

# Typological form in the architecture of Gabriël (Gawie) Fagan (1925-)

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Gabriël (Gawie) Fagan (1925-) is a leading South African architect. His architecture is regionally rooted and can be described as a “new” architecture that mediates between a love of the Cape vernacular, functional requirements, site responses and a Modern Movement architectural education. Fagan has assimilated, transformed and mediated the two distinct (although at times formally similar) architectural typologies in his search for appropriate local architectural form. In this article, the antecedents and resolution of Fagan’s architectural typologies are investigated through the medium of his domestic oeuvre. The article will outline how Fagan responds to both generative and productive typologies, how he assimilates these, through his imaginative abilities develops them and creates new formal and functional typologies, constantly reworking his own approaches.

**Key words:** vernacular, Modern Movement, typologies, generative typologies, productive typologies

## Tipologiese vorm in die argitektuur van Gabriël (Gawie) Fagan (1925-)

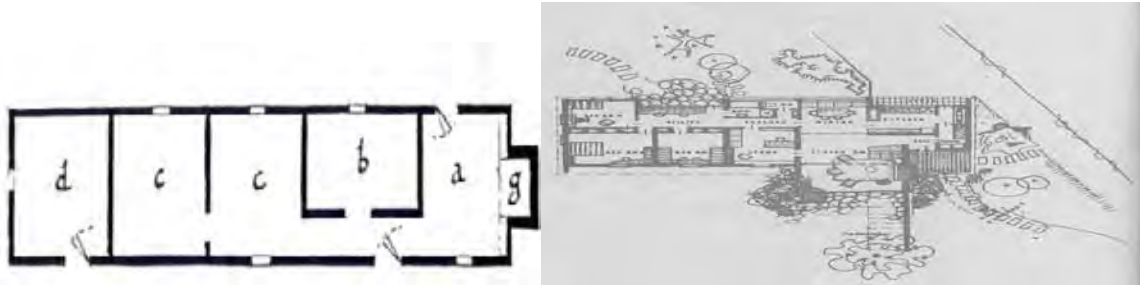
Gabriël (Gawie) Fagan (1925-) is ’n vernaamde Suid Afrikaanse argitek. Sy argitektuur is gebiedsgebonde en kan beskryf word as ’n “nuwe” argitektuur wat ’n liefde vir Kaapse inheemse argitektuur, funksionele vereistes en ’n opvoeding in Modernisme bemiddel. Fagan het die twee afsonderlike (hoewel op tye formeel soortgelyke) argitektoniese tipologieë geassimileer, getransformeer en bemiddel in sy soeke na toepaslike plaaslike argitektoniese vorm. In hierdie artikel word die voorlopers en oplossings van Fagan se argitektoniese tipologieë deur middel van sy huislike oeuvre ondersoek. Die artikel verduidelik hoe Fagan op beide generatiewe en produktiewe tipologieë reageer, hoe hy hierdie benaderings assimileer en deur sy verbeeldingryke vermoë ontwikkel, nuwe formele en funksionele tipologieë skep en voortdurend sy eie benaderings herbewerk.

**Sleutelwoorde:** volksboukuns, modernisme, tipologieë, generatiewe tipologieë, produktiewe tipologieë

The search for appropriate local architectural form by the South African architect Gawie Fagan has been guided by two main influences, namely the Cape vernacular and a mediated Modern Movement education at the University of Pretoria in the 1940s. This search has resulted in the assimilation, transformation and mediation of two distinct (although at times formally similar) architectural typologies, together with the architect’s own inventions. The search for form has its parallels in the dialectic of precedent that Fagan’s hero, Le Corbusier (1887-1965), had similarly faced.

Like Adolf Loos, Le Corbusier found himself caught between two rival typologies: on the one hand the irregular, asymmetrical Arts and Crafts tradition of the yeoman house, with its L-or U-shaped plan; on the other, the regular, symmetrical prism, stemming from Palladio ... (Frampton, 2001: 70).

The inherited Cape vernacular is formally signified by an object building. Its determinants are disputable but technology and an inherited formal tradition certainly played a role in the generation of the one-room-deep building typology (figure 1). The Modern Movement typology was driven mainly by functional and technological requirements, resulting in a similar object type that in its International Style phase often negated context. Later, however, the effects of climate and function often resulted in an attenuated plan and a bi-nuclear planning typology<sup>1</sup> (figure 1).



**Figure 1**

**Left: One room deep extended rectangular cottage at Oudekraal Fonteijn in the Cape (Walton, 1995: 36). Right: Stauch and Wepener’s Marriott residence in Johannesburg built in 1947 with north orientation to all living rooms and a bi-nuclear planning layout (Anon, 1952: 198).**

This article will briefly outline the importance and history of architectural typologies and will then describe vernacular and Modern Movement typological concepts (generative and productive) that have influenced Fagan’s domestic architecture. Lastly, the article will outline how Fagan has responded to, and assimilated these concepts, and through his imaginative abilities has developed his own formal and functional typologies that have been reworked throughout his career. As Curtis (1996: 425) notes when referring to the work of Le Corbusier, each project has become a “testing ground for new ideas, as well as an extension of old ones”.

### **Typological concepts**

Architectural typologies have been formulated and passed down in theoretical treatises and the work of famous architects. It is therefore legitimate to postulate the question of typology as a function of both the historical process of architecture and also of the thinking and working processes of individual architects (Argan, 1997: 242).

The importance of typology lies in its relationship to the history of architecture and architectural ideas, and to the human aspect of association providing a sense of continuity, connectedness or rootedness. Lewcock (2006: 201) indicates that typologies and archetypes have meaning through their continued existence in our memory. An emotional trigger creates an association in our consciousness when we are faced with archetypes. These types of experiences are created through a combination of genetically produced and learned processes.

Fagan’s two main architectural influences, namely the Cape vernacular and a mediated Modern Movement, are formally typological. The Cape tradition is a stereotomic<sup>2</sup> and cellular linear box while the mediated Modern Movement typology is exemplified by local climatic manipulations of the canonic ‘free plan’. Fagan has developed new typologies that rework and refine these influences through a process of mediation. The mediations are not reductive or simplistic interpretations of their antecedents. They mediate an understanding of the principles that generated the original typologies and the forms that have become associated with them.

### **Etymology and history**

‘Type’ is derived from the Greek *typos* meaning variously ‘model’ or ‘mould’. Type, as a system of classification, originated in subjects such as entomology and ornithology (Porter, 2004: 211), and gained currency during the Enlightenment as a scientific method for categorization. Typology in

archeological terms refers to the classification of types according to common characteristics. In architecture the term refers to formal similarities such as organization and geometry.

The most direct and lucid architectural description of type is that by Quatremere de Quincy in his *Encyclopédie Méthodique* published in 1825. Here he defines ‘model’ as an exemplar, something to be directly copied, while ‘type’ is seen as adaptable, a process-driven interpretation and development. The typological approach reinforces aspects of tradition to foster historical linkage. As Goode notes (1992: 2), Quatremere de Quincy’s intention was the

recovery of a culturally authentic language of built form and space or access to its memory. This is accomplished through recourse to the characteristic forms with which such authenticity has been associated.

A typological approach should also have a recognizable lineage. Theorists such as Vidler refer to the idea of ‘type’ as an antecedent:

Everything must have an antecedent ... Also we see that all things ... have conserved ... this elementary principle, which is like a kind of nucleus about which we are collected, and to which have been co-ordinated over time, the developments and variations of form to which it is susceptible (Noble 1997: 1-2).

There are iconic typological antecedents to be found in the history of architecture. In 1753 Laugier referred to the primitive hut as a natural (and tectonic) precedent, while prior to this, Vitruvian treatises on architecture highlighted formal and functional typological possibilities. Palladio’s four books on architecture *Quattro Libro* followed a practical approach through the analysis of examples and extraction of principles. Frampton (1995:4) points out that in his 1851 lecture Gottfried Semper departed from the Vitruvian triad of architectural influences to postulate architecture as defined by four elements. This challenged Laugier’s neoclassic stance as it was based on a real Caribbean hut that he visited at the London exhibition of 1851. Semper’s analysis is more vernacular than naturalistic:

Moreover, one comes to the view that nature in her multiplicity is ever simple and sparse in basic ideas, as she constantly renews the same basic forms, graduating formation and modifying creatures a thousand-fold within the limits of being, by shortening some parts and lengthening others. Likewise, I say that architecture also has certain normal forms at its basis, that are governed by an original idea, by which a few forms reappear in endless variation, conditioned by special purposes or by local determining circumstances (Mallgrave et al 1983: 24).

Later, the neoclassical work of Boullée and Durand (the *Précis*) formalized typological notions in a graphic manner through a generative process. The theorist Vidler has suggested that three historical typologies have influenced architecture since the 18th century.

From the middle of the eighteenth century, two distinct typologies have informed the production of architecture. The first developed out of the rationalist philosophy of the Enlightenment, and initially formulated by the Abbé Laugier, proposed that a natural basis for design was to be found in the primitive hut. The second, growing out of the need to confront the question of mass production at the end of the nineteenth century, and most clearly stated by Le Corbusier, proposed that the model of architectural design should be founded in the production process itself ... [W]e might characterise the fundamental attribute of a third typology as an espousal of not of an abstract nature, nor of a technological utopia, but rather of the traditional city as the locus of its concern (Vidler 1997: 260).

It can be argued that three aspects influenced the development of Modern Movement typologies. Firstly, Laugier’s primitive hut as a tectonic influence evidenced in Le Corbusier’s domino principle, but defined earlier by architects such as Soufflot, Labrouste and Perret who built in steel and reinforced concrete. Secondly, Semper’s four elements as vernacular influences but

related to the Modern Movement search for a new architecture that prevented a stagnation of tradition. Vernacular architecture, it was assumed during this time, was as close to first principles as possible, representing an architecture of authenticity.

