

**University of Dundee**

**REF 2013**

**Hutton, Graeme**

**Output 1 (Design)**

**Constructed Landform – The Shed**

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**Constructed Landform – *the shed*, Drummond House, Perthshire 2009**

### **General Description:**

**Research Output 1** 'Constructed Landform' centers on understanding the symbiosis between a constructed design narrative and constructed building through critically reflexive and intuitive design practice.

The exceptionally raw and beautiful agricultural landscape of Meigle, Perthshire is the setting for a purpose built home and studio of 500m<sup>2</sup> completed in 2009.

Designed by Graeme Hutton with LJRH Chartered Architects the new building extends a preoccupation with 'Place, Programme and Presence' as the guiding narrative in the creation of new Scottish work. Architects rarely discuss or readily acknowledge their initial visceral responses to a 'place' in the design process, yet recognising and interpreting these responses can be key in the creation of buildings which resonate with their surroundings.

In this instance the existing landscape was both immediately commanding and yet intimately subtle, and of such scale, that primacy of thought was given to the formal and material quality of the finished object which should neither 'suburbanise' nor 'modernise' the setting, rather extend and amplify its inherent qualities through the articulation of a bespoke constructed language and architectural expression termed '*landform*'.

Existing on the site were two simply formed storage barns. Buildings of this type are an accepted 'deeply known' typology and it is the manipulation of this typology which forms the key conceptual idea for Drummond House, or 'The Shed' as it is popularly known. The house presents as a composition of two 'strangely familiar' objects - a one and a half storey barn and linked garage with workshop/studio above. The form of these has been inflected by both the 'place' – the ridge of the main house climbs toward the more dominant aspect – and 'programme' – the ridge of the garage/workshop/studio climbs toward the birthplace of Mrs Drummond, who will use the space as a studio. The resulting distortion both creates a tension and can be read as a metaphor for the deceptively undulous landscape surrounding the dwelling. In recognizing the roof elements as buildings in their own right the design subtly observes a characteristic of the relationship between built form and land form common to this particular landscape terrain.

It is this surrounding landscape which prescribes an earthen palette of brick to harmonise with the tilled soil. The use of a steel frame accepts local agricultural building traditions and allows a significant cantilever at the south west corner to both emphasize the presence of the zinc roof and, with no boundary features of any kind, capture a key external space between the interior and the landscape.

Internally the ground floor is a carefully articulated open plan which allows variation in volume and a degree of segregation between functions. Floor to ceiling glazing engages the changing

landscape directly with the living spaces. This is in stark contrast to the 'attic rooms' which are by contrast deliberately introvert, private and more contained.

The house has been internationally published and recognized by design awards.

### **Research Questions:**

- (1)** How to develop a new and appropriate architectural expression for a domestic building in an agricultural context.
- (2)** How to articulate a new narrative framework of principles for serial design practice in landscape settings.
- (3)** How to extend local agricultural building technologies and techniques to make a new and appropriate architecture.

### **Aims/Objectives:**

**(1)** The primary aim of this practice based research is the creation 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)** 'The Shed' is one of three 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. The overall guiding narrative framework, first established by the construction of 'The Shed', involves interplay between considerations of 'Place, Programme and Presence'. However, within this narrative interplay five sub-themes have been further articulated (Architecture + Seriality, '*Continuity & Invention*' – In press) which recur as objective inclusions: *Dialectic, Analogy, Landform, Erosion and Material Association*. Both the narrative and resulting designs acknowledge reference to; Kenneth Frampton, Aldo Rossi's ideas of '*The architecture of analogy*', Mario Botta's argument of 'constructing the site' as well as the contemporary practices of Biq, MacCreanor Lavington, Caruso StJohn and others of the 'new intelligensia' (Fretton). The designs also refer to the 'Specific Objects' of Donald Judd and 'Progressions' works of Sol Lewitt in arguing their presence in and relationship to a particular context.

**(3)** Utilizing but extending local agricultural contractor's skill base, through a principle of 'poetic pragmatism' with regard to structure and construction, was a further fundamental objective of this work. 'The Shed's' '*landform*' parabolic roof is achieved using simple (albeit manipulated) steel frame 'barn' construction. The ridge beam height alters from high to low in communion with the landscape. Simple cut steel rafters vary in length at 1.5m centres, secondary steel purlins complete the structure and the whole is zinc clad – each joint with a 3mm tolerance to absorb the resultant twisting form. '*Erosion*' is created by using the 1.4m attic upstand as a vierendeel truss allowing a seamless 3m cantilever at the south west corner as a mediating space between the interior space and expansive landscape.

