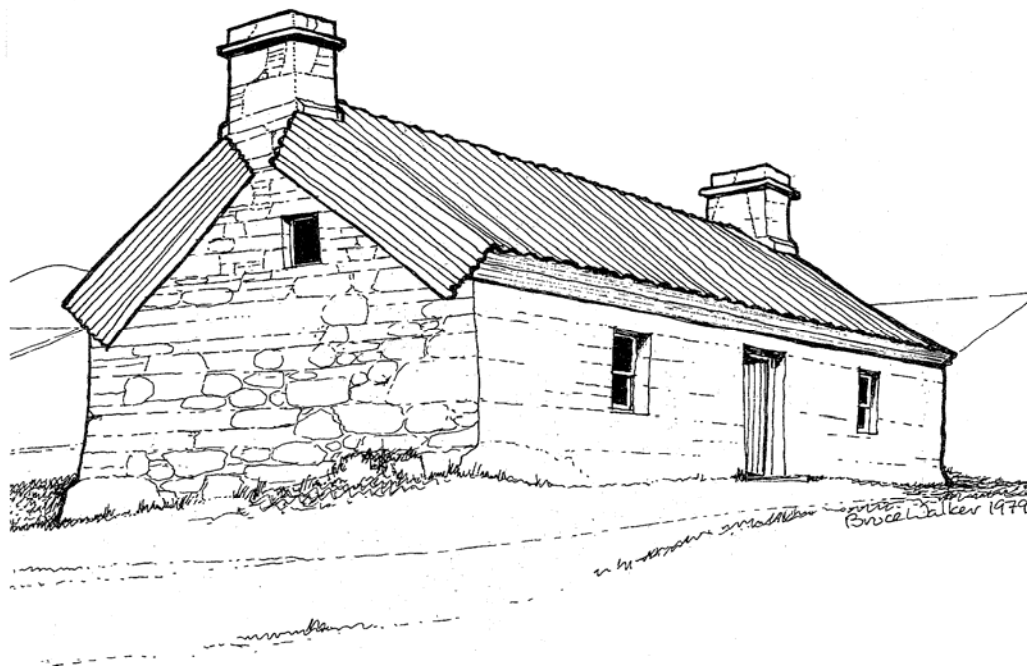


The evolution of the Scottish vernacular style within the context of volume house building.



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I hereby declare that this dissertation is my own work, contains no unacknowledged text and has not been submitted in any previous context. All quotations have been distinguished by quotation marks and all sources of information, text, illustrations, etc. have been specifically acknowledged

I accept that if having signed this Declaration my work should be found at Examination to contain deliberate plagiarism the work will fail and I will be liable to face University discipline procedures.

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0.2 - Abstract:

Although not always at the forefront of architectural discussion and publication, volume house building plays an important part in defining Scotland's developing architectural language. Housing offers an opportunity to examine the relationship between a volume product and how it can adapt and react to both its immediate and wider context, whilst avoiding the architectural grand gesture.

It is important to first establish and understand the historical routes of the Scottish vernacular style, what the particular issues are that generate the style, and to identify key aspects of the style to allow it to develop and evolve into not only a contemporary, but appropriate language. To follow the evolution of the style, other factors must also be considered; the need for mass housing strategies in post war times, the role of government bodies in implementing such strategies and the move from public to private housing development and assess how these have affected and developed the vernacular style.

A series of case studies have been undertaken to show this development; demonstrating how the vernacular style has been adopted into schemes. The motivation behind each project must be considered, i.e. political motivation (post war) or for profit organisations, and how this affects the overall success of developments in terms of style, build quality and appropriateness to context. The role of the architect is also considered throughout these case studies and their responsibilities toward the client and toward the development of style, and most of all in creating successful architecture.

The case studies provide an analysis of the Scottish vernacular style's incarnations in housing of different periods. They also describe to what extent

external constraints (i.e. public client/private clients) have affected the adoption of the style within each of the examples or if indeed the vernacular style has been considered at all. They also discuss whether the role of the architectural language has a positive or detrimental effect on the overall quality of the product.

The analysis of the case studies illustrates how at certain times the 'vernacular' style was rejected and new design approaches sought. The effects of the shift toward private developer on the quality of the architecture are discussed and the key factor of government intervention in creating new developments. It also seeks to determine the effects that the continuous development of government guidelines and standards have had in the current rediscovery, or reinterpretation, of the traditional vernacular style.

0.3 Introduction:

The housebuilding industry in Scotland has been through many phases since the first houses were built for farm workers by land owners, to the buoyant speculative building market of today. The speculative market appears to have moved toward developing a new 'vernacular' style, re-establishing regional identities to products that, for a time, could have been built anywhere. This dissertation seeks to establish the characteristics of the vernacular style to illustrate how it has been developed (or rejected) through a series of case studies, and assess what external factors have affected their design.

Case studies have been used to first establish what the key characteristics are in the design of the 'Scottish' house and then to study the products and see what lessons have been learnt from the past designs. The case studies are used to illustrate the development of the styles and also to show the effect different political and social climates have had on the quality of the architecture.

The first chapter outlines the history of the housebuilding industry in Scotland. It identifies the key moments in the political and social history which have influenced the house builders and also looks at some of the more recent government policies implemented in an attempt to improve the quality of the built environment.

A short introduction to the case studies establishes reasons for selecting the particular examples for case studies indicating what political environment they were products of.

The first case study is a traditional cottage type which was, effectively, the first kind of volume product. It sets the rules and structure for the basic vernacular language. The other case studies are used as comparisons and

establish to what extent the vernacular language has been adopted, in terms of form, fenestrations and details, and also identify other factors considered in the design, and wider development.

A conclusion to the case studies is then provided to identify the key differences between the particular case studies and the influences behind them.