An argument can be made that Le Corbusier owed this interest[in the vernacular] to Rousseau's ideas on the natural life: the more basic and paradigmatic, ancient or vernacular a solution is, the closer it gets to being "natural" and "original". In this sense, one could talk of the vernacular as a reserve of "original" architectural solutions (Passanti, 1997: 439).

The third influence on typological development was the production process and the search for form from function. Leupen et al (1997: 137) note that this typological approach was used in two ways: firstly, as a way of classifying building function (for example Nikolaus Pevsner's *A History of Building Types*) and secondly, as a model where type was seen as the development of a set of standards rather than the outcome of historical development.

Venturi (1988: 16) notes that Modern Movement architects revered the primitive at the expense of the diverse and the sophisticated, and this critique (amongst others) resulted, more often than not, in a scenographic Post-Modern typological approach. Ironically, during the same period writers such as Oliver and Rudofsky returned to the vernacular for inspiration, this time in a less scientific and more haptic manner.

## **Typological sources**

This section will highlight typological sources in history that are relevant to Fagan. Thereafter it will be explained how these have been adapted and manipulated in his domestic oeuvre. Fagan's architecture is not structured by a simplistic use of typologies, but by a mediation between the principles and values that these typologies represent. The first typological similarity is generative (Lewcock 2006: 200 and Leupen 1997: 132) in nature as it provides new solutions that build on history (with an emphasis on the vernacular in Fagan's case). They are also generative in the sense that they are starting points for a new architectural language. The second typological similarity is productive through its derivation from functional and scientific processes, developed as a set of standards and not as the result of a historical development. Leupen et al (1997: 137) note that standard types formed prototypes for new solutions.

## **Generative typologies**

Gottfried Semper's *The Four Elements of Architecture: A Contribution to the Comparative Study of Architecture* (written in 1851) was one of the most important contributions to the renewal of architecture at the time. Semper attempted to revitalize architecture through a critical understanding of theory and design (Semper, 1989: 3). Through observation of the Caribbean hut at the London Exhibition of 1851 he proposed an understanding of the 'primitive' circumstances of human settlement as a guide towards the formation of a new architecture. Semper (Curtis, 1996: 29) argued that an appropriate way to develop new architectural form was by relying on genetic recombinations where natural adaptation was crossbred with historical progress. Four independent elements were described (Semper, 1989: 102 and Semper & Mallgrave, 1986: 33). The most important was the hearth which was defined by three 'defending' constituents, namely the roof, the wall (an enclosure created by the craft of the matmaker) and the substructure or the mound. Semper also suggested that the ways in which the four elements were combined depended on socio-cultural and natural influences. A further assertion is that the wall as enclosure had its origins in mat and weave making<sup>3</sup>. Parallels can be drawn with indigenous South African

architecture, where climatic and material differences resulted in delicately woven reed and branch structures and similar clay covered examples (figure 2).



**Figure 2**

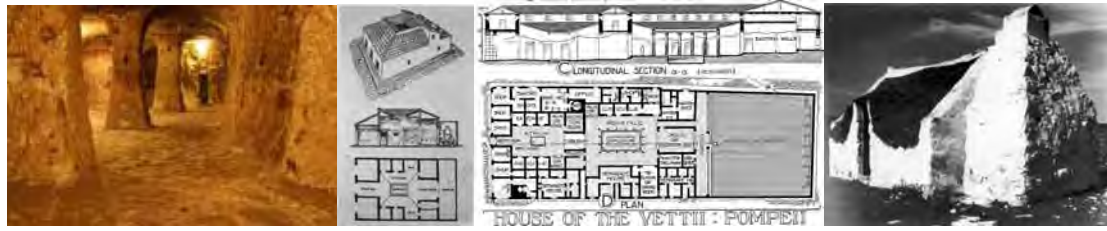
**Progression of framed and reed structures. Left: A circular matjieshuis, Ou Tuin, Kamiesberg (Walton, 1997:18). Middle: Rectangular reed-walled cottage, Oudekraal Fontein (Walton, 1997:30). Right: L-plan reed-walled cottage, Oudekraal Fontein (Walton, 1997:31).**

Semper (1989: 103) described the fireplace as the most important generative element as it provided warmth, energy and a place for the formation of alliances, while acting as a starting point for the development of religion through customs. He further postulated that man's technical skills developed around these four elements – ceramics and later metalwork from the hearth, water and masonry works from the mound, and carpentry from the roof. Rashmere (sic) (1965: 11) describes further cultural associations of the generative tectonic typology:

The wall that encircles the family is an echo of the perimeter wall arranged for defence; but more significantly, it draws the family together round a common, central focus, the hearth. This is their common source of comfort and the form of the roof reflects and strengthens this focus. Each element contributes to the sense of oneness within. The wall, the roof, the hearth, are each individual forms of different origin and function. Together they are a complete statement of spatial unity which lends emphasis to the togetherness of family.

Lewcock (2006: 203-212) expands on the influence of the vernacular through his classification of a range of generative typological concepts, four of which are pertinent to the study on Fagan.

The cave exemplifies man's first non-nomadic shelter. These spaces were not only to be found in natural hollows in mountains but also in vertical and horizontal burrows in flat plains. The importance of this typology is a connectedness with the earth and a sense of being protected while surrounded by rock on all sides. The second and related typology is the hearth. Although Semper postulated that the hearth connected with three other architectural elements, the fireplace can survive as a typology on its own through an understanding of its functional and symbolic roles. The third typology is the covered courtyard, a development of the cave typology, as it was often found in areas of rocky outcrops. The Etruscan house, as an example, eventually formed the model for the early Roman atrium house (figure 3). Here an enclosed space is surrounded by buildings on all four sides. The fourth generative typology is the open courtyard house mostly seen in hot and dry regions. Its development from the original Etruscan model is described by Lewcock (2006: 210) as an opening up of the roof ridge initially to allow smoke to escape. Eventually the roof was completely removed due to the replacement of the fireplace with an internal pool or impluvium, providing an open connection to the sky. The courtyard typology is formed by a group of surrounding buildings or by a combination of buildings and enclosing walls.



**Figure 3**

**Top left: Cave: Derinkuyu underground city in Turkey dating from the 8th to 7th century B.C. (<http://www.istanbuldiary.com/images/turkey/tours/cappadocia/Derinkuyu.jpg> [Accessed 1/05/2012]). Second from left: Covered courtyard. Pompeii, Italy. Early Roman house c.250 B.C. (Lewcock, 2006: 208). Bottom Second from right: Open courtyard. House of the Vetti in Pompeii with impluvium (Fletcher, 1946:199). Right: Hearth. A shepherd's one-roomed cottage. Bottekloof, near Stilbaai (Walton, 1997: 67).**

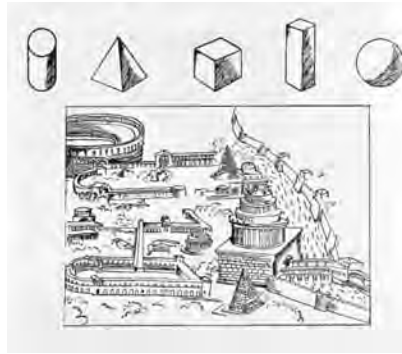
### **Productive typologies**

The Modern Movement search for a new architecture was influenced by a dominant voice, that of Le Corbusier. At the heart of his and other Modern Movement architects' theories were ideas of efficiency, economy and health. These ideas led to the development of his five points for a new architecture. This influence loomed large in Fagan's University of Pretoria education and the course focussed on pragmatic ways of solving problems within a mediated Modern Movement canon, more regional in nature and later inspired by Brazilian Modern trends. Despite Le Corbusier's

... rejection of facile revivalism, he felt that the modern architect should reinvigorate archetypes within tradition. In his own creations he emulated the appropriateness and harmony that he saw in nature. Le Corbusier tried to reconcile conventions that he thought right for the modern condition with 'constants' that he thought basic to the art of architecture (Curtis 1987: 13).

### **Constants<sup>4</sup>**

Three constants can be identified in Le Corbusier's work. First is his exploration of primary form, as can be seen in his illustration from *L'Esprit Nouveau*, which suggests that simple forms release constant primary sensations (of association) to which each individual responds, depending on their culture or secondary sensations (Jencks, 1985: 145). But Frampton, (1996: 152) argues that this approach also satisfied functional needs. Curtis (1996:163) suggests that Le Corbusier's penchant for pure form had originated from an understanding of nature through his art teacher L'Eplattenier, but was probably also influenced by the typological teachings of Le Doux and the necessity of looking to the past for general lessons (figure 4), just as Fagan has done with the Cape vernacular. Although Le Corbusier appreciated the value of historical precedent in his search for primary form he also revered the simple harmony of grain silos, factories, cars and ships (Curtis 1996: 169). But it was the relationship of function to form that drove his investigative search for an appropriate modern form.



**Figure 4**  
**Le Corbusier's sketch of primary forms alongside a view of ancient Rome**  
 (Curtis, 1996:28).

The second constant was the continuous development of type through a mediation between function and economics. Le Corbusier's famous photo collage of the temple of Paestum and the Parthenon and the Humber and Delage motor cars highlighted (figure 5), as Curtis notes (1996:169), the importance of standards in architecture. Le Corbusier's hope was that the type forms of wheels and lamps and their relationships within a system could be so refined through an understanding of their requirements that they would reach the same perfection as that of the classical examples shown. This led to the development of housing types and the introduction of the Dom-ino system that would dominate Le Corbusier's architectural output for years thereafter.



