - that if I sit down with a blank piece of paper, I am sure in the end I will come up with something.

ALEC TZANNES ON HIS CONFIDENCE IN DESIGNING A TYPE OF BUILDING THE ROTUNDA] WHICH WAS UNKNOWN TO HIM:

Reasonably confident. Once I realised that I had to do it, I just stuck my head down and applied myself to the craft of design, and applied myself to the evaluation of the various issues, and created responses

that were vital to the success of the project. Everything was in response to this particular building type of which I had no knowledge.

The greatest example of that for me was when I concluded on the Federation pavilion site, that what was best for the symbolism for the creation of the country, was to do a contemporary rotunda. The rotunda was a typology that was singularly absent in contemporary architecture. And it came to me as an absolute horror because it was most appropriate to the site. And I had to go with it. And I thought that was just a 'chasm of fear'.

PETER WILSON:

One has to be confident. One has to believe that things will fall into place. Sometimes they don't. But unless one believes they will it is hard to go forward.

PETER ZUMTHOR ON HIS CONFIDENCE IN THE INTIIAL SKETCH HE MADE FOR THE MUSEUM IN COLOGNE:

PZ: Well I had the feeling that there was something right in the sketch. That there was something to be worked on and that it was interesting. I came back, then went off, then came back to this idea and it was actually the one that worked and it was actually already there. Not the first week – it didn't really work because you don't really know it, but the basic idea was there.

MC   So you had confidence. You believed in it and yourself enough to make it a fantastic building?

PZ   Oh Ja. Oh Ja. [an 'of course' gesture] [impatiently]

4.11   Question Eleven

At about that time, how confident were you about your designing ability?

	Very confident that you're your designing ability was improving	Confident that you could keep up your own general standard of design	A bit worried that you might be falling behind your own general standard	Very worried that you were likely to fall well below your general standard
Will Alsop	4			
Juan Navarro Baldeweg			4	
Alberto Campo Baeza		4		
Mario Botta	4			
Lindsay Clare		4		
Neil Durbach	4			
Peter Eisenman	4			
Nicholas Grimshaw		4		
Juan Herreros		4		
Daniel Liebeskind	4			
Thom Mayne	4			
Richard Meier	4			
Ian Moore	4			
Eric Owen Moss		4		
Glenn Murcutt				4
John Pawson		4		
Ric le Plastrier	4			
Bernard Tschumi	4			
Peter Tonkin		4		
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

JUAN NAVARRO BALDEWEG ON HIS LACK OF CONFIDENCE IN COMMUNICATING HIS IDEAS:

JNB: Architecture needs to be communicated. It needs formulations, clear statements to be
        understood in one case by the students ; in another case by the clients; and also by the public.
        But I must say that sometimes I miss the confidence in my communications.

        I feel many, many times that I am missing something in a general understanding.

MC   Do you mean that you feel certain yourself but uncertain that other people will…..

JNB   I have the feeling that I cannot find a way to express or to show to others my ideas. And then I am waiting with expectations, assuming positively that it will be understood entirely.

You see with painting – it does not matter if you are not understood. It's the difference between art and architecture. It wont effect your business only the number of exhibitions that you can have. But architecture is a different. You are a social man. You must be like a politician. You must communicate.

I must confess this is an area that I find myself in trouble. [laughs]

MARIO BOTTA ON HIS GENERAL CONFIDENCE:

The idea that I had forced me to face the problem, so I was confident even though there were a lot of doubts. These doubts always surface during the development of the idea. But I am generally confident of facing the problem with the idea that I have had.

NEIL DURBACH:

I always feel that we will deliver. Ideas for us always need to be a significant move forward. Never a reiteration or a comfortable thing.

NICHOLAS GRIMSHAW ON EXPERIENCE AND AGE GIVING YOU CONFIDENCE:

From my point of view as you get older I think you do get more confident because I think there are more things that I can handle. I know more about structure – I've seen more buildings – I've travelled more – I've read more books – I've learnt about energy concepts. So its very much like an artists palette. You're broadening it and widening it so you can do more and more. I don't believe that an architect can set straight out in life and do a clever building.

DANIEL LIEBESKIND ON HIS CONFIDENCE TO DEVELOP THE IDEA FOR THE JEWISH MUSEUM:

From the point where I am able to see the vision – its much more logical process. But it's hard to get to that point and sometimes one never gets there. That is also true. There are projects where you know – you know they are not going to be great. But with this project the vision was clear, complex and instantaneous that I knew it was going to work.

THOM MAYNE ON CONFIDENCE:

Its not that you don't have fears or anxieties. It's just that it ultimately happens. I think that any architect, that has been practicing for a while, and doing reasonable work, has to have a tremendous amount of confidence. It is fundamental.

RICHARD MEIER ON CONFIDENCE IN AN IDEA:

I feel when a project is right. When it is not, I change it.

GLENN MURCUTT ON HIS CONFIDENCE IN HIS DESIGN ABILITY:

I feel 'incompetent' but I know that 'incompetence' is really caution and nerves

JOHN PAWSON ON HIS GENERAL CONFIDENCE AND HIS IMAGE:

Well I have had a very lucky sort of life. So far I would say that I am certainly reasonably sure of my ability. It depends on if you read your own press. Then you feel very confident and of course this is a huge mistake. [laughs]

RIC LE PLASTRIER:

I am confident that I will deliver something that is good. I am driven to make beautiful things.

PETER TONKIN:

I have done enough work to know that I can solve functional problems efficiently. I also have reasonable faith in the people in this office. However, buildings are minefields so you cant be excessively confident.

PETER WILSON ON HIS CONFIDENCE IN HIS GENERAL DESIGN ABILITY:

Without the idea one is a nervous wreck! [Laughs] But as soon as you have that anchor, then one says: 'OK. That's fine. Now I have got that direction and I really have to go deeply into that'. Then after that there are a lot of sort of methods – well not methods – but things that simply – you know, rules that one uses to test the idea and refine it.

4.12 Question Twelve

At about that time, how confident were you about your other professional activities?