The overall conclusion looks more at what makes a successful development in terms of 'making places' and looks at the positive effect government legislation can have in the production of new residential developments. The major difficulties are still based on the fact that the client must also want to achieve more than a profiteering exercise, because if this is the only intent it becomes difficult to create successful, appropriate developments.

1.0 - Historical Context:

From the start of the eighteenth century the Scottish house building market started to establish itself. The advances in agricultural technology allowed for larger areas to be maintained by farm machinery and so small villages for the workers were established due to them no longer requiring to move around to and from temporary accommodation the year round. This also allowed the creation of central points of amenity for the new 'villages'. This new proximity of dwellings to each other also created a much great potential for social interaction between families and thus spawned the creation of communities.

The style of the architecture within these villages was a development of the temporary dwellings previously inhabited. The houses now had chimneys built into the structural gable walls and floors were boarded, the roof space in some was also habitable and dormer windows were developed to allow light into these spaces. Slate roofs offering much better protection from the elements soon replaced original thatch roofs. The overall style of these dwellings was not only influenced heavily by the architects employed by the land owners, but also from books providing patterns for dwellings and suitability of dwellings for different social standings (Carruthers in Stell et al, 2003). This resulted in a common form of building replacing the traditional 'long house' model, the basic cottage.



Figure 1.1 - A photograph of a traditional cottage in Orkney

The form of the cottage houses was dictated by the available materials available in each area, the length and depth of the plan was dependent on the spans of the timber for the roof structure. Some were built with stone-faced elevations whereas others had a harled finish. The availability of slate for roofing materials also influenced the appearance of these dwellings. The nature of the building type was common throughout Scotland although due to the difficulties in transporting building materials cross the country, the houses developed their own unique regional identity.

Towards the end of the nineteenth century, as a product of the agricultural and industrial revolutions, there was a large population shift toward the cities and large towns where employment was to be found in the factories and within other industries. This led to an overcrowding of the cities where the dramatic intake of population could not be fully absorbed by the existing housing stock. There was a great dependency on flatted developments during this time due to the need for high density accommodation, although some smaller scale developments were also built for workers by some companies trying to provide better living conditions for their employees. These were

generally an English house type made up of two flats on two floors (each flat on their own floor) with an internal stair, the equivalent Scottish model generally provided access by way of an external stair. The reason for adopting this particular model, as opposed to the Scottish one, is not immediately apparent and is thought only to be, because "...published views on the matter were predominantly English ones." (Carruthers in Stell et al, 2003; 97)

However, these developments were not numerous enough to adequately resolve the problems of housing such a large number of people. Most of the housing stock was privately owned and was not maintained to a standard suitable for human habitation. This led to the government involvement, in the interests of public safety, and eventually setting up a public sector housebuilding programme.

Post WW1 the Housing and Town Planning (Scotland) Act (1919) was passed. This was the first legislation concerned with the supply of homes for working class people. The main targets of the act, in the short term, were for the government to provide a large number of homes quickly and efficiently to combat the short fall in housing following the war. These homes, coined 'homes fit for heroes', were to be built to the standards outlined by Tudor Walters *Report on the Provision of Dwellings for the Working Classes (1918)*.

The most common incarnation of these homes was the two flat on one storey approach, although adapted to provide both detached and semi detached options. This 'double cottage' arrangement was preferred to the traditional tenement due to the associations with the overcrowded urban slum areas. Also, this type of development allowed a reduction in densities in keeping with the recently adopted 'garden city' ideals. The form of the accommodation was not the only feature to change, there was also a conscious effort to take the block away from the street, forming a garden area for residents, a step away from the traditional cottage approach which was to build up to the pavement

line so as to not allow any space for the accumulation of waste. Problems arose from this type of development, mainly to do with the cost of building the units and in turn the cost of buying or renting the accommodation, which led to the government implementing a strict budget which was then the responsibility of the local authority. This led to the authorities opting to build smaller units.

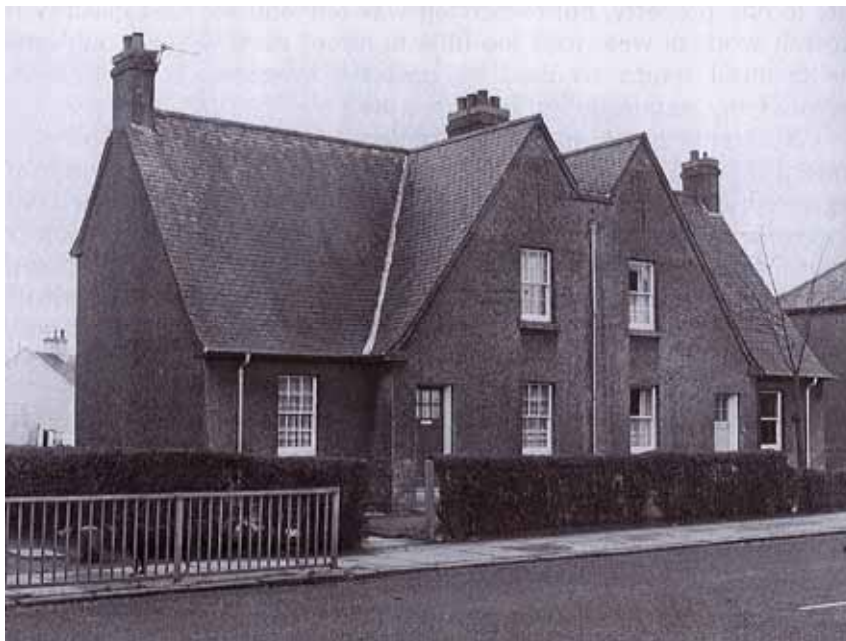


Figure 1.2 - The Double Cottage, Fife (1919)

