

**University of Dundee**

**REF 2013**

**Hutton, Graeme**

**Output 2 (Design) (*Building complete Dec 2013*)**

**Constructed Landform – *the dialectic***

**Callison ZincHouse**

**Hutton, Graeme**

**Constructed Landform – *the dialectic*, Callison House, Angus 2012 (under construction)**

**General Description:**

**Research Output 1** 'Constructed Landform – *the shed*' centered on understanding the symbiosis between a constructed design narrative and constructed building through critically reflexive and intuitive design practice toward what Robert Venturi termed 'The difficult whole'.

**Research Output 2** 'Constructed Landform – *the dialectic*' is a later serial design which extends notions of dialectics, developed through serial practice, as informing a formal, spatial and material interplay in the creation of an appropriate new rural architecture first elicited by critical reflection on '*the shed*'.

The agricultural landscape of Angus is the setting for a purpose built home and studio of 450m<sup>2</sup> (to be) completed in autumn 2013. As with the context for 'The Shed' in Perthshire the topography is agrarian, expansive and deceptively undulous. What differentiates it however is that on close reading it is distinctly ordered and regularized, with man made interventions structuring the pattern of the landscape, the most significant of which are 'dry stane dykes', stone walls, which contrive to order and contain an extended pinwheel land-plan with the site at its centre (fig.1). The site also presents a largely southern 'front' as opposed to the predominantly east-west orientation of the earlier project.

Existing on the farm were a collection of abandoned storage sheds which characterized the site with their aggregated form, a result of expediency in expansion, creating a large plan footprint which is formally articulated by simple pitched roofs (fig. 2). Buildings of this typology have a certain inevitability of form, scale, position and material expression (locally quarried stone with metal roof) that renders them a potent presence in juxtaposition with the working landscape they support. As with Drummond, it is the manipulation of an existing typology which forms the over-riding conceptual idea for Callison House.

Externally the house presents as a composition of aggregated internal and external spaces articulated and unified by a continuous roof. Built over one-and-a-half storey's the whole is divided into four tied elements; car port, garage/studio, entrance/court, and house. Engaging with a residual quality expressed by the ruins previously occupying the site, these elements themselves might be argued as presenting a serial pairing of space and form) (fig.3).

Designed by Graeme Hutton with LJRH Chartered Architects the new building further extends a preoccupation with 'Place, Programme and Presence' as the guiding narrative in the creation of new Scottish work, but in a more prefigured and reflexive manner in relation to its supporting sub-themes of: *Dialectic*, *Landform*, *Erosion* and *Material Association*, which emerged from the earlier Drummond House. In this case the sub-themes are contextually inflected to articulate place-specificity and reflect the more intimate needs of the clients.

### **Research Questions:**

- (1)** How to develop a new and appropriate *serial language* for domestic buildings in an agricultural context.
- (2)** How to utilise serial design principles, notably the dialectic, as conceptual and critical tools in the production of a recognisable collective body of work and which, as individual pieces, address unique physical, economic and socio-cultural contexts.
- (3)** How to extend local rural building traditions and techniques to make a new and appropriate architecture acknowledging of heritage in the widest sense.

### **Aims/Objectives:**

- (1)** The primary aim of this practice based research remains to create of a new work which reconciles what Robert Venturi expressed in 'Complexity and Contradiction in Architecture' as 'The Difficult Whole', whereby all the contributing dimensions of a design; plan, section, structure, material expression and so on, appear seamlessly resolved.
- (2)** To further understand and articulate the principles of serial practice. 'The Callison House' is one of four recent design enquiries which attempt this unity by using buildings and designs in rural settings to help formulate a consistent and coherent set of governing and 'serial' principles and generate new knowledge through reflexive practice and critique (fig.4).

The work of Graeme Hutton with LJRH is strongly motivated by a strong interest in cosmopolitanism, type and the serial refinement of type across many disciplines.

The idea of serial designs might seem at first at odds with much of today's architecture, which makes virtue of inventiveness and originality over continuity and perfection of 'type'.

Mies, the foremost serialist, claimed not to '...invent a new architecture every Monday morning' and this is now is countermanded by such comparable reductivists as Olgiatti et. al. who aspire to continual inventiveness.

The desire to be continually original does, in itself, represent a kind of serial action, or at least a serial measure of creative success or failure, and it is as interesting to speculate what governs the current preference for the singular and unique as it is to understand what motivates the more obviously 'serial' work.

The latter can be divided broadly into two camps; one where the work is a series of individually recognized pieces – Rembrandt's 90 self-portraits for example - and a second, where the singular works together constitute a recognized whole – Sugimoto's 'Seascapes' for example. Whilst Sugimoto is clearly striving for a unified perception of the individual works into a singular 'whole', Rembrandt's motivations are less clear. Scholars have speculated that his repeated

representations of the self were a kind of personal inquisition whilst others note that the idea of 'self-discovery' is too romantic a notion for the era and that Rembrandt was simply giving his patrons what they wanted for a sure and regular income. What is probable is a position oscillating between income and introspection, but that demand and production led by default to a more enquiring portraiture, not least one suspects, to keep it interesting.

What constitutes 'seriality' in architectural practice is equally complex as it embraces both *actions* and their *outcomes* as designs and buildings. It is also not a singular pursuit as, even for the sole practitioner, the ideas of clients enter in and must be mediated in line with a desired serial creative direction and coherent narrative. Serial architectural practice also, by its very nature, infers a temporal dimension, inviting a course of flux and mutability to shape and reshape conceptions. It is by recognizing this meta-pattern of action-reflection-reaction that the individual designs give way to more deeply set and continuous themes in my practice work and in this way the serial nature of practice in architecture refers both to Rembrandt and Sugimoto in striving for a unity of parts.

**(3)** To adapt a local construction and material vocabulary to present a contemporary expression of new rural dwellings that is cosmopolitan in its understanding and reach.

The building avoids easy reliance on the familiar and expected material expression of rural constructions. It acknowledges its place as an opulent dwelling and seeks to reconcile the dialectic inherent in the typology of the 'domestic shed' through careful experiment with materials and refined detail.