**Figure 5**  
**Left: Greek temples and cars from Vers Une architecture, 1923 (Curtis 1996: 169).**  
**Right: Le Corbusier's Modulor Man (1946) (Frampton, 2001: 162).**

The third constant was the use of proportion. Le Corbusier developed his own system called the Modulor mainly based on the golden section, the Fibonacci series and human dimensions. Just as he had attempted to distill the underlying principles of traditional and even classical architecture, so he tried with his modular system to extol the virtues of natural systems so that in his search for perfection they could be applied to buildings and other objects.

### **The conventions<sup>5</sup>**

Le Corbusier's generation of the five-point plan for a new architecture was developed from his initial work on the Dom-ino system (figure 6). This structural system was allied to standardization in the building industry but also, as the name infers, a repetition in housing typology (Frampton, 1992: 152). The system allowed for the possibilities of a free plan, strip windows, roof garden, pilotis and a free facade. But this patent pursuit of standardization provided a platform for Le

Corbusier's more latent search for a set of generic architectural conventions formulated to deal with the problems of poor late 18th century housing. In his view these required that architecture be efficient, economical (sparing in the use of resources) and provide healthy environments.



**Figure 6.**  
**The Piloti system (Le Corbusier & Jeanneret, 1943: 23).**

Le Corbusier argued that architecture should be efficient in terms of organization, planning and use of materials. The development of the free plan created possibilities for multiple uses of space with the economy of a number of smaller spaces collapsed into one. Spaces designed around specific activities could be made as small as necessary. Similarly, architecture had an economic imperative, delivering good value in terms of resources used. Lastly, architecture needed to provide healthy environments through the provision of good solar access and adequate natural lighting for various tasks, while being well ventilated.

### **Fagan's generative architectural responses**

#### **Semperian approaches (the defensive<sup>6</sup> elements)**

##### **The hearth (and the symbolic mound)**

In Semperian terms, the fireplace is the most important architectural element of the home as it has a long history of providing warmth for inhabitants and heat for food preparation. Traditionally it also formed the kitchen cum gathering space of the house. The climate of the Mediterranean region is such that fireplaces are not that essential for warmth in winter. Fireplaces in original Cape vernacular houses were used mainly for cooking and were tacked on the ends or sides of buildings. As Fagan (1985: 10) remarks "the kitchen with its hearth was the accepted nursery and work place of the house".

Fireplaces were engaged with walls and formed a unity with the building and, as Semper explains (1989: 102), they formed part of the mound (or ground) on which the house was built. Le Corbusier's 'vernacular' leanings also fostered similar approaches:

In the 1930s Le Corbusier's fireplaces acquire a more plastic quality, serving as a means to anchor the house more emphatically to the ground. Such fireplaces can be found in the house of Mme. de Mandrot, in the Errazuris project, and in the house at Mathes, not to mention his numerous unexecuted projects (Serenyi 1965: 18).

Fagan employs the fireplace both functionally and symbolically. Functionally, it continues to provide warmth but is seldom used to cook in. Symbolically it acts as focus to the home, either through its extended dimensions, as at Die Es (1965) (figure 8), or at the climax of the roof in living spaces, such as in House Neethling (1983) and House Swanepoel in Hermanus (1990).



In winter, you can join those sitting literally in the fireplace, the true centre of the house, as also indicated by its name - Die Es or The Hearth (Fagan 1985: 14). The genesis of the fireplace at Die Es has its roots not only in the vernacular but also in the largeness of form envisaged by Fagan. He has remarked (Fagan: 2008a) that he made a very small sketch of the house on the back of a cigarette box when returning from an overseas trip. When he tried to draw the house from the sketch the size of a conventional fireplace would not work. He then scaled the small sketch exactly which resulted in the size and extent of the chimney which formed a winter room. Sketches found in Fagan's archive suggest that the fireplace form was influenced by the old lime at Mowbray, Cape Town (figure 7).



**Figure 7**

**Left: Lime kilns at Mowbray, Cape Town (Pearse, 1933: 23). Right: Fagan's sketch of the lime kilns presumably copied from Pearse (Fagan archive, Die Es - Job No. 656, undated).**



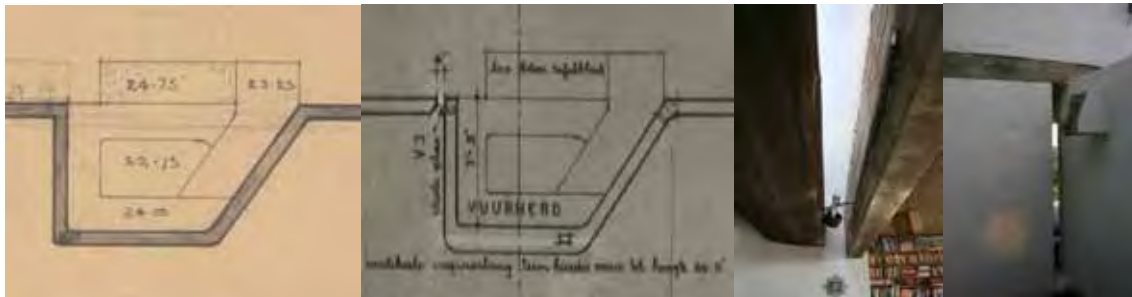
**Figure 8**

**Left: Fireplace at die Es as viewed from road side garden (Author, 2008). Middle: Cantilevered external fireplace to dining court of Die Es (Author, 2008). Right: Fireplace to Fagan's farmhouse at Kameeldrif around 1963 (Author, 2008).**

Fagan's fireplace extension to the house and smallholding in Kameeldrif, Pretoria that he bought from his lecturer at Pretoria University, Basil South (1925-1952), (figure 8) is reminiscent of the first fireplace he designed and built for his parents in Keurbos (1951). The forms are similar but the treatment of the stone is very much in keeping with the Highveld aesthetic, which demonstrates Fagan's respect for context.

In most cases when a plastic design expression is sought (and the fireplace is externally located), the fireplace forms a unit that is part of the building. But an interesting mediation between vernacular uniformity and a Modern Movement tendency to separate elements is achieved in Die Es (1965), where the fireplace (when viewed externally and frontally) reads

as part of the house, but on closer inspection is actually separated from the living space by a narrow window on the left and a glazed rooflight above (figure 9). Similarly an external fireplace cantilevers precariously from the sea facing courtyard wall (figure 8).



**Figure 9**

**From the left: Fagan's sketch plan for Die Es (1965) (Fagan archive - Job no. 656 undated); Fagan's working drawing plan of Die Es showing addition of window to partially divorce the fireplace and from the main block (Fagan archive job no. 656, undated); View from hearth looking up at wired glass skylight separating fireplace and main building (Author, 2008) and view of slit window alongside fireplace (Author, 2009).**

In contrast, in houses with less plastic expression and an internal hearth, the fireplace is separated into its constituent parts, with the Semperian mound still evident in the heavy base. It can be argued that Fagan, in a Modern Movement way (perhaps to achieve material and functional efficiency), expresses the varying functions of the fireplace by separating the hearth from the flue. In House Raynham (1967), the pinnacle of the roof rests on a concrete column against which a separate steel flue is supported (figure 10). In House Beyers (1998), a stand-alone steel fireplace extends into a stainless steel flue which seemingly supports the roof pinnacle above as it rises through a balanced steel collar (figure 10). These limited internalized configurations could possibly have been influenced by the houses of Fagan's lecturer Cole Bowen (1915-1952), who often used the fireplace as a room-dividing element. Similarities can also be seen in those designed by Marcel Breuer (1902-1981) whose Modern Movement leanings downplayed the dominance (yet independence) of the hearth and flue.



**Figure 10**

**Left: Fireplace flue as roof support to House Raynham (1967) (Photo courtesy of the Raynhams, 2009).  
Right: Fireplace at House Beyers (1998) (Author, 2009).**

There is, however, no clear formal development in the fireplaces that Fagan has designed that suggests a move from stereotomic to tectonic resolution. It is the requirements of overall

form and spatial definition that mainly dictate the outcome, as Fagan mediates the concerns of function, symbol, focus and response to tradition.

### **The wall**

Fagan's predilection for the stereotomic quality of the Cape vernacular wall results in his use of masonry architecture that acts both as structure and enclosure. Fagan asserts (2012) this is necessary in a Mediterranean climate to provide sufficient thermal mass. The most developed approach occurs in houses such as Ida's Valley (1975), Lückhoff (1981) and Paradys (2003) (figure 11), where a complete stereotomic and plastic expression is achieved. Here the barrel vaulted roof structures require support at both edges. Fagan cuts limited openings in these supporting walls, leaving a substantial beam and edge to define each space. In House Lückhoff the openings are arched to extend structural and formal integrity but in Paradys they are post and lintel configurations most likely to foster a continuity of space.



**Figure 11**

**Top and bottom left: Exterior and interior views of barrel vaulted roofs at Houses at Idas Valley (1975) (Author, 2008). Middle: Exterior and interior views of barrel vaulted roofs at House Lückhoff (1982) (Author, 2008). Right: Exterior and interior views of barrel vaulted roofs at House at House Paradys (2003) (Author, 2009).**

Fagan follows a vernacular approach when forming smaller openings in external walls. Here he creates punctured elements with splayed reveals reminiscent of many of the old Cape Dutch homesteads, but he organizes the shape and location of these elements to suit the interior requirements. In House Keurbos (1951) a splayed window to the servant's room (figure 12) provides privacy for the rest of the inhabitants while allowing a dominance of wall over opening on the western façade. An extended version can be seen in the recent proposal House van der Linde (2011) (figure 12). This approach contrasts with the vernacular where similar window sizes and shapes were used to suit all purposes. Where large openings are required for views or exterior contact, a Modern Movement approach is taken as walls are interrupted by large floor-to-ceiling openings. But the structural and formal continuity of the wall is retained where it acts as a ground floor support, such as at Die Es (1965), where large openings are formed with rounded edges (figure 12).