By the end of the Second World War there was a great difference in the number of houses available in comparison to the number of people requiring them. The Scottish Housing Advisory Board, in 1944, stated that, to meet the needs of the population, four hundred and seventy thousand new houses were needed and four hundred and five thousand were unsuitable for habitation (SHAC, 1944; 9-11). The major difficulties with providing homes at this time were due to the lack of availability of traditional building materials coupled with a shortage of skilled labour for construction. As a result a number of alternatives were sought, looking at non traditional building methods and adopting standard plans. Experimental building typologies had

been looked at between the wars, with concrete (poured and pre cast) and steel and timber frames developed. These techniques allow a less skilled work force for assembly and with the Scottish steel industry in decline there was both a need for employment and a readily available labour with pertinent skills. Around this time, there was also a shift in perception that the new buildings should also be in a new style, adopting the modernist ideal that old styles and local traditions should be rejected in favour of creating a central style around utilitarian values, "to emphasise internationalism and play down regional identity." (Scottish Executive, 2005;) And as a result the housing which was built in this time avoids any interaction with its surrounding context. Furthermore this government led approach failed to establish any real design guidelines for the private developments which were to follow later.



Figure 1.3 - An Experimental House type (1939) Basil Spence and William Kininmonth for the SSHA.

During this time there was however some development of the 'double cottage' type housing, mostly by the steel manufacturers. The timber frames were replaced with steel frames and sometimes the buildings were even clad with metal. With the metal building envelope the pitch of roofs could also be lowered so to provide more useable space on the upper storey, as there was no longer a reliance on tiles for roofing. This type of house was also still built

in streets, similar to that in which they first appeared, instead of the new 'international style' estates which were appearing around the country.



Figure 1.4 - A steel clad double cottage arrangement
(Atholl Steel Ltd. 1941)

Into the 1960's a number of policy changes were undertaken at government level and the designs for the housing stock developed again. There was an emphasis on high rise building to account for the growing population; however the development of smaller properties still continued. Advisory boards were set up to aid the local authorities in building houses, the Scottish Local Authorities Special Housing Group (SLASH) was set up by Glasgow City Council to encourage integration between the local authorities to reduce the costs in ordering prefabricated elements and other building materials by bulk buying. But as the organisation advanced it started to develop standard plans and building standards which allowed it to control (to an extent) the cost of the building.

Around the same time the Scottish Special Housing Association (SSHA) was founded. The work undertaken by them was the development of its own high rise and no-fines concrete building systems as well as addressing the refurbishment of Glasgow's tenement buildings (Colquhoun, 1999).



Figure 1.5 - A no-fines concrete house (Corolite)

The SSHA was also heavily involved in later years when the government policy changed and withdrew national funding. This led to the local authorities transferring a large percentage of its housing stock to housing associations and private bodies (Colquhoun, 1999). The transfer of housing stock toward the private market allowed the tenants to become much more involved in the design process. There was a move by a small number of private developers to work in conjunction with the public authorities to provide regeneration or new social housing; however from this point on the majority of housing built was speculative development built by private investors.

The overall quality of the private housing built on the back of this was relatively poor in terms of build quality and architectural integrity. The influx of house builders was mainly from the English market and therefore the tendency was to build units from the English market that bore little or no resemblance to their new immediate context in Scotland.

The nature of speculative house building is purely a money making exercise and due to this it is difficult to change the design of a volume product where the developer has to drive down unit cost in order to maximise profit. The

relatively lax planning and building requirements of the time meant that it was perfectly acceptable for developers to build these 'English' house types however they liked. The buildings introduced a heavy use of facing brick into the designs, which gives the houses a very particular aesthetic, but one not particularly appropriate to Scotland. Any reference to the Scottish Vernacular style was usually reserved to the "baronial'... half-timbered housing estates where the housing was small and built to minimum standards with little attention to energy and other environmental issues." (Colquhoun, 1999; 284)

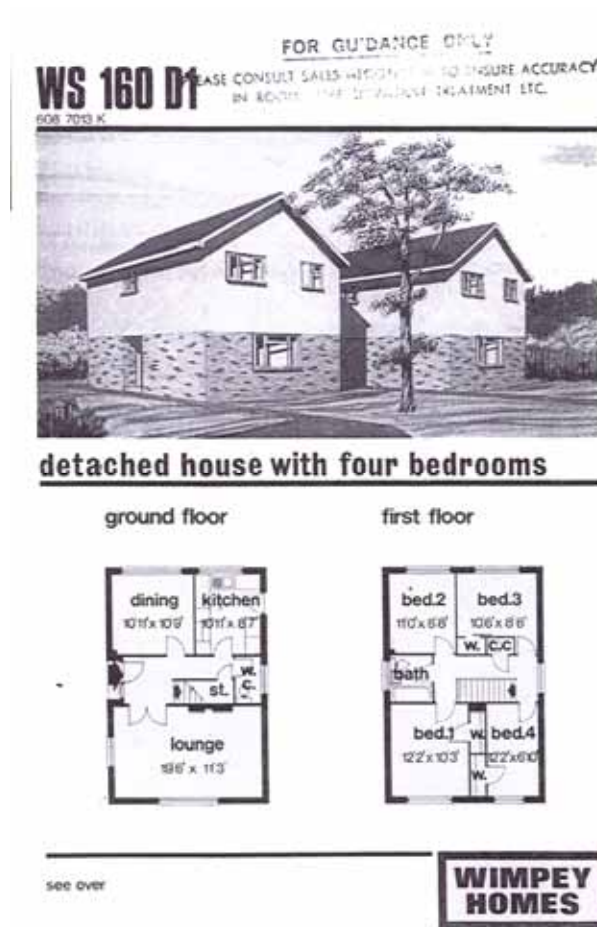


Figure 1.6 - The sales brochure of a 1979 speculative development by Wimpey Homes

In more recent years there has been a move by the government planning authorities to require developments to be designed appropriately for their context. Some large house builders, when in partnership with architects and

public bodies, seem willing to attempt to achieve more appropriate designs. Although the planning guidelines are quite specific they are open to interpretation, they are, as they say, guidelines and non-prescriptive, so the process as a whole has become much more involved.