### **Context:**

Graeme Hutton is an award winning and principled designer of innovative domestic buildings for sensitive rural environments. He has been developing an architectural language and method aligned with what Kenneth Frampton termed 'critical regionalism' for over ten years. Firstly through critique; 'Concepts and Material Associations in the work of Gigon Guyer' (arq Vol4 no1 2001) first outlined a theoretical framework for contextually specific architecture as a critical tool to evaluate the (then emerging practice) work of Gigon Guyer, and subsequently through practice-based research.

His Drummond House – 'the shed' (2009) has been recognised by RIBA and other awards and published internationally. Scotland is developing an international profile for distinctive and principled rural architecture through the work of Hutton, Dualchas, Rural Design, Oliver Chapman and others who situate themselves within a revisionist ethos acknowledging 'critical regionalism'. In keeping with this ethos, this research has contributed to an advancement of thought and sharpening and refinement of design practice locally and internationally. The research also suggests a new language and patterns of dwelling as demanded by the Scottish Government's Architecture Policy Unit through Architecture and Design Scotland. Further commissions to the value of £3M for eight residences, in similarly sensitive sites across Scotland, have resulted in a more rigorous design method and adherence to governing principles. The dwellings display a growing sophistication and maturing vocabulary through serial development.

## **Research Methods:**

The research methodology constitutes a form of 'model practice' which, by way of buildings, designs and texts, clearly articulates new ideas about rural landscapes and how design may transcribe critical landscape observations to inform contemporary architectural thought and practice. Within the '*Place, Programme & Presence*' conceptual framework projects are developed in a serial manner. Serial architectural practice infers a temporal dimension, and it is by recognizing this meta-pattern of action-reflection-reaction that individual designs give way to more continuous themes in this practice based research. The author has evolved a working method that resists the ubiquitous 'conceptual sketch' or any form of hand drawing during the initial stage of the design process as it tends toward promoting organisation and function as the defining conceptual narrative. Projects are intensively 'thought through' using a critical approach to place and programme as an intellectual framework to stimulate and constrain thought, and promote dialogue with the client. The aim is to consider the building in all its dimensions simultaneously, and loosely determine its spatial characteristics, its formal and material expression, and, importantly, its 'presence' as a container for the buildings programme. A simple proprietary computer drawing package then allows development, manipulation and communication of these ideas simultaneously in plan, section, elevation and, to a degree, in detail. This requirement for simultaneity is a determining characteristic of what we term 'active reflection' in practice. Not only as a methodology for progressing Individual designs, but also as a method for corroborating and reconciling the range of issues addressed when designing numerous and varied projects in parallel. For the author, this broad range of projects is a welcome and necessary pressure in the pursuit of a meaningful architectural language.

Since completing the Drummond House –*the shed* in 2009 it and further commissions have further determined and refined a reflexive design methodology which is more rigorously hierarchical in approach to the application of the sub-themes; *Dialectic, Landform, Erosion and Material Association*. In addition, invitations to reflect, by lecture and written critique (Architecture & 'Seriality', '*Continuity & Inventiveness*'. Edinburgh University Press, Vol. 3 Spring 2011, pp. 28-31.), have been productive in advancing thought and revealing '*Dialectics*' as a primary contributor to the spatial, formal and material vocabulary of a new rural architecture.

## **Utilising Dialectics in Architectural Design**

Architecture and architectural design processes are often described in terms of reconciled dualities; science *and* art, form *and* function, facts *and* feelings, tradition *and* modernity, path *and* place, structure *and* construction and so on. Used intelligently these dualities can be skilfully manipulated and synthesised to create architectural works that are not simply new buildings, but may be thought of as genuinely 'new knowledge'. This practice based research examines the dialectic in architecture as both a conceptual driver and critical tool in both the buildings conception *and* reception.

## **The Modern Dialectic**

The Dialectic interpretations assumed for the purposes of this work are twofold. Firstly, it is argued, Chalybaus's original reading of Hegel as '**Thesis - Antitheses - Synthesis**' (Historical development of speculative philosophy, from Kant to Hegel, Chalybaus, 1854) is a generic logic system within which an architect consistently works *from project to project* – It supersedes a

*body of work*. It is the original Hegelian tripartite articulations of this system, framed as '**Abstract- Negative- Concrete**' and, on occasion, '**Immediate- Mediated- Concrete**' (*The Phenomenology of Mind*, Hegel, 1807) which shape and form the *individual* designs (Drummond House- The Shed and Callison House are primary examples) within a recognisable body of work. 'Mediation' and 'Negation' is key here as a shift from 'Antithesis' for *individual* works.

#### **Background - The Emergence of Dialectics in Modern Architecture**

If we accept the broad distinctions set out above we can move to examine the two scales at which the dialectic in modern architecture become manifest, firstly the broad paradigm shifts asserted by major socio cultural and economic change, such as the industrial revolution, and secondly, the more intimate divergences within such paradigm shifts, such as those between various vanguard practitioners.

Regardless of the scale of dialectic examined, it is important to be precise in definition of the end-point, the 'synthesis', as a resolved communion of both thesis and antithesis and, for this reason, 'hybrid' designs do not automatically qualify for inclusion, as their final result often remains simply a fusion of two unresolved positions or arguments. (An example of this might be the Eiffel Tower whose architecture and engineering co-exist without unity as the 'architectural' concerns for symmetry of form and symbolism overrides the 'engineering' concerns of structural efficiency and economy of means, thus determining four columns rather than the structurally rational and economic three).

A clearer example of a more genuine product of the dialectic is found in Peter Behrens 1909 AEG Turbine Factory (fig.5) whereby the then traditionally architectural concerns of form, proportion and material expression are transcribed to a largely engineering led programme. The result was a new architectural paradigm whereby space, structure, form and material expression achieve unity. Within this paradigm many emerging architects initially struggled to determine a forward direction beyond the hybrid model, a model to which Behrens himself retreated in later works. It is the early work of Behrens, Hugo Haring (Gutgarkau 1926) (fig.6) and others which forms the foundation of the 'Domestic-Shed' type as an architectural response to the rural landscape of Scotland.

