Living in the Land: An Abandonment of Old Modes of Building

Living in the Land is an appraisal of the effect landscape takes on architectural form and respectively, the effect of this union on everyday action. Perhaps something important lies in a subdued means of living and making.

Under a Conservative Government aiming to meet targets to produce 300,000 homes for a calendar year by the mid 2020s[1,2], the private building sector has received economic interest of such a scale to give them extraordinary power to develop greenbelt land. This transformation of the suburban landscape crosses into the spaces which reinforce the identities communities hold dear, too often destroying the sentiment that people feel for place with careless forms or inappropriate scale. Although this is unquantifiable balance (that of identity tied to economic and social progress) is one holding onto tradition and the past, all cultural references take time to settle and embed themselves in the general conscience, therefore worth the same weight as the physical world they exist in. There should be a much greater pressure on this private sector for this balance to be considered as a central aim, and I firmly believe that the solution lies in a return to the use of materials that are immediately local. There is a tendency for this consideration to become a veneer i.e. a flint façade on a commercially produced brick form or the use of a variety of exterior form, finishes or textures in pocket developments, but the function of these spaces is derived from the inhabitants being able to use a flexible space purposefully.

The use of materials in the immediate or local proximity of the building site alone was last prevalent in the late Anglo-Saxon and Vernacular Architecture of the 10th, 11th and 12th Century, although there are isolated examples through the Tudor period stretching through to Byre houses in farming communities in the 17th/18th Centuries and Thatched Cob houses in the 19th Century [3,4,5].
Radio-carbon dating allows for information to be gathered on the remnants of structures, and it is taken that there is a single standing example of a timber structure from the 11th Century. Although heavily restored over time, the nave of Greensted Church, Essex, shows vertically aligned split oak posts forming the walls. Examples of vertically aligned timbers can be found at Durrington Walls, Wiltshire, a late Neolithic settlement and reconstructed buildings at Butser Ancient Farm, Hampshire and The Weald and Downland Museum, West Sussex. Most examples were inhabited by farm and land workers, therefore lacking value for preservation through societal transitions. Tudor examples are often built around rough plans using cut local stone with a lime render, cob, or bayed and infilled walls with an A-frame roof, these forms required ingenious and skilled labour, but the materials could be sourced and selected by a foreman with a practiced eye. Often visible on Tudor frames, cross-sectional support beams have a gentle curve that would have been found in trees that grew laterally before shooting upwards, leaving a natural parabolic curve in the strongest part of the tree (a practice still found in historic boat restoration). The examples from this period include brick, lathe and plaster, and wattle and daub as infill, and their complex structural forms with jettied stories were in part the product of family prosperity. Diverging from the cruck frames used previously that only permitted a single story, open to the height of the ridge, these box frames permitted the use of two stories and often emulated the forms of manor houses. The idea of prosperity and success embodied in structural scale (or consumption) seems a problem that lingered in building forms throughout the ages and is still prevalent now.

The qualities of using of earth as a building material is reflected in its continued use in African vernacular architecture from the Cidade de Djénne in Mali to the traditional Basotho Huts in Lesotho with thick dense walls capable of storing and maintaining a reasonably regular temperature, even under scorching sun. The U value (the rate of transfer of heat through a material, divided by the difference in temperature across the material) of rammed earth, often measured for comparison in 300mm thickness, can measure as much as 2.0 W/m^2K depending

on the density and soil type. When compared to the current UK standard for new developments requiring walls to have a maximum U value of 0.3 W/m^2K the potential for energy transfer or waste is high, but this ignores many a variable, most notably that the wall thickness dictates the building form. The lateral and compressive strength of the material requires a greater wall thickness, and sites with 500mm wall thickness are shown achieving U values of 0.7 W/m^2K with a lime render.[6]

Alongside CO2 output from modern brick or concrete construction, amounting to 80 tonnes for a new six room house (guardian), the benefits of combinations of materials and form is also emitted in comparisons. Traditional methods readily accommodate problems with water ingress, condensation, damp and rot. As the walls comprise of a continuous material heat passes through the full width evenly, avoiding cold spots on which condensation will form. When combined with a lime render, the exterior surface sheds water without ingress whilst maintaining the linear heat transfer of the wall. When combined with a Thatch, of U values ranging from 0.07 to 0.09 W/m^2K,[7,8] the gentle temperature release maintains the health of the structure and materials (provided the exterior layer is in acceptable condition and floor level sits above standing water). There is an old Devon saying that "all cob needs is a hat and a good pair of shoes".