The planning advice note PAN 44: Fitting New Housing Development into the Landscape provides a set of guidelines for new housing development. It identifies that housing is likely to be "the most extensive land use" (Scottish Executive, 2005; 1) in the near future therefore it is important that a level of good practice is employed in the design so as not to have a detrimental effect on the surrounding area, built environment and landscape. The PAN identifies key areas of design to be considered, namely; fenestration organisation, use of materials, the level of detail in the scheme and the proportion of the elements on the elevation. It also offers guidelines at a wider scale, concerning the layout and siting of the scheme as a whole. It comments on the fact that some recent developments can be seen as inappropriate or not 'in keeping' of the local area. This is attributed to the advancement in building materials and methods over time, where building used to be arranged in a manner to protect each other from the elements; it is now possible to put the houses anywhere on a site.

PAN 67: Housing Quality, deals with a wider range of issues, on a wider scale. It is more concerned with the making of places, as a whole, and issues raised by sustainable strategies, in both transport and drainage. The connections these new developments have to the existing road networks and sewers etc. are a vital consideration from an infrastructure point of view. It is important that the effect of building houses in certain areas does not have a detrimental effect on what already exists. Sustainable Urban Drainage Systems (SUDS) are also implemented to reduce the reliance a new development has on the

existing sewers by introducing strategies for distributing the rainwater elsewhere to reduce the likelihood of flooding.

Sustainable Transport Strategies are something that is hinted at in the guidelines but can only really be implemented to any great degree where the master plan and brief call for it. These strategies include providing bus lanes, cycle lanes and pedestrian access throughout developments but is very dependant on the exact siting of individual projects. The idea of shared surfaces between these users is also encouraged to create safer streets for pedestrians as it is expected car drivers will pay more attention to a road where there is a greater likelihood of people using the same surface.

The new government guidelines aim to prevent the previous private housing models repeating themselves, in order to create housing suitable and appropriate for the locality. It aims to create places, rejecting the preceding standardised designs which produce a loss of individuality and identity in the architecture. They also attempt to reduce the dominance of the car in the design process and attempt to revert back to the original cottage approach where the street edge is addressed and useable external space is created.



Figure 1.7 - The shared surface at the Drum development creates useful communal areas.

2.0 - Introduction to case studies:

The particular case studies have been chosen because they are representative of times of change within the housebuilding industry. They are not supposed to provide a complete overview of the state of the housing market at the times, they are indicative of the general trends experienced by the industry. They seek to illustrate to what extent external factors, other than just the design itself, have affected the creation of housing and residential developments.

The first case study is a traditional cottage style dwelling, which was really one of the founding types in the creation of a housebuilding industry as such. The house is designed around a basic, standard, plan. The overall form of the building is fairly constant throughout many regions of Scotland but manages to achieve a regional character through the use of local materials. All of the case studies are based around a standard plan, all with different levels of success.

The post war years were a crucial time in the housebuilding industry, with government intervention in creating solutions to the overwhelming need for houses. At this time many different, some experimental, types of construction were implemented to accommodate the shortfall in experienced, skilled builders. The case study attempts to illustrate the failure in adopting these standard plans and construction materials, in terms of making a successful 'place'. The architecture of these houses does little more than create a dwelling; the interaction with the street and other residences is minimal and therefore fails to contribute some essential elements into the development as a whole.

When the Housing market started to move from public sector to private sector developers there was an influx of English house builders to the Scottish market. With them there was an introduction of the English 'vernacular' to the Scottish environment because it was a product they were well versed in producing in vast numbers, for maximum returns. The difficulty with directing criticism at the private developers is that it is misplaced, in a market driven by profit; the developer will seek to build as cheaply as possible for maximum profit. That is expected. If the minimum requirements, set by the governments, were raised, if a higher standard of architecture was required, the developer would have no choice but to meet these standards.

The most recent case study, The Drum, is a product of much more stringent legislation, an ambitious client and talented architects/master planners. The role of the landowner is probably the most significant in this scheme, as its success relies on the ambitions of the landowners and their decision to appoint a company to create and overall master plan. This case study is used to illustrate what can be achieved when all the elements come together harmoniously and the ability of the designers is used to its potential.

2.1 - Case study 1: The basic cottage model



Figure 2.1 - A sketch of a traditional cottage in Nigg, Easter Ross.

The first real house type to be built in any great volume was the basic cottage, a type born out of the agricultural revolution. The need for farm workers to move around the land through the seasons was no longer necessary. New technology allowed much larger areas of land to be tended in less time, and so, landowners started to build permanent residences for their workers.

The dwellings were a development of the temporary houses that they had previously inhabited, sometimes built detached and some times built as semi detached. Building in small clusters allowed some communal amenity

creation, which was really the beginning of the creation a small semi-rural community.

The cottage was a progression of the traditional 'longhouse' model, where the accommodation was separated into two rooms under one roof, with a central fire. One room was for human inhabitant and the other for the livestock. The 'longhouse' had been developed so that the central fire had now moved from the centre of the building to 'against the wall' and eventually to a chimney in the structural gable end of the building. In the new cottage the two room arrangement remained, but both were now used for human habitations and the livestock was moved elsewhere.

In some cases, the walls were also raised to one and a half story height to allow habitation in the roof space of the dwelling and with this came the development of dormer windows, which were installed to allow a greater quality of space in the roof space by allowing light to enter.