#### **The Dialectic of the Domestic-Shed**

In the design of Callison House *The Dialectic* is primary in that it governs all types of designerly interplay and in itself embeds serial continuity from one design to the next. The to-and-fro in the discourse of all arrangements drives towards what Venturi termed the 'difficult whole'.<sup>1</sup> The process of dialectics deliberately introduces seemingly irreconcilable dualities within the designs. Tradition and modernity in the Drummond House (fig. 7) for example are in constant tension. These deliberate dialectical tensions heighten the 'presence' of the building as a clearly imposed form that is disengaged from notions of sentimental vernacular or domestic aesthetic.

The Callison House (fig. 8) extends this dialectical interplay as a conceptual device in its spatial, formal and material vocabulary.

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### **Spatial Dialectics**

The location and southern orientation of Callison House shifts the centre of gravity in the plan in relation to the earlier Drummond House, which located key space, family/kitchen & formal living, to either end of the plan adjacent an eroded 'external room'. Callison centralises this family activity around a south facing poche and more rotational kitchen space which engages the formal living volume to the south east and family 'snug' to the south west (fig.9)

A juxtaposition of spatial types, broadly identified as either 'raumplan' or 'plan-libre' define the spatial language of the Callison house. The horizontally articulated open-plan ground floor is volumetrically connected to a series of consciously articulated and figured rooms on the first producing a lexicon of spatial types which collectively constitute the 'concrete' (Hegel) experience of the interior (fig.10). A tension is introduced at key points where these connect; the living room/gallery where a diagonal solid/void relationship engages Rowe's idea of 'phenomenal transparency' as an architectural device to notionally bound and provide a virtual threshold within an otherwise 'open' plan (fig.11)

### **Formal & Material Dialectics**

In reconciling the material expression of the 'domestic shed' it is important to recognize the transcription of material practice traditionally between what constituted working 'farm buildings' vs domestic 'farm/country houses', the latter being informed largely by a more urbane sensibility in the application of a single material – dressed stone as opposed to coursed rubble for example – within, commonly, a villa typology.

Tension in the Callison House between these types, a rural barn *and* dwelling, is one which at once promotes and yet denies regional identity in the true sense of the vernacular. In the tradition of imported 'urban' luxury transcribed to the countryside Callison is a relatively opulent dwelling, yet it is one which seeks to engage with the modesty of the barn typology which it replaces on the site. The use of 'dressed' stone would be as anomalous as the use of 'coursed rubble' in the search for the 'concrete' (Hegel).

Experiments to determine an appropriate and new 'concrete' expression for the 'domestic shed' in this particular context, centre on a scientific, technical and aesthetic understanding of the possibility of using locally quarried stone.

The stone comes from Pitairlie Quarry near Monikie - which is not one of the former, well known, major quarries of Angus. It is very much an enlarged borrow pit. It is typical fine grained, muddy sandstone/coarse grained siltstone of Lower Devonian age and characteristically very 'flaggy', i.e. splits easily into flagstones. This material is therefore much more suitable for paving or for walls - i.e. field walls - than for use as dimension stone as it is very heterolithic and often weathers very quickly. Every bed is likely to be different in terms of grain size (some will be very 'shale', and therefore completely unsuitable for building with) and degree of fissility. There will also be colour variations.

A unique green colouration is also evident due principally to the mineral chlorite and also to other clay minerals derived as weathering products of lithic fragments in the sandstone. This coloration and associated horizontal stratification lends distinctiveness to the extensive field walls and coursed rubble barn enclosures which existed on the site and from which several tonnes of stone have been reclaimed for reuse in Callison.

To amplify the expression of the materials characteristics and overcome its technical limitations the solution of casting was established, whereby the most fissile stone was crushed and recast in long horizontal lintol forms. Within this uniform cast slight variations are introduced which makes reference to the prints and weaves of the artist Anni Albers (fig.12) whose work controls order and discrepancy in much the way of the expression coursed rubble common to this part of Angus.

The resultant wall then oscillates between dressed and random. To unify the form further and to introduce ambiguity at a distance, grey-green 'Beton-Grau' 'Pigmento' zinc is chosen to match the chlorite (fig.13).

Experiments to achieve the required 'engineered' sharpness of stone appropriate to the building's vocabulary however proved incompatible with the overall idea of a unified aesthetic. Where the previous Drummond House used a brick base, the repetition of the single modular unit worked in a way that simply transcribing that idea to local stone did not. The house using cast stone remained compromised by the technical limitations of the local geology – the linear lintols were ultimately more concrete than stone.

A single wrap of zinc clads the whole and the stone is used solely for boundaries not building.

### **Dissemination:**

**The building is presently under construction and will be complete for dissemination in late 2013. It has been exhibited at the peer reviewed Royal Scottish Academy from November 2013-February 2014. It continues a line of research which has been disseminated by:**

#### **1. Publication**

- Architecture + 'Seriality', 'Continuity & Inventiveness' 'The Shed' 'The Blackhouse' & 'The Longhouse' original designs and critical reflection. Edinburgh University Press, Vol 3 Spring 2011, pp. 28-31.
- Architecture 09 RIBA Buildings of the Year - Drummond House –'The Shed' - ed. Tony Chapman Merrell Publishers Ltd p110 February 2010.
- Prospect, 'Place, Programme and Presence' – Research & Practice, autumn 2006 pp. 34-35.