The planar nature of Modern Movement architecture is also echoed in the separated planes of Fagan's walls. Fagan uses this device to cleverly disguise service entrances that may fall within public view. The strategy also allows walls or other elements to read independently from one another to limit continuity or create hierarchies. House Raynham's (1967) front boundary walls are set back from one another to provide for a service gate to the yard (figure 12), while they rise but do not meet the external wall of the house. The same approach to boundary wall and house is used in houses Lückhoff (1981), J.J. Fagan (2008) and both Swanepoel houses (1980 and 1990) (figure 38).



**Figure 12**

**Top left: Splayed window to House Keurbos (1951) (Author, 2009). Top middle: Floor to ceiling windows with rounded corners to Die Es (1965) (Author, 2009). Top right: Layered boundary wall to House Raynham (1967) (Author, 2008). Bottom: Model of House van der Linde (2011) showing extended splay window (Author, 2012).**

Fagan employs a woven brick wall externally at houses Keurbos (1951), Langgeluk (1963) and Die Es (1965) (figure 13). The back of the carport wall at Die Es is made with a front face of vertical bricks and a rear face of horizontally laid bricks. These are reminiscent of Norman Eaton's (1902-1966) and Cole Bowen's experiments with brickwork (figure 13). As Semper (Semper & Mallgrave 1986: 130) remarks:

In many cases brick construction permits an ornamentation that also corresponds to wickerworks and the joint bonding of stone, for which there occur very beautiful and noteworthy examples in the early Italian style of architecture.



**Figure 13**

**Top left:** Honeycomb wall between living and dining rooms in House Collins (1951) by Cole Bowen (Cole Bowen, 1953: 49). **Top right:** Brickwork wall niches in living room and study of Eaton's Anderson house (1949-1950) (Harrop-Allin, 1975: 80). **Bottom left:** Fagan's sketches of screen wall to Die Es (1965) (Fagan archive job. no. 656, undated). **Bottom middle:** Keurbos original patio wall (Fagan, 2012). **Bottom right:** Rear wall of carport to Die Es (Author, 2012).

Externally, Fagan uses the principles of a woven wall through the redefinition of the vernacular shutter. The timber screens which provide sun protection, privacy and security are almost always made with slots between the timber to allow light and ventilation. The fact that they slide provides a range of spatial opportunities not possible with a static masonry wall and echoes the planar nature of Modern Movement architecture. They also echo those designed by Eileen Gray (1878-1976) for her Lou Pérou house in Chapelle-Ste-Anne, built between 1954 and 1961 (figure 14). This approach demonstrates how architects in completely different contexts interpreted vernacular elements in Modern Movement ways.



**Figure 14**

**Top left:** Sliding shutter to window of Eileen Gray's House Lou Perou (1954-1961) (Constant, 2007: 194).

Fagan also creates a woven wall internally through the use of natural timber balustrades, bookcases or storage units and sometimes curtains to divide spaces. In houses Levin (1969) and Fagan in McGregor (2005) (figure 15) the balusters are extended upwards to meet the roof and provide partial privacy between the double volume living space below and the bedrooms above. At Keurbos (1951) (figure 15) the dining area is screened off from the entry way by horizontally slatted shelves and cupboards and the living area from a bedroom passage by way of bookcases. At House Swanepoel in Cape St. Francis (1980) and Paradys (2003) (figure 15) cupboard spaces are hidden by curtains.



**Figure 15**

**Top left: Balustrade as screen wall in House Fagan in McGregor (2005) (Author, 2009). Middle: Cupboard as screen between hall and dining area of House Keurbos (1951) (Author, 2008). Top right: Curtained cupboard to bedroom of House Paradys (2003) (Author, 2009).**

## **The roof**

Semper (Semper & Mallgrave, 1986: 111) suggests that the roof developed as a prime element of shelter from its humble beginnings as a tent or cover over a hollow in the ground, gradually being raised to become an element on columns or walls. This tectonic tradition is expressed in the Cape vernacular mainly as a reed-covered and timber-framed pitched roof directly attached to the walls. Fagan has developed two distinct roof typologies, both influenced by local vernacular sources.

The stereotomic tradition of brick-vaulted roofs has been used in the farmworker's houses in Idas Valley (1975), Houses Lückhoff (1981), Paradys (2003) (figure 11), the unbuilt Van Zyl in Swellendam (2007) and a proposal for House Visser (2011). Here roof, wall and floor attain a complete plastic unity. But these interpretations are probably also, in part, related to the influence of Le Corbusier's interpretations of the Mediterranean vernacular in his 1935 weekend houses in Paris and Petite Maison de Weekend (Villa Fèlix, 1935) at La Celle-Saint-Cloud (figure 16). Fagan (2008) sees the roof as a potentially important design element, be it in folded planes as in the Raynham house, or moulded plaster as in Paradys, in both cases relating to and explaining the plan. It is the plasticity and whitewall surfaces that relate to our traditional architecture and sit so well in our landscape, rather than the separated rigid forms dictated by the typical wings of a Cape Dutch homestead.



**Figure 16**

**Left: Le Corbusier and Pierre Jeanneret: Maison de Weekend, La Celle-St-Cloud, 1935: isometric (Frampton, 2001: 136). Right: Le Corbusier and Pierre Jeanneret: Maison de Weekend: interior (Frampton, 2001: 136).**

Fagan's interpretation of the Cape vernacular tectonic tradition of trussed or raftered roofs is guided by the singular nature of form that he wishes to represent. After Modern Movement experiments with flat roofs in South Africa, many architects like Douglas Cowin (1911-?) began to use roofs more inspired by Frank Lloyd Wright (1867-1959). Large overhangs protected houses from rain and sun and although this approach is appropriate for the Cape, Fagan resists the obvious solution and mainly uses pitched roofs with no eaves to achieve a holistic plastic solution. Only two houses have used extended eaves, namely House Auldearn (1992) and a new proposal, House van der Linde (2011) (figure 17). Even the flat roof is avoided<sup>7</sup>, Fagan preferring the possibilities of volume, space and light inherent in pitched roof spaces.



**Figure 17**

**Previous page left: Pitched roof to House Raynham (1967) ((Photo courtesy of the Raynham, 2008). Previous page right: House Levin (1969) (Author, 2008). Left: Frank Lloyd Wrightian roofs to house Auldearn (Author, 2009). Right: Model of House van der Linde (2011) (Author, 2012).**

Fagan often connects roof and floor (tectonic and stereotomic) elements through the use of a timber column which also helps to demarcate spatial zones. It was first used at Keurbos (1951) (figure 18 and 19) to define the starting point of the ramp, and was later used for the carport roof at Die Es (1965) (figure 37). In House Swanepoel in Cape St. Francis (1980) these ideas were extended through the use of a similar internal column but also through the provision of external roof supports on the sea-facing edge (figure 18).



**Figure 18**

**Top left: House Keurbos (1951): column support for main roof over dining and living areas (Author, 2008).  
Top right: Column support to carport at Die Es (1965) (Author, 2008). Bottom: Roof supports to House Swanepoel in Cape St. Francis (1980) (author, 2005).**

### **The cave (the cellar)**

Earth is the building bearer, nourishing with its fruits, tending water and rock, plant and animal (Heidegger, 1975: 179).

The cave can be described as an embryonic space where man connects with nature in the closest possible way. Fagan's haptic sensibilities (possibly developed through his childhood exploits of trench digging in his garden and his appreciation of the stereotomic qualities of



the Cape vernacular) coupled with his pragmatic bias have fused to create innovative ground/building connections in his houses (figure 19) – Keurbos (1951), Bertie-Roberts (1966), Raynham (1967), Paradys (2003), Die Es (1965), Auldearn (1992) and Fagan in McGregor (2005).



**Figure 19**

**Top left: View from living room in House Keurbos (1951). The stone clad wall can be seen behind the bookcases (author, 2008). Top right: House Bertie-Roberts (1966). View from the garden showing stone retaining wall. (Fagan archive - job No. 644, undated). Bottom left: House Auldearn (1992). View from car court to entrance portico (author, 2009). Bottom right: House Fagan in McGregor (2005). Concrete retaining walls anchor the house to the ground (author, 2009).**

These buildings are either entered from or sit within the ground in order to, at a functional level, facilitate service spaces to be located out of sight and, as Fagan notes (2008b), to partially hide ‘unsightly’ garage doors. Another major advantage is the reduction of building bulk and partial raising of the building to gain better access to views or sunlight. This strategy was employed in House Swanepoel in Hermanus (1990), where a large accommodation schedule had to be fitted onto a very small site and a distant sea view could be exploited. The strategy is also indicative of a symbolic approach in which the visitor is physically or visually re-associated with the earth. In some instances the slope of the site has assisted in facilitating these strategies but in houses Raynham and Swanepoel in Hermanus the sites were relatively flat and had to be excavated to achieve the desired result. The original owners of House Raynham (1967) indicate (2009) that this strategy was used to raise the ground plane of the house to get better solar access. Fagan heightens the connection to nature in these semi-basement spaces by using rougher natural materials, as on the walls at Keurbos and on the floors at Die Es.

You will also notice that the house, like that in the parable, is built firmly on the rock, and that the sandstone cobbling now takes a more sophisticated appearance. Gwen [Fagan’s wife] laid every single stone, sometimes washing them down with her tears (Fagan, 1985: 13). The floor material changes from rough sandstone outside, to the smoother and smaller scaled cobbles of the same material (off the site) (Fagan, 2008).