The overall form of the building is dictated by the materials available for constructions. The width and depth of the plan was informed by the constraints of the timber used in its construction to span the opening. This created a certain proportion of roof to wall on the elevation of the building. The proportions of the openings in the elevation have a very vertical character to contrast the overall horizontality of the façade.

The fenestration of the cottage is usually fairly simple, reflecting the preference for the insulating qualities of a heavy wall to that of letting in light. Sash and Case windows are set into deep recesses in the wall, sometimes the openings are accentuated by way of a band of harl set in relief to the opening and the cill also protrudes from the building line for more practical reasons of providing a drip edge.

The materials used in the cottage construction are always heavily dependant on locally available materials, a key factor in the cottages developing their own regional identity. Generally walls are built from stone and covered with a layer of harl to aid protection from the elements; although in some areas the stone was of sufficient quality to be used as facing. The roof is constructed from a timber frame which was originally thatched, but then later is covered with slate, where it was available.

The functional style of the cottage affords very little in the way of architectural details, if any at all. This simplicity is the key to its (successful) design; the materials are the key generators for the details. The consistent details, in the design as a whole, are the placement of the chimney in each gable and the deep recessed openings. Opportunities for individual details were fairly limited in these buildings although the timber facing used on dormer windows did afford this possibility.



Figure 2.2 - Photograph of a traditional cottage in the North East Highlands

2.2 - Case study 2: Atholl Steel Framed House (1951)



Figure 2.3 - A sketch of the Atholl House in Hamilton.

During the immediate post war years there was government intervention in the housebuilding industry due to the massive shortfall in the number of houses available compared to the number needed. Government advisory groups were set up to conceive ways to use non-traditional methods in house construction due to the lack of skilled tradesmen. These new houses were funded by public money, although after the responsibility for the funds was passed from national government level to local authority level, the budgets for new homes became much stricter.

The Burt Committee was one of such advisory groups set up in Scotland around this time, they worked to, "...consider materials and methods of construction suitable for the building of houses and flats, having regard to efficiency, economy and speed of erection, and to make recommendations for post-war practice." (Scottish Office Building Directorate, 1987; 5) This point

illustrates that the immediacy of the situation far out weighed concerns of context and architectural style.

Some developments around this time followed the governments push for a new approach to the re-housing problems, and adopted the new 'international style' where high densities and much more compact arrangements were seen as the solution. This type of development however was a development of the more traditional, less dense model.

Atholl Steel Houses Ltd was one of a number of companies to develop (and build) steel house types in the interwar and post WW2 years. This example, a 1951, type, was a developed design which had originally been conceived as a complete steel solution, however the cost of manufacture was too high to justify Local Authority funding, so the type was redesigned to use a steel frame, clad with brick on the external leaf and timber stud walls for the inner leaf. The plan of this type of house consists of an upper and lower flat; these units were generally applied as semi detached units to create a block of four houses, sometimes referred to as 'four-in-a-block'.

The overall form of the building steps away from the traditional cottage approach. The building sits on a plot which provides a more public garden to the front, between the entrance and the road, and a private garden to the rear. The entrance to the upper flat is located on the side of the building, perpendicular to the street. These aspects of the design make the dwelling somewhat disconnected from the street, the 'public' garden to the front becomes an almost dead space with little interaction (of use) between the inhabitants and the street. In a lot of cases the gardens are enclosed with either a wire fence or a hedgerow which only act to further blur the boundary between the public and private areas of the street.

The elevation to the street also differs from traditional cottage, the proportions are quite different. Because of the attempt to, effectively, double the density of the unit by creating a separate house on the upper level, the wall height has been raised to a full two storey height. The placement of chimneys is also different as there are three stacks for the building, one in the middle and the other two in the middle of the individual unit (i.e. one quarter of the total width of the building in). Due to the roof spaces no longer being inhabited (and the need for dormer windows also disappeared), the roof pitch has been reduced, so the ratio of wall to roof on the elevation is entirely different to the traditional cottage model.

The proportion of the fenestration on the elevation also rejects the rules set up in the traditional model; the openings have a greater emphasis on the horizontal than the vertical. The traditional sash and case windows have also given way to casement windows, where mullions are then used to divide the glazing into more vertical proportions.

To protect the brickwork external leaf the building is finished with a layer of cement roughcast which offers a hard wearing, low maintenance building envelope. However, this generally grey covering offers very little in terms of aesthetic quality. The roof is also clad with concrete roof tiles which again, although cheap, reduce the aesthetic appeal of the dwelling.

The form of the roof also effects the elevation; the reduced pitch is, although the most obvious, not the only issue. The roof is defined from the rest of the elevation with overhanging eaves, a feature not apparent in the traditional model. As if to 'play up' this feature, the fascia boards are painted in a contrasting colour to the rest of the building, which further affects the proportional aspects of the elevation. The roof becomes a separated element and is no longer integral to the composition of the elevation.

Although, again, this design affords little in the way of architectural detail (as with the traditional model), an attempt to add some features to the elevation has been made. A band of smooth render, in a contrasting colour, has been applied to establish a horizontal break on the façade, essentially separating the building into the individual houses which make it. 'Porches' have also been added, a thin slab of concrete hangs above the entrance doors. But due to its size, it is no more functional than it is aesthetically appealing. The windows also (in some cases) have a render-band surround which manages to add a little interest to an otherwise 'grey' elevation.

The main purpose of this design was to provide a cheap construction which was easy to assemble. The rush for post-war housing meant that, as the need was so great, some other design issues could be put aside in favour of a cheap, fast construction. The vast quantity of houses built around this time also meant that, in some cases, large numbers of residential properties were built and complimented with little, or nothing, in the way of amenity.