#### **2. Exhibition**

- **Royal Scottish Academy Callison 'ZincHouse' Model & Drawings Nov 2013 – Feb 2014**
- RIBA Awards Exhibition Building Centre London 15 June 2009 - 31 July 2009
- 184<sup>th</sup> RSA Annual Exhibition - Invited Designs and Salon lecture: 'Place, Programme & Presence' –The Shed, The LongHouse & The Blackhouse. Exhibition Catalogue May 2010
- Landworkers International Exhibition and Symposium - Invited Designs and public lecture: 'Place, Programme & Presence' –The Shed, The LongHouse. DCA Centrespace, May 2009

### **3. Online Publication & Debate**

- [http://www.architizer.com/en\\_us/projects/view/drummond-house-the-shed/19875/?sr=1](http://www.architizer.com/en_us/projects/view/drummond-house-the-shed/19875/?sr=1)
- [http://www.nytimes.com/2011/01/27/greathomesanddestinations/27location.html?\\_r=3&ref=greathomesanddestinations](http://www.nytimes.com/2011/01/27/greathomesanddestinations/27location.html?_r=3&ref=greathomesanddestinations)
- <http://www.arplus.com/6854/drummond-house/>
- <http://construction.com/community/publicphoto.aspx?plckPhotoID=2660b499-7c7a-45e4-9437-b075ece692b2&plckGalleryID=79777740-067b-48fe-b7ef-1514c1ce57a7&plckGalleryID=79777740-067b-48fe-b7ef-1514c1ce57a7>
- <http://www.bestbuildings.co.uk/housing/drummond-house/>
- <http://www.scottisharchitecture.com/article/view/Drummond+House>
- [http://www.architecturescotland.co.uk/news/1112/Field\\_of\\_dreams.html](http://www.architecturescotland.co.uk/news/1112/Field_of_dreams.html)
- <http://www.wallpaper.com/architecture/interactive-floor-plan-drummond-house-perthshire/3574>
- <http://europaconcorsi.com/people/2144643799-LJRH-Architects/projects>
- <http://www.exinteriordesign.com/perthshire-romantic-notion-drummond-house-by-graeme-hutton-architect/>

### **4. Popular Press and Online Discussion**

- New York Times 'In a Shed, Seeds of a Scottish Farmhouse' 27<sup>th</sup> January 2011
- Scotsman 'Architecture awards list shops, but obviously no carbuncles' 21<sup>st</sup> May 2009
- Press and Journal 'The Shed wins top award for its design' 21<sup>st</sup> May 2009
- Scotsman 'Q) Is this an award winning piece of architecture, or a shed? A) Both' 22<sup>nd</sup> May 2009
- The Herald 'Landmark victory: seven Scots buildings win design awards' 22<sup>nd</sup> May 2009
- Sunday Times 'Shock of the new' 24<sup>th</sup> May 2009
- Evening Telegraph 'Design Award for Dundee firm' 25<sup>th</sup> May 2009
- Sunday Times 'A shedload of class' 1<sup>st</sup> November 2009
- China Eastern Airlines 'Dynasty' in-flight magazine autumn 2009

### **5. Invited Speaker**

- 'University of Edinburgh 'Seriality' symposium May 2009
- University of Edinburgh/College of Art – 'Place, Programme & Presence' 2010 <http://architecture.eca.ac.uk/?paged=2>
- Mackintosh School of Art – 'Place, Programme & Presence' 2008

### **6. CPD Lectures**

- RTPI Conservation Lecture 'Place, Programme & Presence' 2009
- RIAS Chapter DIA Designing 'Drummond House – The Shed' 2009

### **Esteem Indicators:**

- RIBA Award 2009
- Scottish Design Awards 2009- Drummond House –‘The Shed’ Best Residence
- RIAS Chapter Awards 2009 - Drummond House –‘The Shed’ Best Residence
- RIAS Chapter Awards 2009 -Drummond House–‘The Shed’ Supreme Award, Best New Building in any category
- <http://www.scotland.gov.uk/Topics/Built-Environment/AandP/InspirationalDesigns/ProjectType/Singlehouserural/Drummond>

### **Impact:**

The impact of this research has been fourfold:

1. To inform directions for professionals architectural design relating to designing for predominantly landscape contexts
2. To inform wider society of the critical debate surrounding appropriate architectural designs for rural contexts
3. To establish benchmark reference approaches guiding planning and design judgements for sensitive rural locations
4. To transcribe *‘Landform’* ideas to a wider context

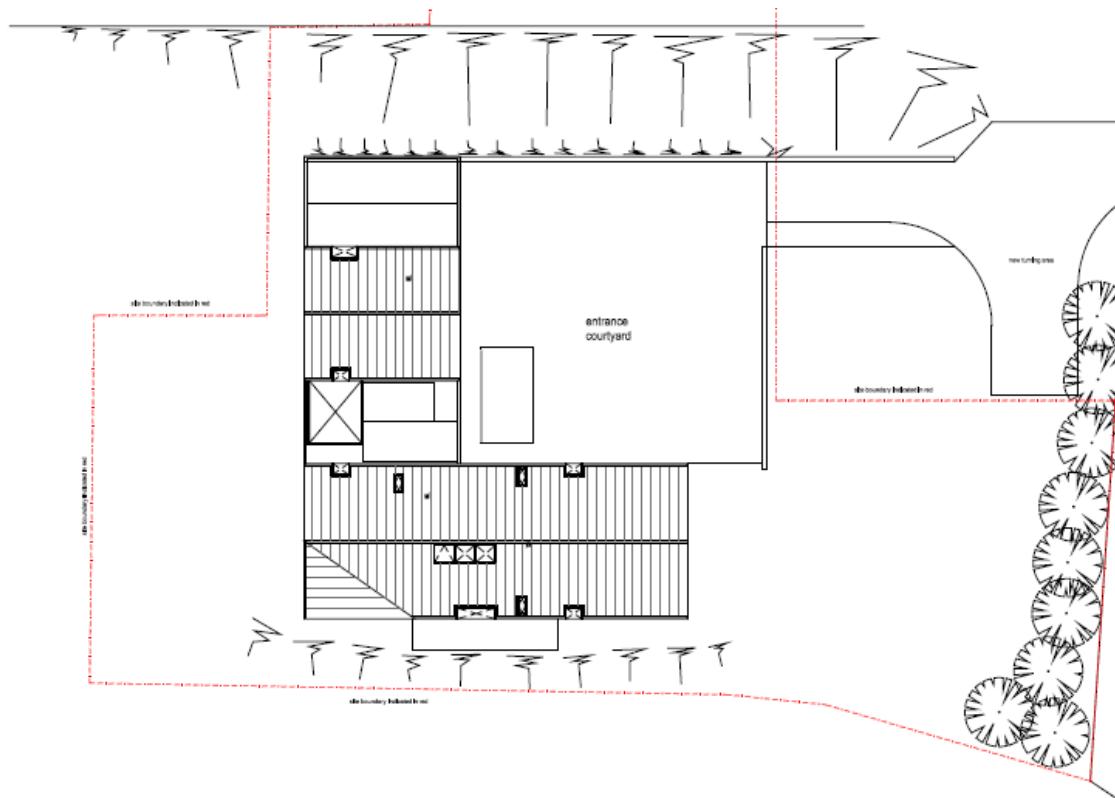
1. ‘The Shed’ has been internationally disseminated to a professional audience through; the presence of built work, traditional and web-based publication, symposia and talks, exhibition and invited CPD seminars. As a direct consequence of this exposure numerous co-professional enquiries have resulted, particularly in relation to the roof form and detail, from practices in the UK, Ireland and The USA. Evidence of *‘Landform’* sub-themes can be seen in later architectural works such as those at Scotland’s recent ‘Highland Housing Expo’ or an addition to a 181-year-old farmhouse in central Maine, a new piece by New York based Briggs Knowles Architecture + Design. The detail design of ‘The Shed’ roof/wall junction is also being employed by Platform4 in New York for a rooftop addition to a Brooklyn city block.
2. Following publication online, particularly ‘Britain’s Best New Buildings’, and in the popular press under such banner headings as *‘Q) Is this an award winning piece of architecture, or a shed? A) Both’* Scotsman 22<sup>nd</sup> May 2009 and *‘Barnstorming – Industrial Unit or Modernist Masterpiece?’* Caroline Ednie, Homes & Interiors Scotland, October 2009 pp82-89, much follow up correspondence has been generated centering on the appropriateness or otherwise of the buildings vocabulary. From this exposure a complex observation relating to type emerges. That is, critique is positive and favourable if the viewer assumes ‘The Shed’ is in fact just that – a utilitarian agricultural building. Critique from the same readers is less favourable upon discovery that ‘The Shed’ is in fact a residence. Further research in how modern architecture is perceived and understood is warranted by these observations. What this exposure also elicits is popular discussion regarding appropriate models of new rural dwelling that might challenge the suburbanization of the countryside. The research suggests a new language and patterns of dwelling as demanded by The Architecture Policy Unit through Architecture and Design Scotland. Commissions to the value of £2M for five further residences, in similarly sensitive sites