At Paradys (2003) (figure 20) the east-facing retaining wall of the sunken courtyard is painted red, expressing a mythical connection with the earth. But Fagan also exploits the earth-sky connection in a Heideggerian way:

The sky is the sun’s path, the course of the moon, the glitter of the stars, the year’s seasons, the light and dusk of day, the gloom and glow of night, the clemency and inclemency of the weather, the drifting clouds and blue depth of the ether (Heidegger, 1975: 179).

At Die Es the connection to the sky is expressed through a small skylight in the entrance hall (reminiscent of those in the bathrooms at Villa Savoye) (figure 20), while in House Raynham (1967) there is an oblique connection to the mountain and sky through a tall window (Figure 20). In House Swanepoel in Hermanus (1990) the connection is made through a large courtyard rooflight (Figure 20).



**Figure 20**

**Top left: View from roof of House Paradys (2003) into courtyard at road edge (author, 2009). Top right: House Die Es (1965). Rooflight over entrance hall (author, 2008). Bottom left: House Swanepoel in Hermanus (1990). Glazed courtyard roof providing connection to the sky (author, 2009). Bottom right: House Raynham (1967). Window connection to Table Mountain (author, 2008).**

### **The covered courtyard (the partial sky)**

Fagan's preference for a singular form in the landscape has fostered a mainly subtractive approach to the making of form. He uses the covered courtyard in a number of ways to foster a connection between earth and sky and to facilitate exterior contact within a controlled external form. Similar approaches can be seen in Le Corbusier's Villa Savoye where the box form is subtracted to form a series of partially covered and open courts.

In House Keurbos (1951) (figure 21) the roofs of both the entrance hall and dining room are glazed, allowing both light and sun to enter the spaces. Fagan (1985:6) notes that it also allows a view of the mountains beyond. The extensive planting and glazing to the southern roof pitch assist in mediating between inside and outside. A bathroom court is also formed in the northern

wall of the house and here no overhead protection is provided save for the continuation of the roof eaves (figure 21). The external wall frames a view towards the mountain while providing adequate privacy to the outside shower. On the eastern side of the house a smaller covered patio (which has now been glazed in on its northern edge) provides a protected open-air sitting area. Here the roof is opaque and connection with the exterior is frontally organized (figure 21).



**Figure 21**

**Top left: Glazed rooflight to dining area at House Raynham (1967) (author, 2008). Top right. Bathroom to House Keurbos (1951) as it was originally designed and built (author, 2008). Bottom left: Original covered terrace to House Keurbos (1951) now enclosed (author, 2008). Bottom right: Bathroom at House Keurbos altered by owner in 2010 and designed by Bert Pepler Architects (photo courtesy of Leon Krige, 2010).**

In House Swanepoel in Hermanus (1990) the glazed courtyard roof connects the interior volume to the sky while providing much needed light and ventilation within the constricted plan (Figure 22). A bathroom courtyard, similar to that of Keurbos (1951), provides privacy, light, ventilation and a view of the stars at night (figure 22). Security is provided by closely spaced reinforcing rods at the same pitch as the roof. Small rooflights to internal bathrooms extend the cellar and sky theme (figure 22). In House Auldearn (1992) in Elgin, a small internal planted courtyard creates a focus at the end of the passageway to the bedrooms (figure 22). The glazed roof allows light and sun to enter and provides a connection to the sky above.

The closest connection to Lewcock's description (2006: 210) of the opening up of the roof in vernacular buildings to accommodate the fireplace is the relationship that Fagan establishes between the flues and roofs in Houses Beyers and Swanepoel in Hermanus (1998). In both these examples the roof sections around the flues are glazed to establish a connection to the sky while allowing the flues to read as free-standing elements, Fagan creating an innovative mediation between the necessity for a singular form and the requirements of physical and climatic contact with the exterior.



**Figure 22**

**Left: Main bathroom courtyard at House Swanepoel in Hermanus (1990) (author, 2009).**

**Middle: Bathroom rooflight at House Swanepoel in Hermanus (1990) (author, 2009).**

**Right: Rooflight over small internal garden to House Auldearn (1992) (author, 2008).**

### **The open courtyard (the sky)**

Fagan remains true to the climatic considerations for courtyard design but frames spaces in a manner that suggests the influence of Modern Movement thinking. The only courtyard that is completely surrounded by buildings is an unbuilt one designed for the hot, dry climate of the Tanqua Karoo area of the Cape (figure 23). Here an almost Spanish style ensemble of buildings surrounds an internal pooled courtyard. In the Ceres area (which lies between the Tanqua Karoo and Cape Town), the courtyard of House Wolfaardt (1965) is surrounded by buildings on three sides<sup>8</sup>.

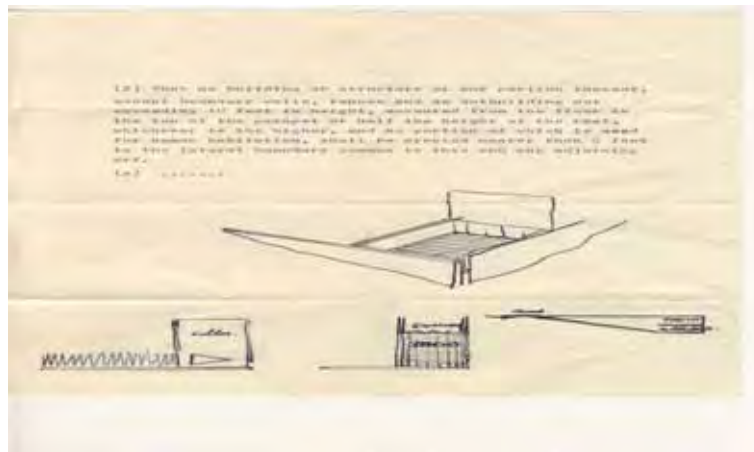


**Figure 23**

**Top left: Fagan's unbuilt Oudebaaskraal with central courtyard (1984) (Fagan, 2005: 94). Top right: Courtyard from dining room at die Es with 'woven wall' and slit to sea view beyond (author, 2008).**

**Bottom: Plan and approach view of House Wolfaardt at Skaaprivierplaas (1965). The plan shows a partially defined courtyard (Fagan archive - Job No. 653, June 1965).**

In the Mediterranean climate of Cape Town, Fagan favours a singular formal statement with large courtyards as extensions to or smaller courts as subtractions from the main form. The approach is a mediation of a generative (and introverted) open courtyard typology and a Modern Movement interpretation of continuous inside and outside space. In Die Es (1965), Fagan extends the dining space through a glazed wall to form an outside patio which also covers the partly subterranean garage (figures 23 and 24). It is reminiscent of the relationship between living room and raised courtyard in the Villa Savoye. The courtyard space is entirely walled in, save for a slot in the western wall which allows a glimpse over the sea while strengthening the enclosing power of the eastern and northern walls. The courtyard is not only connected to the sky but also to the higher mountain views to the east.



**Figure 24**

**Left: Fagan's sketch of the dining courtyard prepared for the local authority (Fagan archive- Job No. 656, undated).**

A similar mediation between inside and outside is achieved in the stepped glazing at House Blommaert (1982) in Stellenbosch (figure 25), where a sun-filled courtyard extends onto a stepped passageway linking two independent blocks.



**Figure 25**

**Left: Glazed walkway to bedrooms at House Blommaert (1982) (author, 2009).  
Right: View from courtyard to glazed walkway at House Blommaert (1982) (author, 2009).**

The private subterranean courtyard at Paradys (2003) in Langebaan provides protection from the chilly winds (figure 26). Its edges are formed by the surrounding earth and through glazed openings the space becomes an extension of the dining/living and kitchen spaces. In House Patterson (1966) Fagan uses a garden wall and three building blocks to define a courtyard hidden from the road and to foster the reading of a single form (figure 26). Connections to the courtyard are limited, in a vernacular sense, to punctured openings, save for the original extensive open connection at the pottery studio end.



**Figure 26**

**Left: Partly submerged courtyard at House Paradys (2003) (author, 2009).  
Right: Courtyard to House Patterson (1966) (author, 2008).**

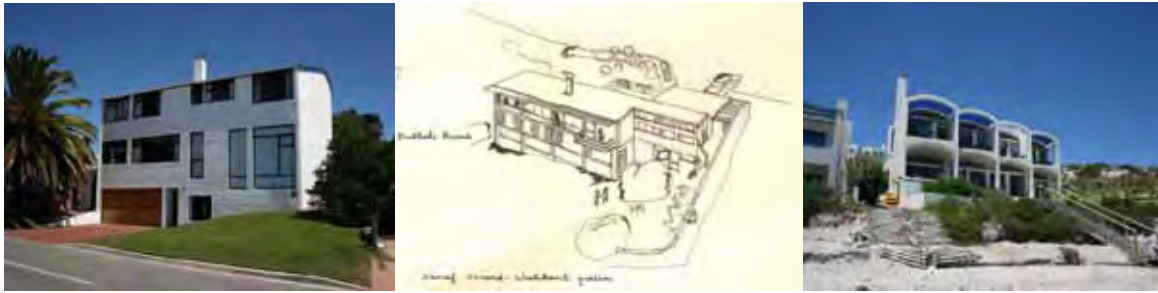
## **Productive typologies**

### **Constants**

#### **Primary form**

So strong is Fagan's conviction concerning the use of singular forms (figure 27) that he resists the design tendencies of his university lecturers Hellmut Stauch (1910-1970) and Cole Bowen to separate buildings into independent elements. Fagan relies on a subtractive architectural approach to maintain the primacy of the singular form. This seems to have been a Cape tendency influenced by the inherited and mediated architectural tradition.