	Very confident that you were improving	Confident that you could maintain your standards	A bit worried that you might be falling behind in some areas	Very worried that you were falling behind in most areas
Will Alsop		4		
Juan Navarro Baldeweg			4	
Alberto Campo Baeza		4		
Mario Botta		4		
Lindsay Clare		4		
Neil Durbach	4			
Peter Eisenman	4			
Nicholas Grimshaw		4		
Juan Herreros		4		
Daniel Liebeskind	4			
Thom Mayne		4		
Richard Meier		4		
Ian Moore	4			
Eric Owen Moss		4		
Glenn Murcutt		4		
John Pawson		4		
Ric le Plastrier		4		
Bernard Tschumi		4		
Peter Tonkin		4		
Alec Tzannes		4		
Peter Wilson	4			
Peter Zumthor		4		

Supporting Quotes:

NICHOLAS GRIMSHAW:

Self criticism is the ONLY thing. I think if you're not self critical you're not going to get anywhere and in some ways self criticism is the only kind that counts.

But I like to feel, that what you are doing is appreciated for what it is. I think if you are an architect, you want to be appreciated for your work not for what you say and do.

PETER TONKIN:

'I am incredibly tentative. It is often years before I am able to acknowledge the strength of the ideas. I think you need to be a strong critic of yourself otherwise you run the risk of becoming complacent.

PETER WILSON ON THE TIME WHEN THE COMPETITION FOR THE MUNSTER LIBRARY WAS BEING DESIGNED:

We were basically trying to start our own practice. I was teaching at the AA and the kids were still quite small then. I think the AA is something – you teach at the age when you are unattached and single. And you sort of become part of the AA milieu. So I think – starting a family was the time to step out of that. And to move to Münster was positive as kids in London are really hard . And also to move to a small city where there was nothing else to do but just work on the project was a step forward.

4.13 Question Thirteen - Career Issues

4.13A - How suitable to you, and what you would like to do, is the career that you have chosen?

	Ideally suited	Reasonably suited	A bit unsuited	Quite unsuited
Will Alsop		4		
Juan Navarro Baldeweg		4		
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare		4		
Neil Durbach	4			
Peter Eisenman	4			
Nicholas Grimshaw	4			
Juan Herreros			4	
Daniel Liebeskind		4		
Thom Mayne	4			
Richard Meier	4			
Ian Moore	4			
Eric Owen Moss	4			
Glenn Murcutt	4			
John Pawson	4			
Ric le Plastrier	4			
Bernard Tschumi		4		
Peter Tonkin	4			
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

WILL ALSOP:

Well put it like this, I can't imagine doing anything else really. But ones attitude towards it changes as you go through life.I always wanted to be an architect – from the age of 6 when I designed a house that had to be located in New Zealand! I left school at 16 and did my A levels at night school and worked with an architect who taught me all the pragmatic things of building – damp proof courses etc. I then went to art school which was one of the best things that I ever did. I then went to the AA. Art school and the AA opened me up to lots of possibilities and ways of looking at the world.

JUAN NAVARRO BALDEWEG:

Architecture is a problem. It's a social art but society sometimes doesn't understand the objective. So you must convince the clients and everyone that it is a valid idea. It is very rare in architecture to make something that everybody says 'Its wonderful!' Its not often.

I enjoy making the drawing and I enjoy the results very much. But there is a big way in the middle that is not very enjoyable.

MARIO BOTTA:

I would not know what else to do!

NICHOLAS GRIMSHAW:

My commitment to being an architect emerged quite late in life. I didn't start at the age of 15 or 8 as in wanting to be an architect. I went through architecture school quite equivocally. And I wouldn't say that I was totally committed until I was 25 or something like that. Not until I walked out of college saying this is what I want to do. In fact I did walk out of college saying that.

JUAN HERREROS:

I find making a building a very daunting thing. I think that we do it well.

DANIEL LIEBESKIND

DL   Becoming an architect was a total fluke of accident, which I never understood actually.

MC   But looking back on it are you glad that it happened? Do you feel that you are well suited to the profession?

DL   Yes. Well I don't think of myself really professional. I mean I am not in it because of professional interest – As if I wanted to become a doctor, a lawyer, an architect. I am doing it, but its not really a profession in the sense that I chose it because I wanted to be an architect. So it doesn't have that status in my own mind – its connected to so many other things that I am doing and it just happens to be architecture. And some people don't even call it architecture. Some people say art, some say its crazy but that is different. [Laughs]

THOM MAYNE:

I love doing it. I enjoy it more now than I did 30 years ago.

IAN MOORE:

I have always wanted be an architect. My father was a builder and I always knew. I got sidetracked off to engineering but was brought back after working with the Fosters team [as an engineer]. It was after this experience that I knew I had to pursue architecture.

JOHN PAWSON:

Very suitable ……I've tried everything else. I mean I joined my fathers family business, in textiles, in the rag trade. Then I tried to be a Buddhist monk for a night. Then I taught english as a foreign language for three years in a university – but that was a means to an end. And then I was offered a career to take photographs for an agency in Japan - which I did.

My hobby was always studying architecture on a very superficial level. And then I suddenly found that this was something that I could do. It was a hobby that became a passion and its part of me. And I'm lucky that I've been able to be successful in it.

RIC LE PLASTRIER:

I could also of been a boat designer. But boat design does not have the same social power that architecture has.

ALEC TZANNES:

I felt that I wanted to be an artist. But then I realised I had something else of interest to me – engineering, environmental, lots of other things, and I found myself being more interested in being an architect. And the difference is just that point.

PETER WILSON:

I always wanted to be a painter, till I was 18 and left school. I started art school and wasn't sure. I went for an interview at the architecture school and the professor in Melbourne – I think it was a complete lie – he told me ' you can do everything you do at art school here and more'. [laughs]. I thought 'Oh that's good! I'll do architecture'. But the moment I started – the first week – one knew that was it. I really liked it.

4.13B - How relevant is the work you are doing to your preferred career?