across Scotland, have resulted in a maturing vocabulary to incorporate highly energy-efficient 'Passive House' technologies.

3. 'The Shed' is cited as an exemplar regarding appropriate design responses to rural landscapes in the RIAS Information booklet 'Why Choose an Architect' (Ref. RIAS). The planning authorities of two district councils also refer potential developers to the design as an exemplar of how to approach building in the countryside. As a result of the design principles inherent in 'The Shed' a grant of £15,000 was secured from the Scottish Government to research the optimum approach for articulating and embedding 'Design Coding' for the proposed new highland town of 'Tornagrain'. This is a pilot project to test mechanisms for ensuring design quality over time in lengthy and complex development programmes for several new sustainable communities being proposed in Scotland.

4. The benefits extending from the profile of 'The Shed' and its contribution to a new awareness of landscape formed architecture include my invitation as a juror informing the selection and procurement of Kengo Kuma's '*Landform*' design for the first outreach of the V&A's internationally significant collections, to wide critical and public acclaim. The '*landform*' ethos also sits as a key constituent part of the international '*Landworkers*' network (including artists Will McLean and Arthur Watson and architect Juhani Pallasmaa) sponsored by The Geddes Institute, RIAS and Dundee Contemporary Arts. Pallasmaa visited 'The Shed' in 2009 during the 'Landworkers International Symposium' exploring landscape, culture and heritage as conceptual drivers of contemporary ideas across a range of disciplines including art, literature and architecture.