The house, in some respects, achieves its aims. Although the fact that the design was amended to replace the proposed steel cladding with a timber frame and brick construction, due to it being too expensive to manufacture, does raise some questions about the overall success of the design.



Figure 2.4 - The first incarnation of the house type before the budget for the manufacture of Steel was reduced.

2.3 - Case study 3: Dalveen Street, Shettleston



Figure 2.5 - A sketch of the Dalveen Street Housing.

Dalveen Street in Glasgow's Shettleston area, which had previously been dominated by public sector housing development, was one of the first areas to see private sector new build development.

Following on from the post-war government sponsored housebuilding, there was a move from local authorities providing houses toward private speculative builders dominating the market. The proportion of houses built by the private sector has grown since the war and in 1981, when this example was completed, accounted for around 55% of the total Scottish housing output (Glendinning, M. Watters, D. M. 1999; 260). Although this statistic does not indicate that the actual number of houses built was far less than built in the post war years.

The move toward speculative building meant that the door was now open for the already established English house builders to work in Scotland. The

problems with this were that the private developers were concerned in the main by profit, and so the quality of the architecture was again compromised. Because the English house builders were already established and experienced, they already had developed standard plans and house types; however these were designed for the English market and were not particularly appropriate for the Scottish market. The house types had been designed to reflect the English vernacular style, red brick elevations and lesser roof pitches etc. The difficulty was that there was not sufficient government planning strategies in place to impact on these designs.

Due to the locale of this development, the houses were planned to rely on existing amenity because of its proximity to Glasgow's town centre. The scheme offers little in the way of useable communal space, the site is dominated by the presence of the motor car and in fact the only open communal area in the site is a large car park. The influence of the motor vehicle can also be noticed in the streetscape, to accommodate a turning head in a cul-de-sac the houses have actually been pushed back, away from the rest of the street, so lose the connection with the neighbouring properties.

The houses themselves are single houses split over two stories and are used mainly in semi-detached or terraced arrangements. This layout allows the entrances for the dwellings to face the street and create some interaction between the street and house. There is a small front garden to each of the units which is fenced by painted steel railings but seems to be fairly neglected. The garden is really too small to be useful in comparison to the larger private garden at the rear of the property, it appears to be an afterthought, a small piece of green land left over when the plot required a parking space between the pavement and the entrance. Where the street turns onto the main thoroughfare, the busiest (thoroughfare) edge is faced by the blank gable ends of the houses, which gives the streets of the

development an insular feel, as if they are separate elements that have no relation to each other or with the rest of the development.

The proportions of the individual houses is quite far from the traditional cottage model, the full two storey wall height and again a roof with a shallow pitch, mean the ratio of roof to wall is again dominated by the wall. The proportions are further confused where the houses are in a terraced arrangement, as the site slopes, the house units step, which creates a variety of eaves and roof lines over a short distance. These houses have been designed to accommodate gas, or electric heating, resulting in the removal of a traditional feature; the chimney.

The fenestration in this house type is treated differently than in the previous models. The main opening on the ground floor (the lounge) and the main opening on the upper storey (the master bedroom) have been grouped together in a panel which is recessed from the rest of the elevation, with the area between the windows clad in horizontal timber boarding. Although the overall opening has a distinctly vertical character the windows within it have a horizontal character. The windows are casement type and mullions are again used to divide the glazing into more vertical elements. The grouping has an overall verticality and therefore the proportion, in terms of the elevation as whole, remains slightly irrational.

The material used in the external leaf of the building is mainly red facing brick, which is a traditional English building technique and is seen in very few parts of Scotland. The roof is clad in concrete tiles which, as with the Atholl house, were used as a cheap alternative to traditional slate and due to their increased weight, could be used on lower pitches. The join between the elevation and the roof plane occurs with a minimal eaves, a fascia board drops

from the gutter only a short distance from the brickwork, but as such, appears not to offer any practical function and little aesthetic quality.

As there are only two openings on the elevation to the street (the window grouping and the front door) there is little opportunity for details, although the window grouping itself does produce some visual interest. At the corner of the building, where the gable meets the front elevation, the brickwork from the gable has been built out, to appear as almost a corbel style detail reminiscent of the grander stone houses of the past, but does however seem irrelevant to the house it is built on. The painted horizontal timber boarding in between the windows is unclear in what it is attempting to do, whether its trying to create interest, or is used as a replacement for the brick, as the horizontal banding and choice of paint finish would suggest. When the design was first conceived the elevation was very simple, however in recent years, the residents themselves had added features. Some have added small roofs over the front doors and others have added fully enclosed porches. As a result each house appears slightly different, although there does appear to be less conversation between the houses at street level.

The motives behind this project determine whether it was a success or not. The private developer driven by profit margins would probably regard this as a success, as they have built a house type well known to them which have been 'refined' to this end. The architectural quality however is not quite so successful; it is difficult to see the design as appropriate for its site as it has no relation to what surrounds it or the historical context of Scottish housing. It would be inappropriate to criticise the developer over this because the developer will always build to meet the requirements of the legislation set down, so this can be seen as more of a failure of the planning legislation in Scotland at this time.



Figure 2.6 - The Domination of the motor car is all too apparent in the streetscape.

2.4 - Case study 4: The Drum, Bo'ness (Malcolm Fraser Architects)



Figure 2.7 - A sketch of the Drum Development.

In the current house building industry, the market is heavily dominated by private speculative developers. From the mid 1970's through to 1996 the private developers share of the total housing output rose by 46.4% to 86.1% (Glendinning, M. Watters, D. M. 1999; 260) and has continued to grow to the present day (Davis Langdon & Everest, 2003). The major developments since the previous example have come in the legislation and government guidelines. In Scotland there are several recent policies offering guides for almost every aspect of a new housing developments design. These guidelines

although complex and wide ranging can sometimes not be fully considered as they are meant for guidance only and are not legislative. The guidelines cannot provide successful developments on their own, they also require an ambitious client and quality architect to create the success.