For those households with permanent maids, the maids' rooms and bathrooms are usually planned as part of the house with interleading doors for possible later conversion into a guest room or to enable the maid to baby sit without having to sit up. It is probably only this variation which distinguishes the Cape plan from its upcountry counterpart as ... the arrangement and relationships of the rooms, like many small houses throughout the world to one another, is similar (Munnik & Visser, 1965: 38).



**Figure 27**

**Some of Fagan's lesser know buildings which all illustrate the formal principle of a singular statement.**

**Left: House Levin in Saldanha Bay (1969) (author, 2008).**

**Middle: Fagan's sketch for House Gardiner in Camps Bay (1972) (Fagan archive job no. 7203, 10/4/1972).**

**Right: House Brink (2002), Langebaan (author, 2008).**

Fagan's reliance on primary form represents a congruency<sup>9</sup> between that of the Cape vernacular tradition and the Modern Movement cubist influence. It is thus perhaps fortuitous that Le Corbusier's Mediterranean influences and his cubist creations were, in a formal sense, analogous with the Cape vernacular long-house. Fagan also relies on the sensory associations of primary form through his use of recognizable traditional elements such as the pitched roof and the chimney. But these elements are abstracted to elicit their purest and most functional intentions and located to serve more than their practical purpose.

## **Type**

So the Cape farmhouse, in its forms and the organization of its internal spaces, lends expression to the significance of the family ideal, and the importance of a focus, a strong unifying element or space, was simply but beautifully stated by our forefathers (Rashmere, 1965: 12).

Fagan's intimate knowledge of the Cape vernacular has allowed him to understand its development and refinement over time. His development of a set of ten 'lessons from the vernacular' is analogous with Le Corbusier's search for form in the Mediterranean vernacular. But just as the influence of engineering structures played a large role in the development of Le Corbusier's formal typologies, so has Fagan's understanding of the elements through yachting and flying modulated his approach to the making of form. Fagan's development of a fourth Cape vernacular<sup>10</sup> typology represents a mediation between the concerns of formal significance, functional requirements and context. His continual refinement of this new typology has resulted in an attainment of type that surpasses the universalist tendencies of his hero<sup>11</sup>.

## **Proportion**

Fagan notes that (Fagan, 1983: 8) in his early work he used proportional systems, based on Hambidge's book, to organize his design solutions. These bear many similarities to the inheritances of Le Corbusier's Modulor, but as Alford (1955: 113) points out,

Le Corbusier has developed and applied a theory of architectural proportion which is precisely that which Jay Hambidge believed he had discovered in the design of the Parthenon and in Greek vases, and which he published about thirty years ago under the title of Dynamic Symmetry.

Fagan has derived his understanding of proportional systems from three sources. A direct influence would have been Hambidge's Dynamic Symmetry (figure 28), as the system was taught at the University of Pretoria during Fagan's studies. Both Johan Jooste (2008) and Carl Gerneke

(2008) note that Fagan's university friend Karl Jooste (1925-1971) used similar approaches in his work. Fagan would also have been exposed to Le Corbusier's Modulor through teachings and his book purchases. But more direct and tangible were Renaissance influences on Cape Dutch architecture.



**Figure 28**

**Left: Proportional layout system in Hambidge's book *Dynamic Symmetry* with Fagan's office stamp in top right corner (Hambidge, 1932: 101). Middle: Lewcock's proportional systems placed over various Cape Town Cape Dutch buildings (Fagan after Lewcock, 2012). Right: Proportional layout for door to Die Es (1965) (Fagan, 2005: 36).**

Fagan does, however, recognize that

although lending a coherence and dignity to our traditional buildings, these ratios are very restrictive and generally lack the flexibility required by today's designs, and I have interested myself over the years in applying a system based on the Fibonacci (sic) series as evolved by Hambidge. Instead of calculating it arithmetically, however, I find that working visually on the drawing board with various diagonals, gives a better control over the result. This is a highly personal matter that I have found impossible to apply generally in the office, and can only use it in those (unfortunately now rather rare) cases where I myself draw the plans, sections, and elevations, plus all details which obviously require to be related on the same system. This is hardly the time to argue the merits of formal proportioning but that if it does nothing more than train the eye to become completely aware of its importance, it might already be justified (Fagan, 1985: 8).

For Die Es (1965) proportional systems were used to organize all aspects of the house from the general plan to the details.

## **Conventions**

### *Economy*

Fagan has developed economical design approaches to both space and the use of materials. Along with Modern Movement attitudes towards functional appropriateness, these are based on an appreciation of the simple technologies of the Cape vernacular, where limited materials were at hand and inventive approaches had to be sought. These approaches were coupled with economic circumstances in South Africa after the Second World War when resources were in short supply. Peters (1998: 187) remembers that Stauch was adept at building a lot with a little and this attitude must have influenced Fagan through Stauch's teachings at the University of Pretoria. Fagan's knowledge of boat building and the compromises that need to be reached between weight and durability versus speed has played a significant role in his material choices.



He often employs the flitch beam where larger spans would make the size of timber uneconomical and bulky, the latest example occurring at House Mitchell (2005) (figure 29). Here he combines timber with plate steel to form rafters. He also employs cross beams to limit the size and span of rafters. The positions of these cross beams also help to define and demarcate spaces, such as at the junction of living and dining rooms in Keurbos (1951) (figure 29), the loft spaces in House Swanepoel in Cape St. Francis (1980) (figure 29) and at the carport in Die Es (1965). Fagan also limits building depth as in vernacular buildings, where limited timber lengths determined spans.



**Figure 29**

**Left: House Mitchell (2005): Flitch beams in living area (Author, 2009). Middle: House Keurbos (1951) where cross beams are used to reduce span and define spaces (Photo courtesy of Leon Krige Architect, 2010). Right: Column supports for thatch roof at House Swanepoel in Cape St. Francis (1980) (Fagan archive - Job No. 8011, slide collection IC, undated).**

The limited internal space in a yacht has also influenced Fagan’s designs. A recurring theme is the nautical bathroom<sup>12</sup>, a tight (and sometimes unforgiving) internal space often with roof light over, which is entered by stepping over a raised cill. The entire space is designed as a shower complete with duck boarding. The tightest configuration can be seen in Paradys (2003) (figure 30). Fagan recalls (Fagan, 2009) that he stood on a piece of paper and described the tightest arc that he thought would be suitable. The earliest nautical example is in Die Es where the Plexiglas skylight is reminiscent of that of a yacht (figure 30). A raised cill and curved corners extend the approach.



**Figure 30**

**Left: Main bathroom to House Die Es with Plexiglas skylight over (1965)(Author, 2009). Middle: Bathroom entrance to House Lückhoff (1981) (Author, 2009). Right: Bathroom off bedrooms to House Paradys (2003) (Author, 2009).**

Fagan also reuses materials, such as for the front door of Die Es (1965) which was salvaged from old copper boilers (Fagan, 2012) (figure 31) and Japanese fishing net floats at Die Es (figure 31), which was built by himself and his family achieving huge monetary savings. The limited brick palette at Paradys (2003) and the 1981 Lückhoff house fosters economical construction. The front door to House Paradys (2003) was “bought at a rummage sale in Tulbagh after the 1969 quake, but its precise provenance is unknown, except that it was apparently picked up in the veld on the farm Middelpoos” (Fagan 2012) (figure 31).



**Figure 31**

**Left: Japanese fishing net floats as light fixture in second bedroom of Die Es (1965).**

**Middle: Front door to Die Es (1965) made from copper boilers (author, 2009).**

**Right: Front door to House Paradys (2003) (author, 2009).**

### *Efficiency*

The convention of efficiency is closely related to that of economy. In Modern Movement terms there had to be a direct relationship between the functional requirements of space and what was used in architectural terms to give effect to that space. Le Corbusier believed that effective and functional design would naturally give rise to beauty. Fagan (c.1991: 15) alternates in his approach to this attitude, firstly agreeing:

The primary responsibility of the architect is not to satisfy his sculptural instincts. The primary responsibility of the architect is to design an effective living environment – that is, a building that works, that uses materials well, that uses energy effectively,

but then disagreeing:

Again, it is only ignorance that can explain the belief, so useful to shield behind, that a structure will automatically be beautiful if it is fit for its purpose. Bridge design especially illustrates that fine aesthetic sensibility is essential for full success, as numerous detail design options that make equal structural and economic sense, will present themselves and a harmonious end result comes only through the developed aesthetic sensibility of the design engineer.

Fagan’s approach to efficiency is technological, spatial and functional. Materials are always used in their purest form. In situ reinforced concrete is left as is, sans plaster or paint, even when it could possibly compromise the integrity of the overall form such as at Die Es (1965) (figure 32), where the first slab is exposed on all edges. Brickwork is bagged and painted (figure 32), an aesthetic tendency Fagan must have inherited from mentors such as Stauch and Eaton who employed similar approaches, but also from the rough textured nature of the Cape vernacular.

Roof timbers are varnished (figure 32) but doors are often painted to give symbolic expression to their interior and exterior nature (figure 32).