## Images

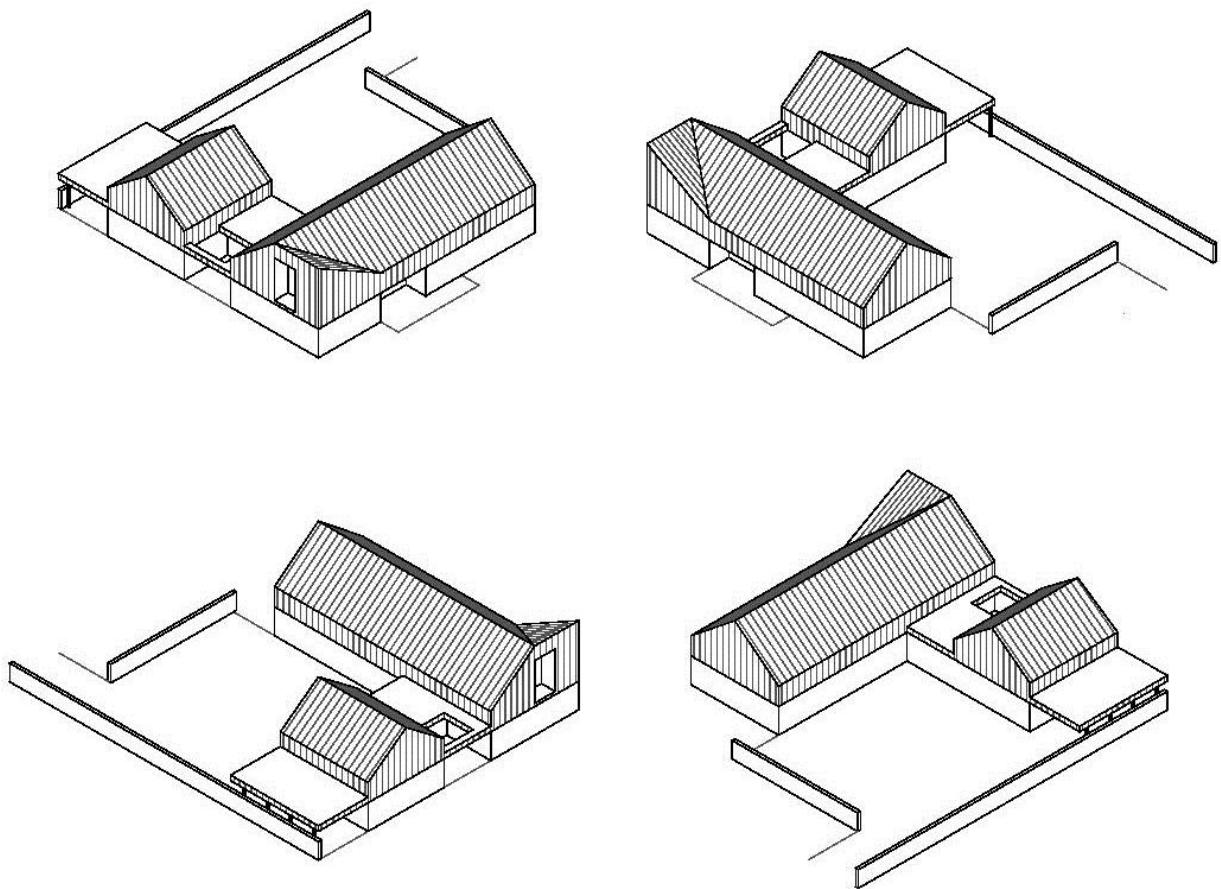


**(fig.1)** A distinctly ordered and regularized site, with man made interventions structuring the pattern of the landscape, the most significant of which are 'dry stane dykes', stone walls, which contrive to order and contain an extended pinwheel land-plan with the site at its centre. The site also presents a largely southern 'front' as opposed to the predominantly east-west orientation of the earlier Drummond House.

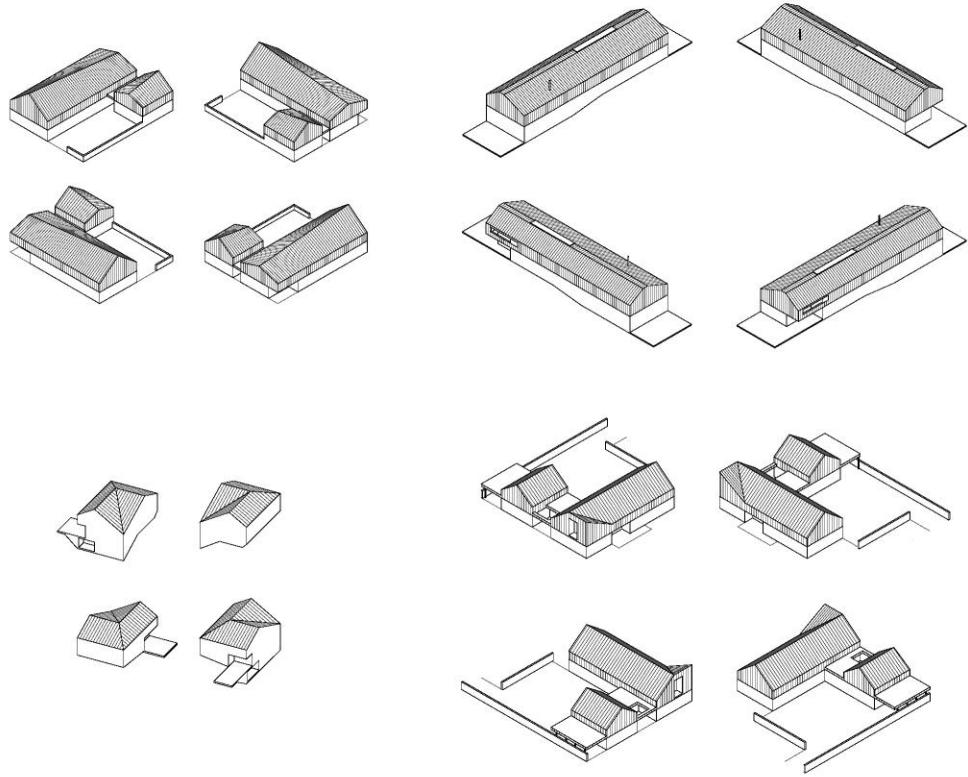




**(fig.2)** Existing on the farm were a collection of abandoned storage sheds which characterized the site with their aggregated form, a result of expediency in expansion, creating a large plan footprint which is formally articulated by simple pitched roofs.



**(fig.3)** Externally the house presents as a composition of aggregated internal and external spaces articulated and unified by a continuous roof. Built over one-and-a-half storey's the whole is divided into four tied elements; car port, garage/studio, entrance/court, and house, engaging with a residual quality expressed by the ruins previously occupying the site.