	Very relevant	Reasonably Relevant	A bit irrelevant	Mostly irrelevant
Will Alsop		4		
Juan Navarro Baldeweg	4			
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare	4			
Neil Durbach	4			
Peter Eisenman	4			
Nicholas Grimshaw	4			
Juan Herreros		4		
Daniel Liebeskind	4			
Thom Mayne	4			
Richard Meier	4			
Ian Moore	4			
Eric Owen Moss	4			
Glenn Murcutt	4			
John Pawson	4			
Ric le Plastrier	4			
Bernard Tschumi	4			
Peter Tonkin	4			
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

ALBERTO CAMPO BAEZA:

I insist on three things from a project; freedom, time and money. This allows my work to be relevant to being an architect.

JUAN NAVARRO BALDEWEG ON HOW PAINTING IS RELEVANT TO HIS CAREER AS AN ARCHITECT:

Painting and being away from the architectural studio [at my painting studio outside of Madrid] helps my equilibrium. Sometimes I go to paint and come up with an idea on the first day that I am there. I find peace again and this is important to me. Nevertheless I am painting dark shadows in this activity.

I have found that I am able to communicate my architectural ideas about materials and detail through painting. And it's a very enjoyable moment when they say to me ' well this detail is now clear by you painting this idea'. However, it is a hard process

I have found that my process is changing a bit. The feeling of a good building is very profound. It effects you in a very deep way. And this is perhaps the reason why I go through the discovery of this situation and go through the difficult process.

NICHOLAS GRIMSHAW ON HOW THE UNIVERSAL APPROACH OF THE STUDIO AIDS THE DESIGN WORK THEY DO:

I think that it is probably a characteristic of our practice that people have a common, like minded approach to what the boss wants to do - to begin with – otherwise no one would work there. I think we are quite well known for our fairly innovative approach and for doing and looking at things freshly everytime rather than being a more routine practice. Where you, to some degree, know exactly what they are going to do before they got the job.

DANIEL LIEBESKIND ON HOW POLITICS IMPACTS ON DESIGN:

Architecture is a long-range thing. It's not like writing a poem or making a drawing because it has to be sustained over a long time. Sometimes over years. And you have to keep the idea against all sorts of pressures. That's where I think architecture is very different from just a drawing or artistic work. Because you sustain the idea in the face of lengthy periods of political discussion.

The Jewish Museum is a very good example of this. It was years and years before they actually commissioned us to build it. And yet it was there in drawings and so on. So the idea has to be real enough to be there for one to work at. Otherwise it would just be some imaginary fiction that you couldn't really sustain.

JOHN PAWSON ON THE MANAGEMENT OF THE STUDIO:

JP: What I do on a day to day basis assists in the creative output of this office

        You can't stop yourself creating, so management and other distractions need to be a bit more balanced. Perhaps I need to spend more time designing. I mean less time being distracted.

MC: Are these distractions self imposed or a little of both?

JP: Well I think they are both.

PETER WILSON ON THEORY AND PRACTICE:

It's a real uphill battle! But the scale of the results is that you do something that effects many peoples lives, and it is there for a long time. I think that buildings outlive ideas.

The AA in the 1970's was a time when the whole architectural world was being turned on its head. It was very theoretical. And Rem was there, and Daniel Liebeskind, Bernard Tschumi. And at that point one knew one was involved in architectural theory but one didn't ever expect to practice because theory was so divorced from Practice.

I sent some 15 years within the academy – particularly the AA doing theoretical projects. And one was very happy doing that. Winning the Münster Library made a tremendous difference particularly as we were completely outside the world of practice. And that was a revelation. I mean once you get there you realise that's where its all been leading towards. I'm so much happier building than teaching. We take the ideas to where they should go. I really like that. But it can be incredibly painful. I mean it hurts everyday. You have such problems to deal with.

PETER ZUMTHOR BELIEVES ALL OF HIS WORK IS RELEVANT TO MAKING ARCHITECTURE:

MC   Do you feel that the work you are doing as an architect, in your practice is relevant to your notion of what architecture should be? That is, is the everyday practice of architecture relevant to your design work? Do you feel that it interferes with designing or does it help you…?

PZ   It's the same. What sort of question is this? It is all the same. [annoyed]

4.14   Question Fourteen – Work Issues

4.14A - If you were working at the time eg in an office, how did you feel about the work, including consideration of the boss, the work, the pay, the conditions etc?

	Very satisfied	Reasonably satisfied	A bit dissatisfied	Very dissatisfied
Will Alsop			4	
Juan Navarro Baldeweg		4		
Alberto Campo Baeza		4		
Mario Botta	4			
Lindsay Clare		4		
Neil Durbach	4			
Peter Eisenman	4			
Nicholas Grimshaw				4
Juan Herreros	4			
Daniel Liebeskind	4			
Thom Mayne	4			
Richard Meier	4			
Ian Moore		4		
Eric Owen Moss	4			
Glenn Murcutt	4			
John Pawson	4			
Ric le Plastrier	4			
Bernard Tschumi		4		
Peter Tonkin	4			
Alec Tzannes		4		
Peter Wilson			4	
Peter Zumthor	4			

Supporting Quotes:

WILL ALSOP:

I have to be careful about what I say here because the office is a huge tool that enables you to do stuff. But it is a tool that you need to know how to use. Its like having a super drill but not knowing what its for. You have to know it inside and out. If you don't know it intimately you don't use it intelligently. I know the office. I know what they can and can't do. I think I know when 'they do and don't need me.

ALBERTO CAMPO BAEZA:

I will only have three jobs in this studio at any one time. This means that I am able to enjoy each project.

JUAN NAVARRO BALDEWEG

MC   When you bring your ideas into the office – have you already made decisions about the design solution? Or is it usually here with your team of people when all of these things come together? Is it a singular or group activity?

JNB   Well I must say that I like to have control in any level of decisions. So the work in the office is mainly to tell me where there is a problem, to pick up different problems to think about. So how to solve this bit.

Decision-making is generally by myself and this is another problem in my office. I cannot help it because I should solve the problems. I am not sure enough to delegate it to someone which would be very wonderful but in general I like to….

MC   So your team of people are there to support you in those decisions. And your management of these people – do you find that it interferes with your creative work? Managing all of those things…or are you happy with the way it works?

JNB   No. I mean it is a problem of a time schedule. I work in a creative way in a different time of the day.

MARIO BOTTA:

Without the office I could not function. It is a necessary instrument.