## **Context:**

Graeme Hutton is a recognised award winning and principled designer of innovative domestic buildings for sensitive rural environments. Scotland is developing an international profile for distinctive and principled rural architecture through the work of Dualchas, Rural Design, Oliver Chapman and others who situate themselves within an ethos of what Kenneth Frampton termed '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 £2M for five residences, in similarly sensitive sites across Scotland, have resulted in a maturing vocabulary to incorporate highly energy-efficient 'Passive House' technologies.

## **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 '*landform*' 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.

## **Dissemination:**

### **1. Publication**

- Architecture + 'Seriality', '*Continuity & Inventiveness*' 'The Shed' 'The Blackhouse' & 'The Longhouse' original designs and critical reflection pp. ?? Edinburgh University Press May 2011
- 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

- 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-LRH-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

## 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.

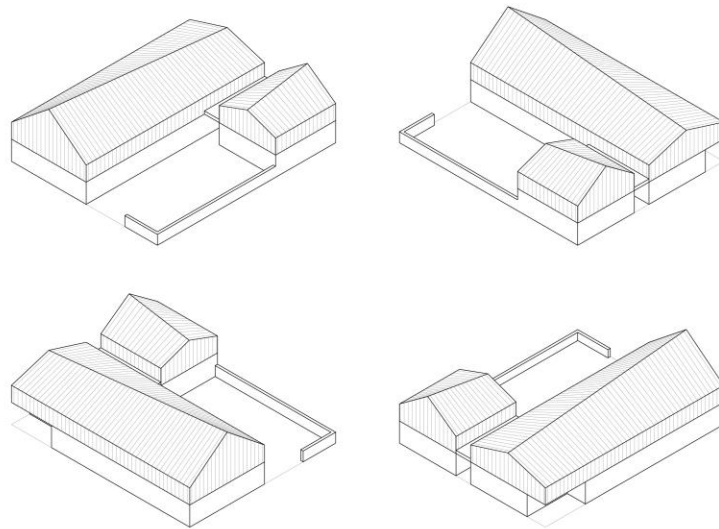


**Image 1.** 'The Shed' clearly invokes barns and other simple utilitarian structures. It presents a new formal agenda which then establishes a dialogue with a particular context.