The lack of use of earth as a common building material is probed by Jean Dethier ('The Art of Earth Architecture), noting that the process we currently use values the same material, earth, in different terms because of changes in the processes undertaken between extraction and building. The fired brick consists of varying chemical compositions with additives to change the characteristics of the material. The process involves the transport and manufacture of a number of materials taken from large scale sites over a large radius. The adobe brick is made by compressing and air drying earth without additives or high firing temperatures, therefore can be formed on any building site from any type of soil. Both forms are capable of creating identically purposeful structures. Dethier reasons that the material is ignored as it is a fundamentally 'a-capitalist material', for its omnipresence prevents commercial exploitation and needs to lobby to enforce its use and sing its praises. Without an economic incentive to implement the building practices, there must be a drive to encourage those with an aptitude for conscientious living or craft and construction to embrace the flexibility in the methods and use, therefore tying it to changes in lifestyle and modern culture may help to change the perception of the material as a source of unbalanced architecture and rural poverty.[9]

Compared to the multi-layered structure found in the walls and roofs of modern developments, often needing retrofitting to maintain the embodied un-natural materials and protect from rising damp, the natural structure only requires maintenance using the same materials, which is both more environmentally conscious and efficient whilst remaining well within the remit of a well-informed inhabitant. The ability for independent maintenance is undervalued, but examples of English Vernacular architecture remain relatively inflexible for adaptation. Of course, the skill of the craftsman is essential to any building of quality, but is that quality only measurable in physical terms?

Skara Brae is a site on the Mainland, Orkney Isles giving one of the best examples of the living conditions of Late-Neolithic persons living in the British Isles. The site was partially uncovered in 1868, finished in 1930, and was left showing a small settlement of eight dwellings that had initially been settled in 3,200 BC for approximately 600 years. The rooms are formed from excavations, lined with large pieces of shaped limestone that formed the walls, internal layout and furniture. The rooms hold a central hearth and a stone dresser, speculatively assumed to carry more meaning than a simple storage facility as each one faces the entrance to the room. The room layouts each bare similarity regarding object placement, with guiding stones and structures in the same locations. Each dwelling, except one, is connected by then covered passage ways that would've permitted movement without venturing outside. The structures must have been given roofs made from degradation susceptible materials for no remnants are found, and the lack of native timber leads to a theory that they were constructed using driftwood or whale bone, topped with turf for insulation. [10,11]

Although this form and lifestyle are likely too primitive a way of life to reintroduce into the current cultural landscape, their quality is still evident and in cases far more developed that our current model. From wilderness, a community could provide the essential standards for life; food, shelter and heat, and act as a setting for the development of cultural markers that would've been impossible to replicate in their complexity before their conception. If an idea of community is born from the form of its architecture alongside it's other art forms, then how can we make our structures centred more on holistic process?

Despite the perception of deficiency in quality, the inhabitants of these structures made of natural materials and forms maintain a functional proximity to essential conditions for living. The general form for the architecture of Skara Brae is maintained in the form of the Hebridean Blackhouse, found some 5,000 years later, and it is this model that gives greater insight into how to connect with our reliance on the land.[11] The Blackhouse is in the form of a byre house, a structure with both the inhabitants and livestock living under the same roof. With a layout comprising of a byre at one end, and the living room at the other, perhaps with a separate bedroom, the lives of their inhabitants were communal and social although centred around almost continuous work. Much like the lives of those who lived at Skara Brae, the room is centred around a peat hearth. The structure had few if any windows and the smoke from the peat fire filled the room and filtered out through the thatch which helped to preserve the long-straw by deterring pests and wet rot. The thatch is weighted with stone and rope, dug into a recess on top of the walls, laid on top of an open A frame. The thick walls were lined on both faces with stone and filled with peat, sourced in the same process used for generating fuel, which maintained heat and prevented draughts. Also, built to a shallow profile, the exterior of the house is formed in response to the strong prevailing winds. [12]

Inside much the same thinking applies to the structure. The bedroom was often a box bed, a piece informed by the character of the house, made to isolate both space and heat from the main room. The livestock are kept in the byre for easy access to foodstuffs in bad weather and an extra heat source. Their manure was collected and used as fertiliser when better weather returned. This thinking isn't intended as purely selfish, as the value of animal's regular and reliable production was greatly respected. A strange amalgamation when compared to our current lifestyles, however the notion of creating architecture that enhances everyday life appears to be a forgotten concept.