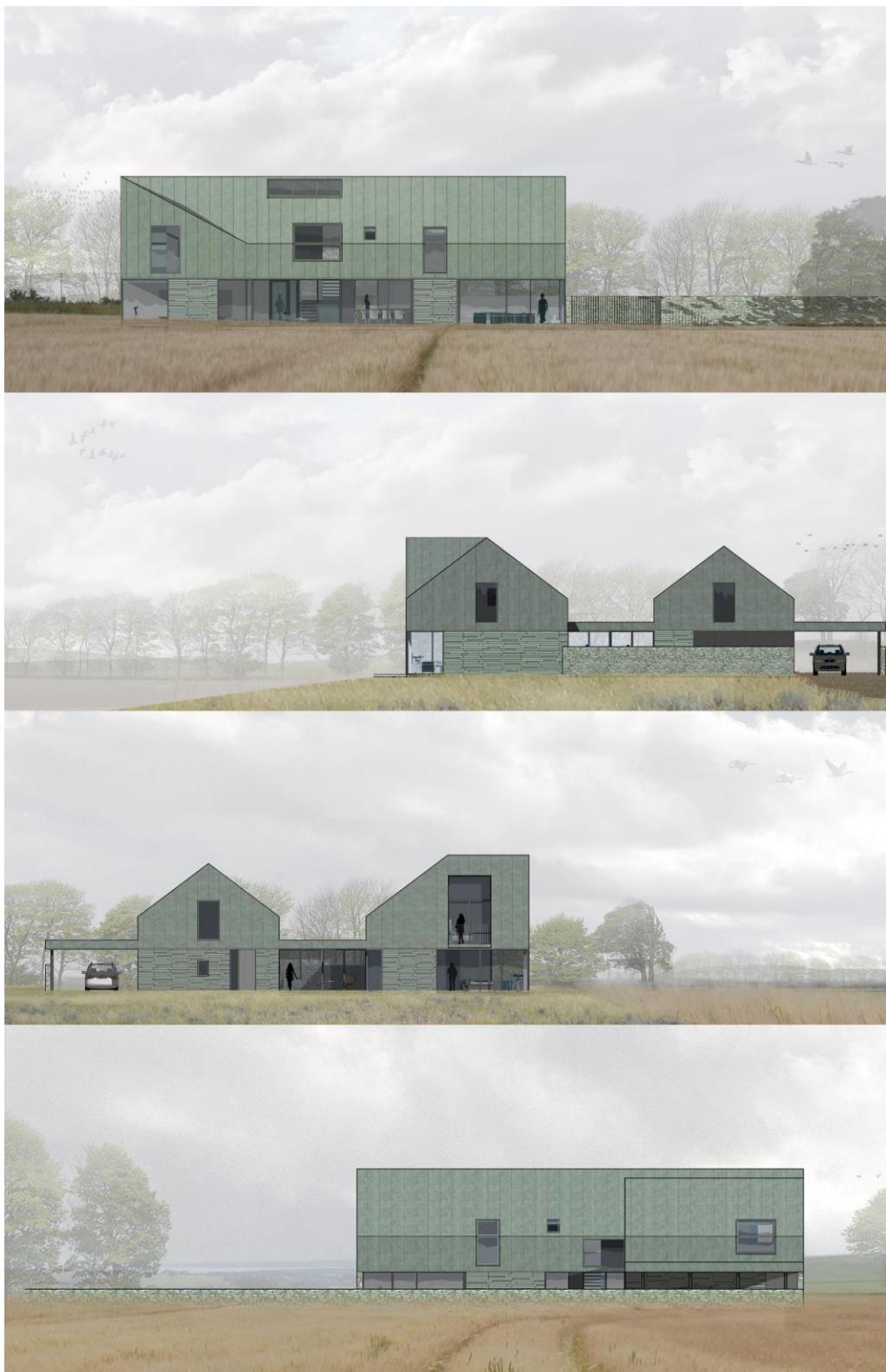
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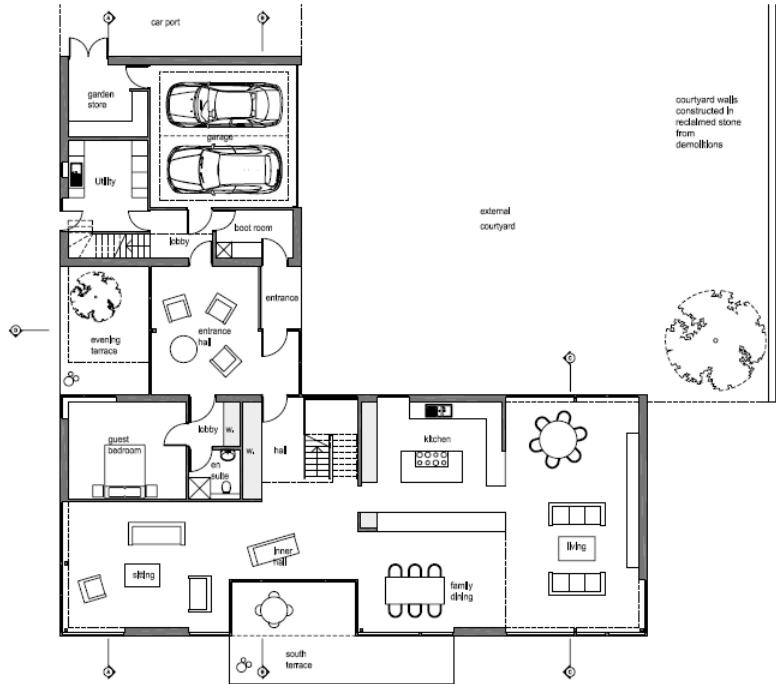
**(fig.5&6)** A clearer example of a more genuine product of the dialectic is found in Peter Behrens 1909 AEG Turbine Factory (fig.5) whereby the then traditionally architectural concerns of form, proportion and material expression are transcribed to a largely engineering led programme. The result was a new architectural paradigm whereby space, structure, form and material expression achieve unity. Within this paradigm many emerging architects initially struggled to determine a forward direction beyond the hybrid model, a model to which Behrens himself retreated in later works. It is the early work of Behrens, Hugo Haring (Gutgarkau 1926) (fig.6) and others which forms the foundation of the 'Domestic-Shed' type as an architectural response to the rural landscape of Scotland.



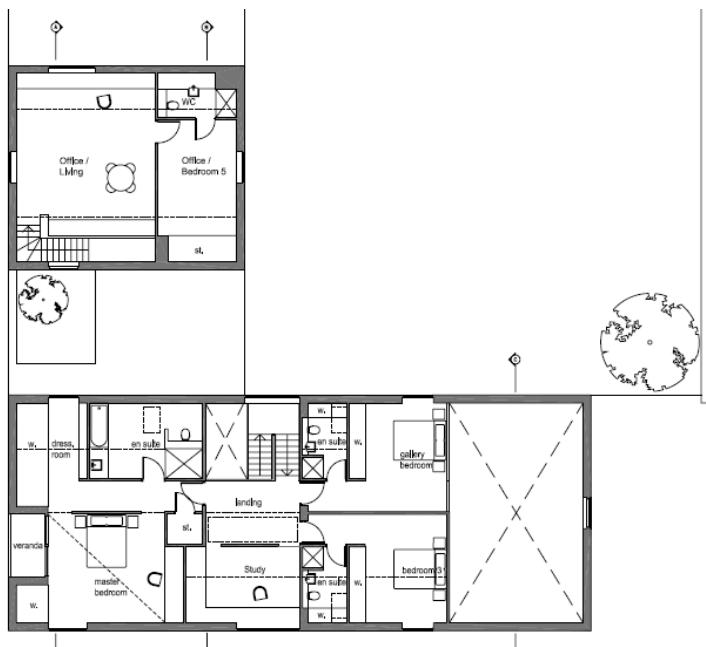
**(fig.7)** The process of dialectics deliberately introduces seemingly irreconcilable dualities within the designs. Tradition and modernity in the Drummond House for example are in constant tension. These deliberate dialectical tensions heighten the 'presence' of the building as a clearly imposed form that is disengaged from notions of sentimental vernacular or domestic aesthetic.