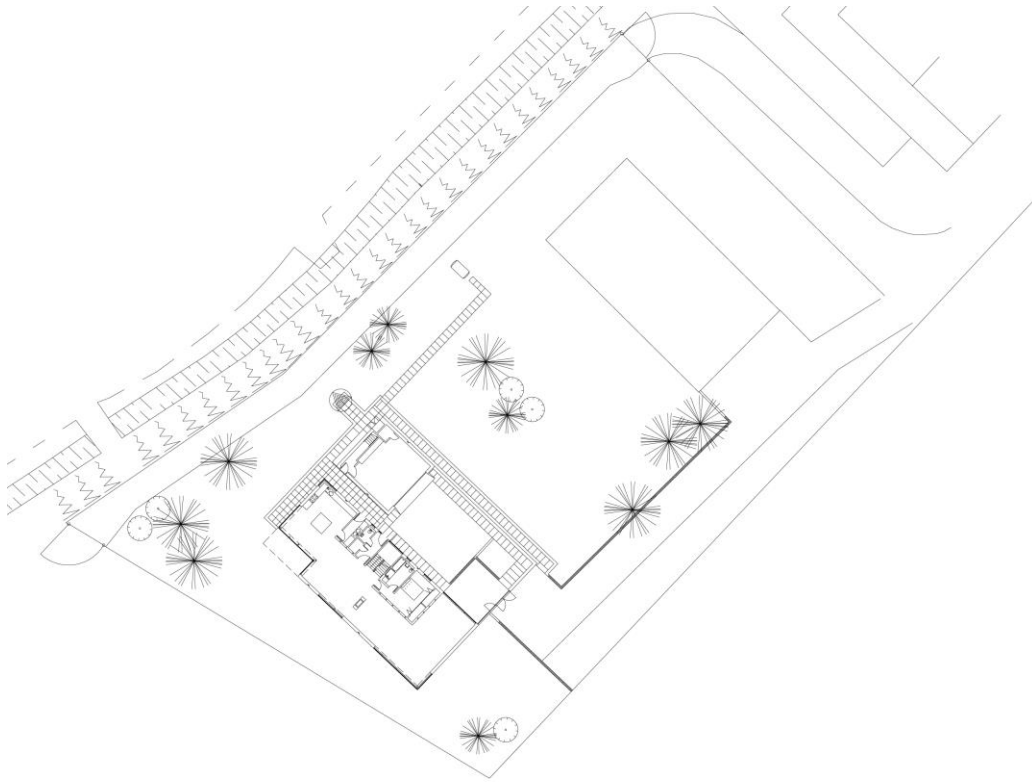




**Image 2.** This desire for formal clarity (un-aggregated form) is again part of the dialectic between nature and the highly controlled man-made. One might think similarly about the 'Specific Objects' of Judd



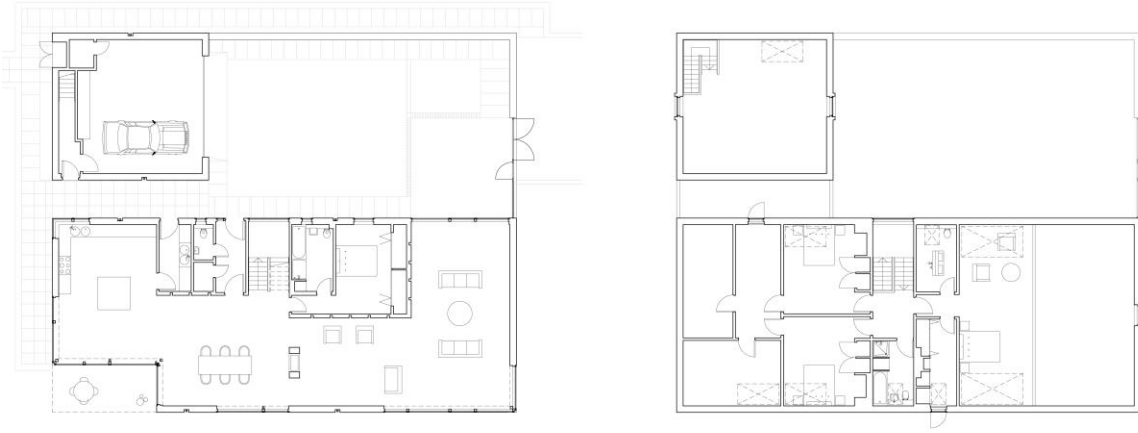
**Image 3.** The house presents as a composition of two 'strangely familiar' objects - a one and a half storey barn and linked garage with workshop/studio above



**Image 4.** Site plan illustrating adjacency and form of existing barns to the south-east as seen in image 1.



**Image 5.** In recognizing the roof elements as buildings in their own right the design subtly observes a characteristic of the relationship between built form and land form common to this particular landscape terrain.



**Image 5.** Internally the ground floor is a carefully articulated open plan which allows variation in volume and a degree of segregation between functions. Floor to ceiling glazing engages the changing landscape directly with the living spaces. This is in stark contrast to the ‘attic rooms’ which are by contrast deliberately introvert, private and more contained.



**Image 6.** *Landform* describes an action whereby the landscape context inflects the built form. In the case of ‘The Shed’ the roof forms are distorted and manipulated in communion with the topography. These playful ‘distortions’ at once remove the solutions from orthodoxy and introduce qualities of the ‘strangely familiar’ questioning the expected relationship between form and function.



**Image 7.** *The Dialectic* governs all types of interplay. The process of dialectics deliberately introduces seemingly irreconcilable dualities within the designs. Tradition and modernity in 'The Shed' for example are in constant tension. This, and other, deliberate dialectical tensions heighten the 'presence' of the building as a clearly imposed form disengaged from notions of a sentimental vernacular or inappropriate domestic aesthetic.



**Image 8.** Extending local agricultural contractor's skill base, through a principle of 'poetic pragmatism' with regard to structure and construction, was a further fundamental objective of this work. 'The Shed's' parabolic roof is achieved using simple (albeit manipulated) steel frame 'barn' construction.



**Image 9.** The 3m 'erosion' created by using the attic upstand as a vierendeel truss, combines to amplify the narrative intent through building construction.



**Image 10.** Floor to ceiling glazing engages the changing landscape directly with the living spaces