LINDSAY CLARE ON RUNNING A SMALL PRACTICE:

You can rely on staff for their complementary skills to ours. But running a small practice can be logistically tough.

NICHOLAS GRIMSHAW

NG   We've got about 100 people working here. The big problem at the moment is that we have a secondary office. That's not satisfying at all. And we're just working on buying the building behind us here so that we can combine the two again. Because we work very closely as a unit and its very unsatisfactory having one over there.

MC   Has that hindered the project that you are working on in Frankfurt?

NG   No. Competitions and initial stages and concept stuff is nearly always done here. 'The Mother Ship' we call it.
[laughter]

THOM MAYNE:

Our work is a collaborative effort . It is the work of the office. So the office is a collective culture that is connected to a set of complex structures that define our design logic – even in the conceptual stage.

IAN MOORE:

I find it very difficult to get work done here in the studio. A lot of my work gets done at home which is quite difficult with 2 kids. I have also had to learn to delegate, which I find quite difficult.

JOHN PAWSON ON THE OFFICE:

If you have a good set up I think you will be able to produce more, and are able to concentrate more. So generally the whole thing will be better.

PETER TONKIN:

Everyone in the office is a designer and I would not have it any other way. I love the polyglot approach. I do, however, think that within this you need to foster a commonality of aims, aesthetic and culture. Otherwise you end up with a shambles.

PETER WILSON ON OFFICE MANAGEMENT:

I think in the office I have to be very bloody-minded to get people to stick to my idea,
because they can't see it. They think 'well, that idea is really off! Why are we doing that?' And I just say: 'No. We have to work it through. We have to stay on it.' I think one has to be quite strict like that. But then one has to work in a very professional way. There are so many things that one has to make work around that idea. One has to make the structure work, one has to make the whole circulation pattern work, one has to make the whole context work, all the materials etc.

I have had to become quite dictatorial! [laughs]

I make myself available in the office because basically the design is happening all of the time. Every decision one makes about detailing or a ceiling plan is also – it goes with those initial concepts. And one has to be certain of it all the time. I think it is very hard for people working with us. I am absolutely unforgiving. If I don't veto, or I don't get a chance to say yes or no to something, if they decide on something themselves, they are in trouble.

Organisationally it is a problem to keep up with all the projects. We've now got thirty people in the office and lots of projects running parallel. Its very hard to keep on top of that. We don't have an office manager. Julia [Bolles] does this. We have reached a scale now where we need a hierarchy in place. However, we would rather get a bit smaller and not do that. I think it's a danger zone. A lot of architects work falls off at the point that we've now reached.

ALEC TZANNES:

I have a studio at home which I must admit I spend quite a lot of time at. The way I design in the office is like this, if you look in my diary there are big slashes. And that may not be apparent to be available. But that is time that I am available and that happens almost every day.

PETER ZUMTHOR ON OFFICE MANAGEMENT AND INTERVIEWS:

MC   A common reaction that we have is that the everyday running of an office interferes in the actual design process and that the management….

PZ   Oh [with more enthusiasm] management! I will be honest with you ……

I keep my office small. I am the one who wants to know and be informed about every screw in my building. I am not like Norman Foster who engages often a whole army of soldiers. So I am not an architect who is ……..

So, this belongs in my work. I need this group. They have to help me otherwise I could not do it alone. So I need this group. So I accept this. What I don't accept so much is what I am doing now.

4.14B - How much were the demands of work interfering with your concentration on designing?

	Serious Interference	Moderate interference	Little interference	Negligible interference
Will Alsop		4		
Juan Navarro Baldeweg		4		
Alberto Campo Baeza				4
Mario Botta				4
Lindsay Clare	4			
Neil Durbach				4
Peter Eisenman				4
Nicholas Grimshaw	4			
Juan Herreros				4
Daniel Liebeskind			4	
Thom Mayne				4
Richard Meier				4
Ian Moore		4		
Eric Owen Moss				4
Glenn Murcutt				4
John Pawson			4	
Ric le Plastrier				4
Bernard Tschumi		4		
Peter Tonkin			4	
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor			4	

Supporting Quotes:

LINDSAY CLARE:

All of design work is done out of office hours either on the dining room table after the kids have gone to bed or in the office on the weekend when nobody else is around.

NICHOLAS GRIMSHAW:

My creative moments always happen away from the office – but I do not like to say that the office interferes with this. It is just that there are so many extraneous things going on. I walk in across the park every morning [Regents Park] and occasionally something comes to me in the park and I jot it down and when I get here there is usually so much going on that its difficult to find a clear moment to focus.

RICHARD MEIER ON WORKING IN THE OFFICE:

I work only in the office. Not at home. The office does not interfere with me working.

IAN MOORE:

I find managing an office of this size, and the number of clients we have, very difficult.

JOHN PAWSON ON THE DEMANDS AND REWARDS OF RUNNING AN OFFICE

JP: Our policy on fees and an office structure started because I need lots of people to help to create. I can't do it on my own. Therefore, you have to get good people and you have to create the money to pay these people. And if you get all of those distractions out of the way you can avoid stopping the creative process.

        The practice is a business. We have an expression in the office, which I got from the guy who runs Oracle [Larry Ellerston] 'G.T.M. – Get The Money'. Because, you know, unless you've got the money its meaningless. However distasteful this is, you cannot run an office, you cannot create without money. And so we have this 'G.T.M'. I have to instil this in everybody and I find that it focuses people. I've sort of got this rule that you do not actually design, and start the process, until we have been paid. So, all fees are, kind of in advance.

MC: Do you see the 'G.T.M' as motivation to designing or as a means to an end?

JP: It's a little bit of sharpening the pencil. It creates some sort of framework or discipline. We have a spreadsheet with all the jobs and their various stages. At the top of it is a bar with the money owed, or not owed.

DANIEL LIEBESKIND ON THE STUDIO AND THE IMPACT IT HAS ON HIS DESIGN 'ROUTINE':

DL   When I have a clear vision that changes the direction of the project it shocks everyone around it because it is not the way that they have been thinking of the project and it is not, in their eyes, how they would develop it.