**Figure 32**

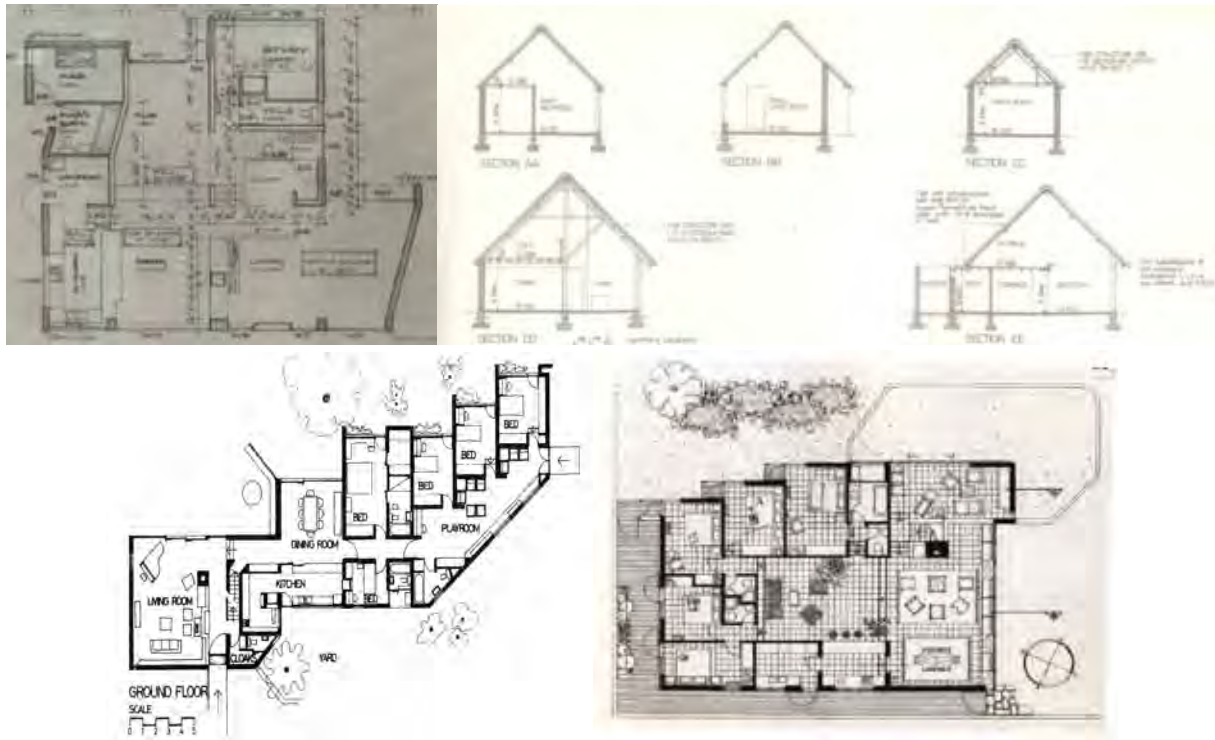
**Top Left: Exposed first floor concrete floor slab to House Die Es (1965) (author, 2008).**

**Top right: Bagged and painted brickwork to House Blommaert (1982) (author, 2009).**

**Bottom left: Differing internal and external colours to doors at House Swanepoel in Cape St. Francis (1980) (Fagan archive - Job. No. 8011, slide collection IC, undated).**

**Bottom right: Bagged and painted brickwork and timber beams and ceilings to House Blommaert (1982) (author, 2009).**

In spatial and functional terms service zones are tightly organized and combined so that more space is available for living and sleeping. Volumes are exploited to provide mezzanines for sleeping or storage<sup>13</sup>, while passages become study and play spaces. Fagan mostly adopts a centrally entered plan which limits the length of circulation routes (figure 33).



**Figure 33**

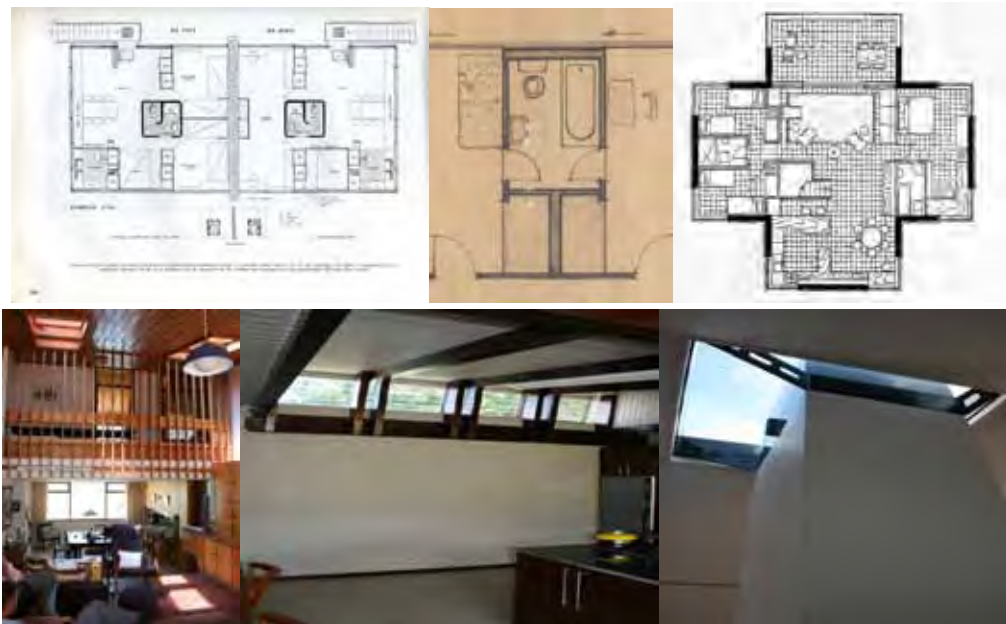
**Top left: Fagan’s sketch plan for House Levin (1969) with central circulation core (Fagan archive - Job No. 6910, 24/07/1969). Top right: Various sections for House Swanepoel in Cape St. Francis (1980) showing loft and storage spaces (Fagan archive - Job No. 8011, 18/11/1980). Bottom left: Part plan of House Raynham showing extension of passageway into playroom (Fagan, 2005: 52). Bottom right: Plan of House Swanepoel in Hermanus showing tight service and generous living spaces (1990) (Fagan 2005: 103).**

### *Health*

Initial Modern Movement concerns for the health and well-being of inhabitants led to the development of many of Le Corbusier’s architectural principles. The roof garden and courtyards or balconies together with volumetric exploration and an increased building height provided light, sun and adequate ventilation to occupants. The necessity for solar orientation later resulted in the attenuated plans of architects such as Marcel Breuer (1902-1981). Developments by local architects such as Eaton and Stauch influenced other architects and lecturers such as Cole Bowen and South.

Fagan has adopted the attenuated plan but it is not only employed for adequate solar penetration. Views play an even bigger role in the development of the linear form, such as at houses Raynham (1967) and Swanepoel in Cape St. Francis (1980) where mountain and sea views dominate. Fagan uses light not only to provide comfortable conditions but also to accentuate the architectural promenade. The seemingly incongruous internal position of bathrooms in many of Fagan’s designs mitigates against good light and ventilation. Fagan is perhaps uncompromising in these situations, preferring to maintain a tightness of form which gives preference to light and ventilation for bedroom and living spaces<sup>14</sup>. But perhaps the Corbusian influence remains prominent as can be seen in the internal bathrooms designed for Maison Loucheur (1929) (figure 34). Fagan does, however, manipulate the roof in innovative ways to allow solar gain and views where necessary. House Levin (1969) incorporates rooflights and breaks centrally to allow light to penetrate the circulation volume, while a simple angled roof light provides adequate light to

the kitchen in House Wolfaardt (1965) (figure 34). House Swanepoel in Hermanus (1990) has three different roof light configurations – over the courtyard, around the chimney (figure 34) and a series of bathroom domes.

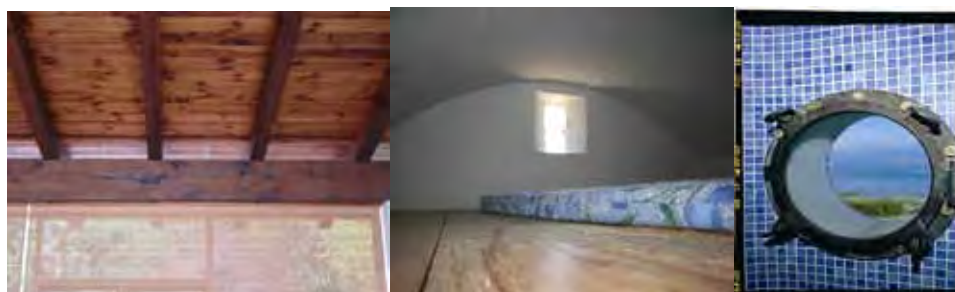


**Figure 34**

**Top left: Plan of Maison Loucheur by Le Corbusier (1929). Note the tightly planned bathrooms (Le Corbusier & Jeanneret, 1943: 198). Top middle: Plan of main bathroom at Die Es (1965). Top right: Plan of House Beyers (1998) showing the tightly planned bathrooms (Fagan archive - Job No. 9813, undated).**

**Bottom left: View of rooflights to upper floor bedrooms at House Levin (1969) (Author, 2009). Bottom middle: View of angled rooflight to House Wolfaardt (1965) (Author, 2009). Bottom right: View of rooflight around chimney to House Swanepoel in Hermanus (1990) (Author, 2009).**

Fagan adopts an innovative approach to ventilation which is reliant on the Modern Movement principles of the separate requirements of view, solar gain and ventilation for windows. At Keurbos the glass louvres, sliding windows, and frameless glazing panels (figure 35) between exposed rafters provide ventilation. Paradys (2003) has a frameless pivoted glass window above the mezzanine level and portholes in the bathrooms (figure 35).