**(fig.8)** The Callison House extends this dialectical interplay as a conceptual device in its spatial, formal and material vocabulary.

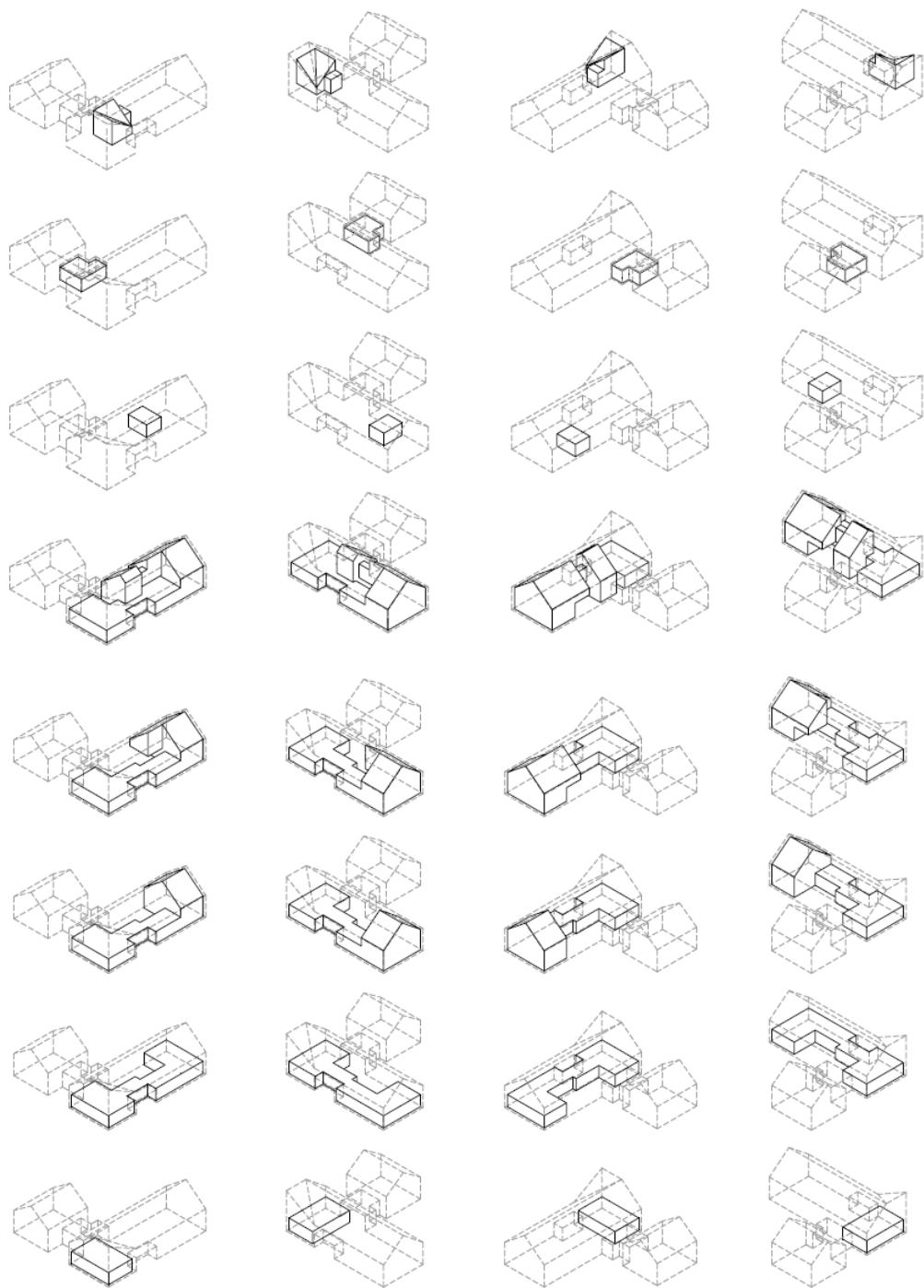


**Ground**



**First**

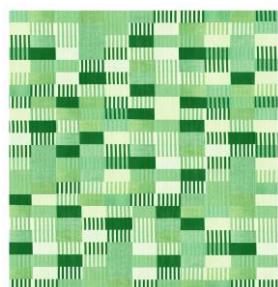
**(fig.9)** The location and southern orientation of Callison House shifts the centre of gravity in the plan in relation to the earlier Drummond House, which located key space, family/kitchen & formal living, to either end of the plan adjacent an eroded 'external room'. Callison centralises this family activity around a south facing poche and more rotational kitchen space which engages the formal living volume to the south east and family 'snug' to the south west.



**(fig.10)** A juxtaposition of spatial types, broadly identified as either 'raumplan' or 'plan-libre' define the spatial language of the Callison house. The horizontally articulated open-plan ground floor is volumetrically connected to a series of consciously articulated and figured rooms on the first producing a lexicon of spatial types which collectively constitute the 'concrete' (Hegel) experience of the interior.



**(fig.11)** A tension is introduced at key points where these connect; the living room/gallery where a diagonal solid/void relationship engages Rowe's idea of 'phenomenal transparency' as an architectural device to notionally bound and provide a virtual threshold within an otherwise 'open' plan.



**(fig.12)** To amplify the expression of the materials characteristics and overcome its technical limitations the solution of casting was established, whereby the most fissile stone was crushed and recast in long horizontal lintol forms. Within this uniform cast slight variations are introduced which makes reference to the prints and weaves of the artist Anni Albers whose work controls order and discrepancy in much the way of the expression coursed rubble common to this part of Angus.



**(fig.13)** To unify the form further and to introduce ambiguity at a distance the 'Pigmento' zinc roof is coloured to match the chlorite. (illustration will show cast stone in final REF document)

## Construction