The Drum in Bo'ness is a development that can be judged as successful. The design has been completed as a phase of an overall multi-phase development providing a business area and parkland alongside housing. The scheme won the (invited) competition set by the landowner, Grange Estates. The brief called for a design which was to be appropriate for its context and also to have some added value by way of the architectural quality of it. The idea of inviting certain parties to submit designs was to encourage a more considered approach as each would have a good chance of winning the competition. The developer, Stewart Milne Group, appointed architects Malcolm Fraser Architects and landscape architects Horner + MacLennan to create a design for the site. The landowner had employed a master planning firm to create an overall plan for the development to ensure that each phase had a link to the rest of the development. Cadell2 produced the master plan, or Urban Design Framework (UDF) which set the basic rules for streetscapes and building relationships, along with transport and circulation strategies.

This phase (phase 3) of the development was for 28 homes, with the provision of both public and private green spaces. The development attempts to redress the balance of the car and pedestrian within residential developments. The car, although necessary in a sub-urban development, does not dominate the public spaces as seen in the Dalveen Street development; surfaces are shared between the pedestrian and the motor vehicle.

Around the main public green area of the scheme, the houses are pulled in to form the edge to the square on one side and to also allow a larger private

garden to the rear. Pedestrian links are also easily accessible through the site, at some points the path does not follow the road and allows shortcuts through the site.

All of the houses have a dimensionally equal plot; however each is treated slightly differently to take advantage of orientation and to create various edge conditions throughout the scheme as a whole. Some, as with the square, are directly on the street edge, creating a certain 'tightness', almost urban in character. On other plots, the main house is set back from the street and the walled garage and hard landscaped area meet the edge, still creating a definite boundary edge between the plot and street. At some points, where the public and private areas are much less defined, there is a mixture of different edge conditions using hedgerows and wooden fences to define the plot edges.

The individual houses are fairly simple in plan, with the main living areas occupying the ground floor with the connection to the garden. The building, as with the previous example is a single house split over two levels, with the bedrooms on the upper floor. The nature of the plot edges is also important when considering the form of the houses, because the buildings are used, in some cases to create that edge, and others where they are stepped back from the street the form of the building has much less impact. The multiple conditions of the building lead to a successful diverse scheme where they contribute to not only the private spaces but also the public spaces of the site.

The overall form of the dwellings is again quite simple, the walls are a two storey height but the roof pitch is similar to the steeper traditional model and therefore the ratio of wall to roof seems much more appropriate. The houses also 'tip their hat' toward to the traditional model by reinstating the chimney

on the gable end. The junction between the roof and elevation is also more like the traditional model than the previous types, the eaves are clipped so that the roof runs into a gutter attached to the elevation. There is no fascia board used here or attempts at 'corbel' type details, the junction is crisp and simple.

Wooden framed windows are used in the scheme and have a more horizontal appearance as some of the later developments. However, mullions are used within the frame to create a (slightly) more vertical appearance with the window panes. On the ground floor the openings are grouped together into one large opening which helps to reduce the number of elements on the elevation and retain the simplicity.

The approach to cladding materials and finishes is also much more sympathetic than some of the previous models; the elevation is covered in a plain white smooth render, reminiscent of the traditional cottage. The roof cladding is imitation slate, which gives a more aesthetically pleasing impression than the concrete tiles seen in the other examples. The level of architectural details in the scheme is obvious and no attempt has been made to add visual interest to the dwellings, which further enhance the impression that this design is trying to conform to the traditional approach although using much more advanced building technology.

The approach to the design of the houses appears to be a rediscovery of the 'vernacular' style, and this creates a successful development. The UDF is a document that has obviously aided greatly in the success of the development; it has basically provided an enhanced form of brief for the architects to work to. The original client for this project, the landowner, is also a key factor in the success of this scheme, with the ambitions and the method of the limited competition. The architects must also take praise in the creation of this

scheme as they have introduced a slightly different method of placing houses on a plot and used them to create a multitude of special characteristics. They have also applied a much more stringent approach to the plot as a whole, as opposed to a house with a garage and garden. The approach is much more holistic than the previous models and therefore the overall character of the scheme is considered as important as the provision of houses.



Figure 2.8 – The different approach to the plot edges creates multiple levels of interaction with the street.

2.5 - Comparison of case studies:

The case studies identify different approaches in relation to the vernacular style of the buildings, and the different issues that can and have compromised the overall quality of the designs. The traditional cottage model really sets the true characteristics of 'vernacular' style as it always has regional characteristics, but these characteristics were formed because of the difficulty in transporting materials. All the case studies have a certain level of success, but all for different reasons.

The traditional cottage was a success in terms of providing a permanent residence for farm workers, with few other external constraints. Architects were employed to design these houses but it was effectively a common house type which was built in many areas, the only difference between them being the materials used in the construction. But it is these materials which create the distinctive regional identities of the houses; the product has been effectively conceived at a national level but implemented at a local one.

The post war (Atholl) house is an example of something that is really a product of national thought; however, it is, unlike the traditional model, still implemented at this level. The houses were designed to be able to be built quickly as a response to the housing needs of the post war population. The style of the houses was not of crucial importance when they were designed, and as a result, although they may have alleviated the pressure on the Government to supply houses, they contributed little to their immediate context. The advances in all aspects of technology between the traditional house and this design meant that there were different ways to build, which was a key factor in the conception of this design. The house had to be able to be constructed partially by workers without knowledge of traditional building methods, thus taking advantage of the decline in other industries and the loss

of so many skilled workers in the war. The materials available for construction could now be transported easier and cheaper than when the previous example was built, and so houses could be built with the same materials over a wide geographical area.