        I have to try to convince them. Show them that there is a better way. The people who work in our office are very clear in their own right. So they actually SEE. They might be shattered that they invested so much effort into something in a different direction – but somehow the new idea is also something that they were working through - all the functional and technical issues that are part of that picture.

MC   When these very clear ideas come to you are you normally in the office?

DL   I don't think it is EVER here. Well that's not really quite true. But its not even connected to a routine. When I know I will be distracted from thinking about the project I might decide on a very important day not even to come to the meetings because I know its not what I want to be doing. Or it is not a good path for the project.

ALEC TZANNES ON WORKING FROM HOME:

I go home only because even with the best intentions, when I am here, I just cant get it done. So that's when I do go home to my studio

PETER WILSON EXPLAINS THAT OFFICE HOURS ARE NOT SUITABLE TO CREATIVE THINKING:

I do the creative work at night time. You can't do it during office time with the phone ringing, with people running in and out with questions. It just doesn't work.

I'm in the office every night until midnight. But I also carry my design work with me. I can be out driving the car; or- I always have to have my sketchbook.

PETER ZUMTHOR ON PR:
Interviews and promotion interfere with my design work…… it takes time away from it……. design is the whole thing. I mean for me it is everything.'

4.15   Question Fifteen – Household Issues

Your living could help or hinder your concentration on designing. Issues related to quality of house, cost of housing, compatibility with household members could affect your creative thinking ability. How satisfied were you about your household?

	Very satisfied	Reasonably satisfied	A bit dissatisfied	Very dissatisfied
Will Alsop	4			
Juan Navarro Baldeweg	4			
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare	4			
Neil Durbach	-	-	-	-
Peter Eisenman	4			
Nicholas Grimshaw	4			
Juan Herreros	4			
Daniel Liebeskind		4		
Thom Mayne	4			
Richard Meier	4			
Ian Moore		4		
Eric Owen Moss		4		
Glenn Murcutt	4			
John Pawson				4
Ric le Plastrier	4			
Bernard Tschumi		4		
Peter Tonkin	4			
Alec Tzannes	4			
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

WILL ALSOP:

We have lived in our London apartment for 27 years. I am a terrible mover. It is too small but well located. The country house we have had for 15 years and I have extended and adapted that to suit. The only thing I regret about the London house is that it doesn't have the equivalent of the hut where I can work.

The houses are important because they offset the amount of travel I have to do. If I didn't travel they may not be as good.

MARIO BOTTA:

For me it is very important to work and live where you have been born. Where you know the place.

NICHOLAS GRIMSHAW:

Well I think that one fixes it so that it does work for you. For instance, I live on the other side of the park and walk through Regents Park every morning and home again – It takes about 35 minutes. And that's a very creative part of the day. Very often I am thinking of things, or developing ideas in my head during that time. And I think if I had to drive here in a car, or come to work in a train it would make a big difference. And equally though, being in the middle of town, we go off to the theatre and things quite a lot. Its enormously stimulating. So in my mind we have the best of both worlds and also we have a place in the country that we go to every fortnight. Up in Norfolk.

MC   Have you lived like this for a long period of time?

NG   Yes. Always. I've taken it as a fundamental that you have to be able to walk to work. You must be within walking distance.

JUAN HERREROS

Both Inaki and I have nice homes and families that are not too far away from the studio.

DANIEL LIEBESKIND:

DL   Actually almost everything that I have ever done was done in a situation when its not sort of home. In a way – I mean I don't really have a home anyway. A place that I belong to, that I count as my roots. So I think that everything that I have been involved with – whatever has happened – has been done under similar circumstances. Sought of being somewhere BUT not really.

This means that I have a fundamental view of things, that my ideas have not been developed from some local context or from a network of knowledge that is secure. My ideas are always in between. They are not really rooted in a place but yet they are really very deeply involved with a place. Its just a different condition.

JOHN PAWSON:

MC: When you were working at home on weekends, on planes etc on your house, were you living in your previous house?

JP: No. We could not afford to. We were living in our parents-in-law house, and friends houses and were in very uncomfortable circumstances, with none of our own things around.

MC: Does this give you motivation to get it done well or to just get it done?

JP: I think the two things are detached. I think the motivation for the house was an obsession. An obsession to get it right, and to do the very best sort of solution……Whatever that needs

RIC LE PLASTRIER:

My best thoughts come at home. I have been on that piece of land for 30 years.

PETER WILSON:

Living in a small city where there is little else to do helps you to concentrate on projects.

PETER ZUMTHOR:

MC   You maintain your base in Haldenstein and that is very important to you. Is this to maintain stability in your design work?

PZ   Ja. I like to be rooted. I like to come from a place. So this is my place. It's a chosen place, as I grew up in Basel. But it has become my home. Its where I like to go back to.

MC   So it's a comfort to you?

PZ   Well its really nice. I am going to build there - a house for me. This is my dream home – a Peter Zumthor house for me

4.16 Question Sixteen – Family Issues

4.16A - Family encouragement may be a factor encouraging your creative ability. How encouraging are your immediate family [i.e., those closest to you]?

	Very encouraging	A little encouraging	A bit discouraging	Very discouraging
Will Alsop	4			
Juan Navarro Baldeweg	4			
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare	4			
Neil Durbach	-	-	-	-
Peter Eisenman		4		
Nicholas Grimshaw	4			
Juan Herreros		4		
Daniel Liebeskind	4			
Thom Mayne	4			
Richard Meier	-	-	-	-
Ian Moore	4			
Eric Owen Moss	-	-	-	-
Glenn Murcutt	4			
John Pawson			4	
Ric le Plastrier	4			
Bernard Tschumi	4			
Peter Tonkin	4			
Alec Tzannes			4	
Peter Wilson	4			
Peter Zumthor	4			

Supporting Quotes:

JUAN NAVARRO BALDEWEG

JNB   I have a lot of support from my family. And they – my wife and my 2 children [boys] – they assist me very well. They perhaps feel upset because I don't have time or I should come back to the office; or sometimes I am not in a good mood any more. But they understand. And I think that they help me. Absolutely. Absolutely. I am very lucky with my family. With the values of my family. They have the same values that I have. They like what I like.