An idea that we can consume ourselves into a better life that follows through the previous references in the Tudor period to the Modern/Post-War period, follows the problems found in Post-Fordism explored by Richard Sennett.[13] As we create a landscape in which our skills are forever more insufficient for the variety of careers we find ourselves in over the course of a lifetime, progress is quantified in terms of communication. As this communication takes different forms it becomes both the mode of work and the work itself, and this leads to work and life becoming inseparable from one another; every moment becomes an unstable capital commodity. A life in the form of that maintained by crofting, self-sufficiency, or any general craft seizes control of the unpredictable variables and provides a linear structure to the everyday. Instability is then the product of the unknown; something the flexible resilient mind can deal with.

I'm sure that answers to age old problems have been found before and found again, but are hindered by the devotion to systemic processes for pursuing the new. The pursuit of new objects twists our values in favour of the lives we'd rather not have. A communal system for life that grants privacy and proximity is a credible blueprint for home life, and living in the land grants access to a closeness with the spaces and practices we're so far detached from now.

Visual Reference:

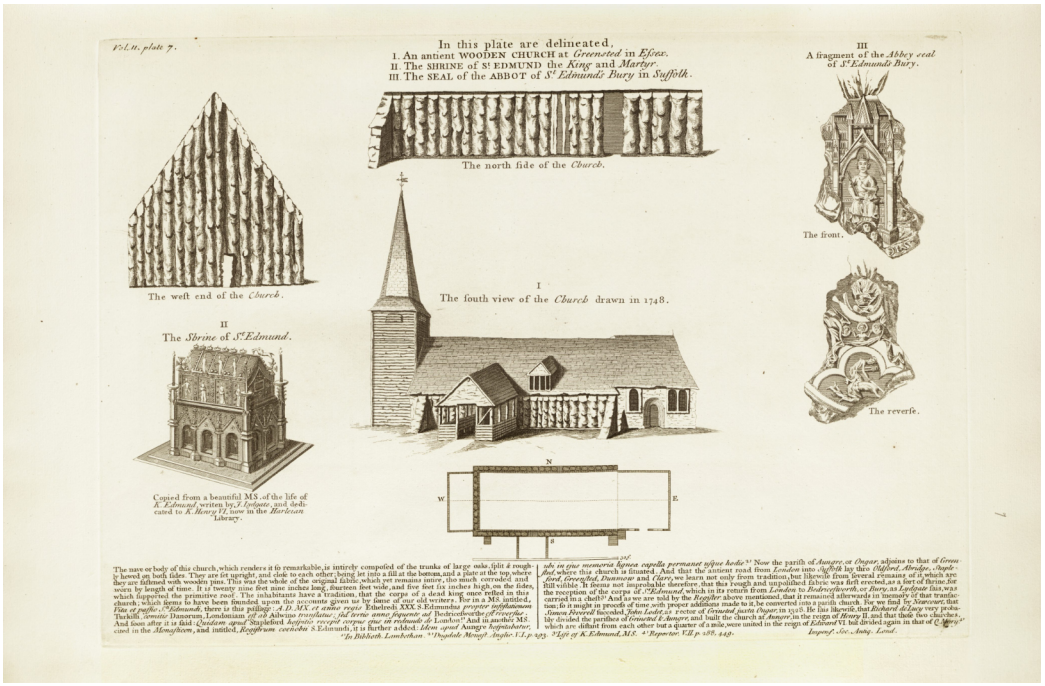
1. A modern housing development showing a disconnect between the home and land use. there is a single piece of green land visible.

2. The split oak wall of the nave of Greensted Church, Essex.

3. Late 19th Century plans showing a greater timber structure than that present now. Greensted Church

4. A reconstruction of a late-Neolithic longhouse found in Chalton, West Sussex, built at Butser Ancient Farm, Hampshire.

5. Construction methods shown for a Tudor Jettied Structure in East Meon, Hampshire.


Vol. II. plate 7.
In this plate are delineated,
I. An antient WOODEN CHURCH at Greenested in Essex.
II. The SHRINE of S. EDMUND the King and Martyr.
III. The SEAL of the ABBOT of St. Edmunds Bury in Suffolk.
III
A fragment of the Abbey seal of St. Edmunds Bury.
The north side of the Church.
The front.
The west end of the Church.
I
The south view of the Church drawn in 1748.
The reverse.
II
The Shrine of St. Edmund.
Copied from a beautiful MS. of the life of K. Edmund, written by J. Lydgate, and dedicated to K. Henry VI. now in the Harleian Library.
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S

6. The Grandé Mosque de Djenne, Mali, made form rammed earth. The building incorporates an external ladder pattern for ease of repair.

7. A cob structure in need of repair. The material is fairly resilient even when left to degrade.

8. An aerial photograph of the network of paths and structures found at Skara Brae, Orkney Isles.

9. A close up of the finish and materials found in a Hebridean Blackhouse. The methods are closely linked to those found at Skara Brae.

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