The Dalveen Street model also follows a similar premise, where the product is standard and can be built anywhere, although for different reasons than the post war housing. The main reason behind the standardisation of this product is due to cost reduction. The nature of private speculative development as a business, is purely making profit. The developer, in this case, is working with standard products because they know exactly the profit margins they will reap on each house and have developed the houses to meet the minimum standards set by the government. This problem is not necessarily down to the individual developers, it is more a result of lax government legislation in allowing this type of development to proceed.

The most recent development, The Drum, is a product of the lessons learned from the previous types of development which, due to the advancements in the legislation and the guidelines for planning new developments, The Drum, manages to create a successful residential development. The development not only learns from the past but also attempts to re-invent the vernacular style, taking the basic structure of the language and re-formatting it to suit current building technologies. Other aspects of the planning for the development are of some importance, perhaps the most influential is the development of the UDF. This framework proves a great aid in the creation of a place, which is more than purely residential streets. The interaction with the streets and the lessening of the cars' dominance are key issues addressed in the UDF. The ambitions of the landowner for this scheme are also fundamental in the success of the development, whereas the landowner could

have sold the land to the highest bidder; they decided to run the limited competition which appears to have allowed them to achieve their goals.

3.0 - Conclusions:

From the case studies it becomes apparent that the issues affecting the design of residential properties are more wide ranging than just the architectural integrity or aesthetic appeal of developments. Issues to be considered can be unexpected and unique, as with the post war housing. In more recent years it would appear that some developers are adopting a much more holistic approach to the design of residential developments. The recent Government guidelines for the design of new residential areas seem to have acted as a catalyst in this process accompanied by the increased knowledge of the designers gained from the past experiences and experiments.

The influence of public bodies on the design process is paramount to further developing the quality of the built environment. The effect these bodies have is evident through the case studies. When the first houses, the traditional cottages, were built, there was nothing in terms of advisory boards or legislation and the private developers (landowners) could build whatever they saw fit. However, as a result of this kind of development the government at times had to step in to secure the interests of the population in general. The accommodation, once built, was left to deteriorate with little or no investment by the landowners to improve or maintain the properties and so had adverse effects on the health of the residents. By the time the war began, the government had already produced space standards for new buildings. When it came to producing large quantities of homes in the post war years, the government was central in funding, and building these. The new government led designs brought a whole new wave of building technologies and designs to the fore and as result, some sought to define a new style of their own. The further development of the governments' standards was also an important factor in the new house designs, as it allowed a wide range of non-traditional techniques to be implemented whilst retaining a certain level of quality. When

the move toward private sector developments occurred, the government produced standards which ensuring that a basic level of competence was achieved in the construction of new housing although, the legislation did little to ensure a quality of design was achieved. The development of government standards and guidelines on design has had a positive influence on the quality of residential developments as the most recent design, The Drum, seems to be well considered in terms of its context and design, as you would expect from a product of this constantly developing process.

The role of the architect in the evolution of the Scottish style of housing is also a necessary issue. From the earliest designs the architect has helped to develop simple plans and ideas for houses and the use of different materials for both functional and aesthetic purpose. The war time developments were also heavily influenced by the architectural profession, although at this point the architects were more concerned with the creation of an international style than learning from what had existed in the past. The vernacular traditions were rejected in general, because they relied on older building techniques which would require a skilled hand; the new designs were much more about using a different skill base entirely. As a result, the developments from this time were somewhat unsuccessful in creating new 'places'. Standard house plans were applied across large sites and little regard was paid to the existing context and to creating successful streets. To some extent, the same can be said of the private developers. They too were working with a set of standard house types which they applied to a site, with little more ambition than to maximise profits. The shortfall in affordable housing left the public with little choice but to accept the volume products for what they were, and as a result, kept the market buoyant, making it almost impossible to change the mindset of the private developer, i.e. they are selling, so why change the design for a

lesser profit? In more recent years however the design standards have been developed and improved so that some of these issues are addressed, resulting in more successful designs. The developers have, in some cases, worked in closer relationships with architects where some amount of contextualising of standard and even the creation of bespoke products has occurred, and the skills of the architect exploited.

The changing role of the client over time is also a consideration in the development of successful residential developments. In the traditional cottage design, the land owner was the client and commissioned designs for a small number of houses for their workforce. The overall success of this design was due its simplicity, in all aspects of the design, the client was driven by money to some end, although durability was also a concern as they remained as owner of the dwelling for its lifetime. In the post war rush for houses, the government became the client, and to some extent the contractor and as a result were able to achieve a consistent level of quality throughout the design and build process. The standards they used were the manifestation of the need for conformity across the nationally produced housing. The transfer of the housing stock from the public bodies to associations and private bodies impacted on the quality of the housing stock, as the government shifted the economic burden of the maintenance to these other bodies the door for private developers was opened. With the profit making nature of the private developers, the new housing provided met, but did not exceed the building standards set by the government. And so it fell again to the public bodies to develop the standards in line with the developments of new technologies and also the expectations of the public. The development of the government legislation has led to the creation of some successful projects but as the impetus still lies with the client to 'want' to create something successful in more than monetary terms. It seems that now we are back to the beginning,

in that the private client is (forcibly?!) interested in creating a product of quality which is aimed at improving the quality of life for users.

The problem remains that the private developers will not always build something that adheres to the government guidelines until pushed. To ensure there are more successful residential developments created, the guidelines need to be more than just guidelines, and become enforceable legislation. The most successful development from the case study is a combination of compromises between all the involved parties which is not always attainable. The importance of 'creating places' and not just single use developments, with no space for interaction, can be seen in the failures of past developments. New developments should have the intention of being somewhere to live and not just to dwell, ultimately providing homes, not simply houses.

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