MARIO BOTTA:

My professional life belongs more to me than to my family. My family is, in this regard, more for my wellbeing and provides a balance in my life. My work occupies something like 80 to 90% of my life.

It is natural that my fanily encourage me in my work. I was still studying architecture when I got married and I have built the practice up while having a family. Because of this, the work that I do and the amount of time it takes, was a natural progression for my wife and family. So it was accepted and agreed upon.

NICHOLAS GRIMSHAW:

I sometimes feel that the family have the rough end of the deal. Because you come home kind of tired, and your complaints about projects and clients and so on are taken out on the family. But nevertheless, they have always played a great role in my life as an architect. The girls always come to look. When we did an ice rink they were the first onto the ice – when we did a leisure centre they were the first down the waterslide and so on. I mean they have certainly grown up very interested in architecture but I think, on the whole, it's probably put them off. They see it as an enormously demanding, and challenging and stressful kind of way of life.

MC   Does their part in your professional life provide you with some comfort? That is in terms of being able to go home and complain about projects etc.

NG   Oh well – yeah! I take it as being axiomatic. That having a firm base and a house that you like which is constant and a family, which is constant – is one of the absolute fundamentals of being creative in my mind. Otherwise your energy gets diverted. I mean I am sure that the exact reverse could be said to be true – that you are in absolute turmoil and hysteria you can throw out amazingly brilliant things – I don't know! [laughs]

RICHARD MEIER ON EXTERNAL "SUPPORT":

I don't solicit outside opinion. Everything gets done in house.

IAN MOORE:

I have always been an incredibly independent person. But despite this the support of Catherine [partner] is very important.

GLENN MURCUTT

Family are part of your life and therefore your process. They are not a distraction.

JOHN PAWSON

JP: My families support does help but at the same time is very frustrating because they do not understand my need for perfection. My son asked last night: 'Why does it always have to be perfect?'. He said: 'You know, you don't always have to join the dots.' [rueful laughter]. He asked: 'Other peoples houses aren't perfect. Why does ours have to be?'. And I said: 'Well, because that is how I want it'. And my wife is the same – she will accept something if it is

reasonable. So you've constantly got somebody saying to you, 'why…..does it have to be perfect?', 'why does it?'.

MC: Does this provide you with critical back up?

JP: Well……definitely. And there are lots of those people. And there needs to be a balance because it can drag you down as well. It can be tiring to always have to explain.

MC: Do your family encourage you to strive for that creative excellence that you've been achieving.

JP: No. I think that they'd rather that I didn't.

RIC LE PLASTRIER:

My partner influences me. She is an incredibly intelligent critic.

PETER WILSON:

PW   I can only cope because of Julia [wife and partner]. I mean she is the strength behind us. We are a partnership and it simply wouldn't work without the two of us.

MC   Do you work together in terms of a full collaboration? You have said that you are quite 'dictatorial' in the office. When you are working together do you each take on certain roles?

PW   Well, I have more time for actual drawings. So, that usually happens on my court and she's a very strict critic. LAUGHS. She is the only one in the office who is allowed to criticise.

MC   And her critique and her encouragement is important to your process? Do you think it grounds the intuitive aspects of your designing?

PW   Well I think originally I was a typical AA product. Where it was all inspiration and totally undisciplined. And she came from a very strict German background. She studied in Karlsruhe, which is a school of really precise detailing and everything on grids. And I think that I have learnt a lot of that discipline from her. And I think that is discipline that one needed, and one lacks at the AA. And I think that she has sort of seen the other world. That is the non-German world. So we've arrived at a sort of middle point.

PETER ZUMTHOR:

MC   Do your family encourage you in all aspects of your work? The hours, the meetings, the extended stays away from home?…

PZ   Ja. My wife, we are separated now, but she always supported me. She was never….And she still supports me now and I support her. And our children live across the street from the office. The children saw that I work a lot. They could always come and see what I do. So….

MC   Do you feel that your family are proud of the work that you do?

PZ   Yeah! They like it! They like all the work! [with a smile]

4.16B - How encouraging is your wider family and friends?

	Extremely encouraging	A little encouraging	A bit discouraging	Very discouraging
Will Alsop		4		
Juan Navarro Baldeweg	4			
Alberto Campo Baeza	4			
Mario Botta	4			
Lindsay Clare		4		
Neil Durbach	-	-	-	-
Peter Eisenman	-	-	-	-
Nicholas Grimshaw	4			
Juan Herreros		4		
Daniel Liebeskind		4		
Thom Mayne		4		
Richard Meier	-	-	-	-
Ian Moore	4			
Eric Owen Moss	-	-	-	-
Glenn Murcutt	4			
John Pawson		4		
Ric le Plastrier	4			
Bernard Tschumi	4			
Peter Tonkin		4		
Alec Tzannes		4		
Peter Wilson		4		
Peter Zumthor	4			

Supporting Quotes:

NICHOLAS GRIMSHAW

I think that it is terrifically important to have a broad circle of friends. I think that it is enormously interesting and a great relief to talk about some other creative subjects apart from architecture. And also to relate architecture to other creative processes.

DANIEL LIEBESKIND

Architecture is not the most social act because when you are involved in it, or when I am involved in it, one is not able to be the same to the family, to please people with what you are doing.

I think that having a family that one loves is certainly helpful – but its not always working in this way. Sometimes, the bulk of the project is on weekends and this counters the normality of family life.

I sometimes call my friends to find out if the idea is just too insane! [Laughs] You know to check whether it can really be considered. But what impresses them more is that I actually have the time to pick up the phone! [Laughs]

GLENN MURCUTT ON HIS FATHERS INFLUENCE:

My father taught my siblings and I to be tenacious – a tenacity of purpose. He also taught initiative.

IAN MOORE ON THE PRACTICE'S CONTEMPORARIES:

Their opinion does not matter at the outset of the process. However, I like to think that there are people looking at our work, thinking about it, and responding to it. As I do with other peoples work.

JOHN PAWSON ON FAMILY:

My parents are no longer living. My father obviously wanted me to be successful as he was a very successful business man himself. Being an intelligent person, I think he understood that I wasn't necessarily going to be successful in his company – which I wasn't.

However, I don't think this helped me creatively.

From my mother and father, I got the qualities that are now showing. My father, was somebody who insisted on the best - from himself and also what he could purchase. For example – if it was a dog, it had to be an Irish Wolfhound, because that was the biggest and the most, aristocratic dog he could have. He sent me to Eton, and we had a Rolls Royce. It was all that sort of thing.

For my mother - they were both Methodists - Eton was far too showy for her. She was not an exhibitionist. She was modest, threadbare, -you know, clothes that weren't too new. She wanted me to be a missionary, not to be a businessman. The fact that I went to Japan to be a zen Buddhist – that was opposite to what she was thinking. I mean to her that was sort of pointless because it was like Eton again. You know, it was the Rolls Royce of missionary practice.

But it's interesting because I think that a lot of people that are driven are insecure or if they have an inferiority complex, they often lack confidence. They are sort of driven to replace these with whatever they are doing. It is a ridiculous thing, but people who are left money, or titles, or estates and who do independently well always impress me. Because I always think of those sorts of things as a handicap. I had all known advantages as a child, and yet still have this drive. I'm not sure where it comes from.

RIC LE PLASTRIER:

When you have a family all the spokes of the wheel are in. It takes the angst out of things.

PETER WILSON:

There are very few people that I talk to about what my really private thoughts about architecture are. We have non-architect friends who are really interested to hear about architecture. I think there are other disciplines that think it is quite exotic. I mean I have a friend who is a psychoanalyst who is really jealous of us because he is always dealing with unbalanced people that could collapse at any minute. And we're doing great permanent jobs.

I think it is because of this international architectural world that we come from; where one spreads out all over the world. When ones closest friends are all over the place which is why….Our clients in Japan, Akira Suzuki is probably one of my best friends. I only see him once every two years.

Architecture is a funny thing. It's like a religion. I think our work life takes up too much time and doesn't leave one that much time for a circle of friends. It's a sacrifice.

PART FIVE: Conclusions

5.0   Introduction

Conclusions can be drawn from analysing the results collected from the interviews in line with the hypothetical proposal.

5.1   Analysis of Results

Question One: Was there a better Concept?

Results:

No	80%
Yes	15%
Maybe	5%

The majority of responses to this question was no. This indicated that there was either a reluctance to admit that a better idea was ignored or, more probably, the individual architects truly believed at the time that they were at the best conceptual starting point for the project.

Question Two and Three: Day and Date

The questions relating to the day of the week and the actual date when the concept was realised bore little impact on the study. This may be attributed to the interviews being conducted on the basis of retrospective recall. All candidates reacted to these questions with boredom.

Question Four: Time of Day

During the day	69%
In the evening/night	31%

The question related to the time of the day that the architects recognised their conceptual idea, was met with more enthusiasm. Most architects, who were interviewed, claimed it bore very little impact on their decision making in the pre-conceptual stage. However, most were also able to identify a pattern that revelations pertaining to concept recognition happened habitually in the day or the night. This was often extended to identify a particular environment where the designers were more likely to realise valuable conceptual thoughts.

Question Five: Physical Location

The whereabouts of the designers at the time that their conceptual ideas were recognised were, not surprisingly, divided into two categories. These were:

A relaxed [non work related] environment   1

A work environment   15

However, more surprising was that the responses could be further tailored into a finite group of place specific locations. These were:

Studio: with other people   2

        Alone   1

On site: with other people   4

        Alone   1

At home: 7   [47%]

Again, most were able to recognise a pattern in their whereabouts when the conceptual design ideas occurred to them.

Question Six: Physical Location

Where each of the designers were when they realised the conceptual ideas, fell into four distinct groups these are:

Relaxing: 1

Drawing/sketching/doodling: 8   [50%]

Talking or thinking about the design problem: 3

Visiting the site: 4

These results was interesting as it showed that half of the architects that were interviewed were drawing, sketching or doodling at the time of concept realisation. This supports the idea of drawing as a type of visual shorthand that edits subconscious thoughts. Many spoke of an individual language of 'dots' and dashes' on the paper acting as prompts for ideas.

The other responses indicated a leaning towards being actively involved in the problem [either talking or thinking about it, or being on the site] at the precise moment of concept realisation. Most candidates admitted to immersing themselves in the problem, then mentally leaving it and coming back to it, for the realisation of the idea. Only one architect was completely divorced from the problem and not consciously thinking about it when the idea was realised.

Question Seven: Physical feelings

The responses to the question on how each candidate was feeling at the precise time of concept realisation, were not surprising. The results are below.

Fighting Fit	10
A bet energetic	2
A little tired	3 + 3 x relaxed
Worn out	-

The majority response was a feeling of 'fighting fit'. This is specifically related to the hormonal response that comes with 'discovering' the idea.

Surprisingly, nobody responded to being 'worn out' at the precise time of concept realisation. This response had been anticipated due to the methods of immersion into the problem and exhaustive research that the majority of architects undertook to get to the stage of concept realisation.

There was however a response that did not fit the criteria. A proportion of the respondents felt relaxed at the precise time the concept was realised. When questioned about this, it was due to the environments they were in and the relief of 'discovering' the right idea.

Question Eight: Level of 'Alertness'

The majority of those interviewed described an overwhelming excitement when they realised that they had solved the problem. The results on levels of alertness are listed below.

Very excited:	15
A bit alert:	5
A little lethargic:	1
Very tired:	-

Interestingly all respondents felt a little more alert than they felt fit.

Question Nine: Mood

The results here were surprising. Even though the majority of those interviewed were 'very excited' this did not necessary correspond to them being 'very happy' at the precise moment that the concept was realised. The majority responded to being 'reasonably happy'. This may be attributed to the uncertainty of what lie ahead for the idea. The results are listed below.

Very happy   7

Reasonably Happy   11

A little unhappy   1

Very unhappy.   1

The single response of 'very unhappy' was a result of context, the architect [Peter Zumthor] was bored with the briefing meeting he was in. This was identified by him as an emotional pattern that triggered design responses.

Question Ten: Confidence

The overwhelming response was that the architects, at the precise time that they realised the idea, were very confident in their ability to produce a design. This response correlates directly with the excitement of the moment.

The results are:

Very Confident   14

Reasonably sure   4

A little worried   1

Panicking   1

Question Eleven: Confidence around the time of Concept realisation

Most architects were generally confident of their ability. The results [below] were a reflection of the previous question.

Very confident that you're your designing ability was improving   13

Confident that you could keep up your own general standard of design   7

A bit worried that you might be falling behind your own general standard   1

Very worried that you were likely to fall well below your general standard   1

Question Twelve: Confidence in other professional activities

Most respondents took the middle ground for this response. This was somewhat surprising given that most were readily able to feel confidence in their design abilities. General acceptance allows us to understand that excellence in design is central to the success of an architect. The fact, that few were able to admit clear confidence in the activities pertaining to their professional life is telling. The results are listed below.

Very confident that you're your designing ability was improving	5
Confident that you could keep up your own general standard of design	16
A bit worried that you might be falling behind your own general standard	1
Very worried that you were likely to fall well below your general standard-	

Question Thirteen: Suitability to being an architect

The results indicated that the clear majority of those interviewed felt that they were suited to being architects. The results are:

Ideally suited	16
Reasonably suited	5
A bit unsuited	1
Quite unsuited	-

Interestingly, many responded by saying that they could not imagine doing anything else. A large proportion of those interviewed also acknowledged that they grew up wanting to be architects.

The second part of this question, which asked the relevance of the work they actually did to being an architect and designing buildings, the response was very clear. This question was met with more certainty than any of the others. Results:

Very relevant	20
Reasonably Relevant	2
A bit irrelevant	-
Mostly irrelevant	-

Question Fourteen: Work Issues

The question related to work conditions was mostly met with satisfaction. The result of this indicates the need to have a working environment that has satisfactory and comfortable conditions for the individual architects to function creatively. The results were:

Very satisfied	13
Reasonably satisfied	6
A bit dissatisfied	2
Very dissatisfied	1

The question about the demands an office environment placed on the design process had a mixed response. The majority of those interviewed claimed 'negligible interference'. This, however, conflicts

with the results that indicate that in the majority of cases, concept realisation occurred outside of the office environment. These results are more likely to do with the need of an office as a support to the design process.

The results were as follows:

Serious Interference	4
Moderate interference	4
Little interference	4
Negligible interference	10

Question Fifteen: Household Issues

The majority of those interviewed were completely satisfied with their living conditions and acknowledged the importance of them in their design process, especially given the amount of work that is done at home.

Results are:

Very satisfied	16
Reasonably satisfied	4
A bit dissatisfied	-
Very dissatisfied	-

Question Sixteen: Family Issues

Most acknowledged the role that their families played in encouraging their design abilities. The results were:

Very encouraging	15
A little encouraging	2
A bit discouraging	2
Very discouraging	-

When there was not a definitive statement acknowledging familial support this was always qualified by the architect explaining that it was because they preferred not to involve their family directly in their work. They did, however, acknowledge the comfort of their families as being important.

The same question about the architects wider family and friends met similar results and was qualified by the level of interactivity the architect allowed this circle of people to play in their design lives. The results:

Extremely encouraging   9

A little encouraging   9

A bit discouraging   -

Very discouraging   -

5.2   The General Profile

The general profile assembled from these results is as follows.

- Most believed that that no better concept existed and that they were pursuing the 'right' idea.
- Most architects interviewed were better able to realise conceptual ideas in daylight hours
- The conceptual ideas were mostly recognised whilst the architect was occupied with the problem.
- The architect was most likely to be drawing/sketching/doodling at the precise time that the conceptual thought was realised.
- The majority of those interviewed felt physically fit, very excited and reasonably happy at the precise moment of concept realisation.
- The architect is most likely to be confident of their ability to resolve the idea and also has a general confidence in their overall ability.
- Most architects interviewed enjoy being an architect and believe that the work they do bears absolute relevance to their individual design processes.
- A comfortable and efficient studio or workplace is important.
- Support from family and friends also plays a role in encouraging creativity.

5.3   General Conclusions

The data collated in the research indicated that to achieve insightful behaviour the architect normally regresses to a place in the subconscious where all associations are possible regardless of the disorder or illogical nature of the ideas. This was wholly supported by the architects that were interviewed and was reflected in their working methods leading up to the precise time that the concept was realised.

It then followed that the subject reverted to an additional programme of subconscious thinking after the new associations had been subconsciously established at the first 'moment of insight'. Once these associations or 'links' were in place, it was thought that the architect then shifted to a mode of secondary process thinking that ordered the details of the new idea combinations before proceeding to transmit these ideas into the conscious mind at the second moment of insight. This was an involuntary and subconscious shift in thought processes and was only supported in the interviews by the architects recognising that an idea was 'percolating'. This was often felt physically by feelings of frustration.

The associated emotional sets that either preclude or allow for the idea to be realised are varied. However, the data assembled in the interviews would lead us to conclude that the conceptual thought is more likely to occur when the architect is thinking about the design problem. That is the designer has been through the rigors of primary and secondary subconscious thought and has a period of concentration that allows the idea formulated in the unconscious mind to leap into conscious thinking. The interviews conclude that the surroundings that trigger this are very often places away from the intellectual demands studio.

Also arising from the preliminary studies was the idea that personality traits were largely attributed to the onset or preclusion of being able to recognise insight. Surprisingly, personality was also attributed by many of the architects interviewed as a characteristic of success. Most of the architects that took part in the research typified a matrix that combined general intelligence, elevated social skills, excellent technical understanding and a higher acceptance of intuitive thought.

These attributes combined with the general profile assembled from the interviews lead us to a more thorough understanding of what is required to achieve personal bests.

5.4   Conclusions in Regard to the opportunity presented by the Byera Hadley Travelling Scholarship

This course of study provided me with an enriching personal opportunity to meet with a collection of the world's leading architects. It allowed for an in depth examination of the creative working methods of these designers. In addition to the data that was collected for critical analysis, this study was able to assemble a delightful catalogue of anecdotes, which captured the intellectual framework behind an international selection of creative thinkers. I offer the NSW Architects Registration Board and the Trustees administering the Scholarship my sincerest thanks.

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