**Figure 35**

**Left: Sliding glazed panels between rafters at House Keurbos (1951) (Author, 2008). Middle: Window to mezzanine over passage at House Paradys (2003) (Author, 2009). Right: Porthole at House Paradys (2003) sea facing bathrooms (Fagan, 2012).**

## New and renewed typologies

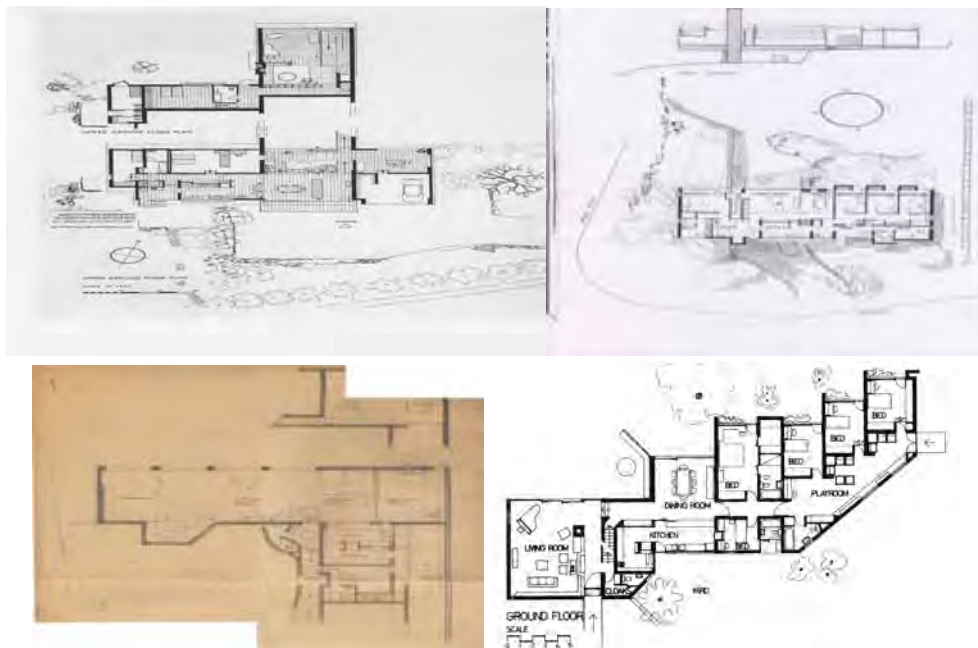
Cape Dutch architecture. The pitching of the roofs, the gabling of the ends and centres, the use of the same types of door and window similarly divided and shuttered, the whitewashed plaster, the wooden ceilings and red-tiled floors – these and many other details they had in common, formed the simple theme upon which a thousand gently dissimilar but beautiful variations were played. It was all so simple, so practical, so unvaryingly beautiful, so ‘right’ (Harrop-Allin quoting Eaton, 1969: 26-28).

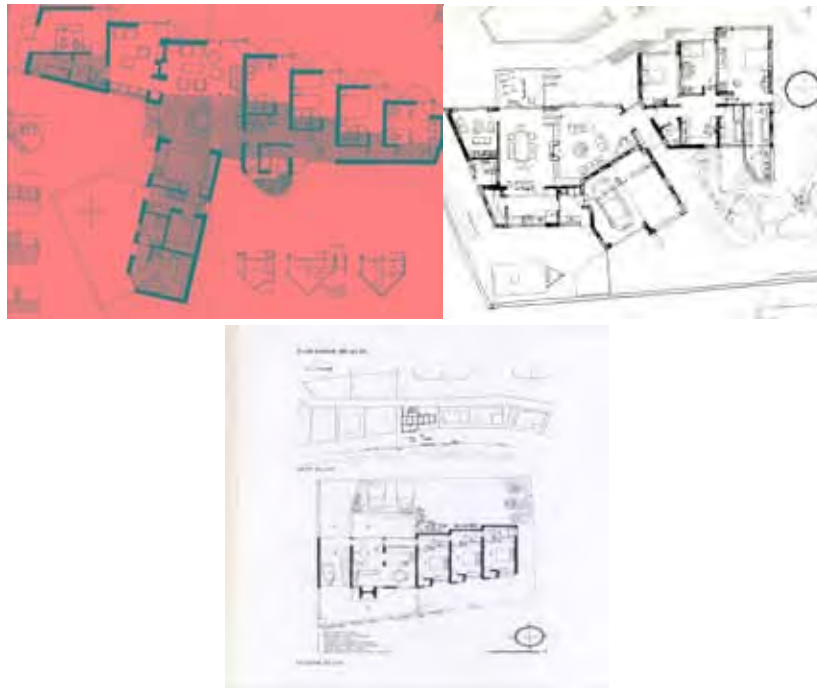
Fagan has built on Cape vernacular traditions as well as mediated Modern Movement influences to form his own typological patterns or formal themes in his domestic architecture. These have been extended through a personal typological approach. This has been developed over time through a constant reworking of an idea in order to perfect it, the reuse of approaches that have worked well and nostalgic leanings. This has created a recognizable architecture almost at the limits of a style – not aesthetic, but formal or functional. This approach informs Fagan’s ‘new’ architecture but it does not dominate or dictate the final architectural response.

### The linear (attenuated) plan (figure 36).

This device is mainly derived from the mediated Modern Movement principles of climatic orientation and function but also has its origins in the long-house plan of the Cape tradition.

Keurbos (1951) is clearly organized around the principle of served and servant spaces so that the living and bedroom spaces face the view and north. House Bertie-Roberts (1966) follows the same pattern in a much more rigid linear form. Fagan’s own house, Die Es (1965), is less rigidly organized at first floor level but the views and slope form the linear plan. Houses Raynham (1967), Swanepoel in Cape St Francis (1990) and Neethling (1983) are all organized in a linear manner but more amorphously as the houses try to straddle the concerns of view, site orientation and northern sun. The attenuated plan of House Swanepoel in Cape St. Francis (1980) is also the result of the limitations of a steeply pitched thatch roof which would become too high if the plan were too wide (Fagan, 2008c). Paradys (2003) responds to the slope of the ground and the sea views, allowing all bed and living rooms to face outwards and have exterior access.





**Figure 36**

**Top left: House Keurbos (1951) (Wale c1964:50).**

**Top right: House Bertie-Roberts (1965) (anon 1968: 12).**

**Second from top left: House Die Es (1965) (Fagan archive - Job No. 656, undated).**

**Second from top right: House Raynham (1967) (Fagan 2005: 52).**

**Second from bottom left: House Swanepoel in Cape St. Francis (1980) (Fagan 2005: 73).**

**Second from bottom right: House Neethling (1983) (Fagan 2005: 83).**

**Bottom: House Paradys (2003) (Fagan 2005: 125).**

### **The guided entrance**

The approach to many vernacular Cape buildings was axial in nature. In Fagan's houses there is a similar but more directed approach as the path 'grows' out of the ground, increasing in definition as the front door is approached. In House Bertie-Roberts (1966) (figure 37) the entrance route is guided from below by the sides of garden retaining walls that lead under a cantilevered edge of the house above. Here ground and house meet in an open riser staircase slung along the side of a concrete retaining wall. At Die Es (1965) a low white wall guides the visitor from the street, while a simple steel handrail on the carport edge (figure 37) extends continuously downwards to the front door.



**Figure 37**

**Left: House Bertie-Roberts entrance stair from carport (Fagan archive - Job No. 644, undated).**

**Right: Entrance wall, carport column and steel rod handrail leading to front door (author 2009).**

At House Raynham (1967) the approach starts with a path perpendicular to the street. As the house is angled in respect of the street the path meets a ramp extended from the house at a point of change in direction. The ramp is raised and edged by a low wall, cutting off the view to the garage below and guiding movement towards the recessed front door and top light above. The entrance to House Swanepoel in Cape St. Francis (1980) is defined by an extended wing of the main building and a curved bathroom courtyard wall. House Neethling (1983) is similar in that the edge of the projecting garage and garden wall define the entry route, while House Swanepoel in Hermanus relies on a low garden wall and slightly downward sloping ramp. At Paradys (2003) and Fagan in McGregor (2005) retaining walls are used to form a descending route. Entry is partially hidden by the perpendicular approach to a garage door and only on reaching the garage is the front door revealed (figure 38).



**Figure 38**

- Top left: House Bertie-Roberts(1965) (anon, 1968: 11).**
- Top right: Model of Die Es (1965) (Fagan archive - Job. No. 656, undated).**
- Second from top left: House Raynham (1967) (author, 2008).**
- Second from top right: House Swanepoel Cape St. Francis (1980) (author, 2005).**
- Third from top right: House Swanepoel in Hermanus (1990) (author, 2008).**
- Second from bottom right: House Neethling (1983) (author, 2009)**
- Bottom left: House Paradys (2003) (author, 2009).**
- Bottom right: House Fagan in McGregor (2005) (author, 2009).**



**Building/earth relationships – typological and topographical (figure 39).**

The Cape vernacular tradition is formally composed of white rectangular forms which, through their shape and colour, provide a strong counterpoint to the linear landscape. Many orthodox modernist forms share this formal similarity while also responding to the landscape in a classical manner. Fagan's houses draw on these similarities but provide tension through a more romantic and physical connection with their surroundings. The junction between earth and house is, in most cases, where entry occurs and a conclusion could be that Fagan wishes to re-associate the visitor with his earthly beginnings before entering the private realm. House Bertie-Roberts (1966) literally hovers between earth and sky as the box form, carried on two concrete u-shaped channels, cantilevers over stone and concrete retaining walls. But the building is grounded by its walled connection to the earth.



**Figure 39**

**Top left: House Bertie-Roberts (1965) (Fagan, 2005:19). Top right: House Bertie-Roberts (1965) (Fagan archive - Job No. 644, undated). Previous page bottom left: House Die Es (1965) low garden wall (author 2008). Middle left: House Raynham (1967) sunken garage (Author, 2008). Middle right: House Swanepoel in Hermanus (1990) (author 2008). Bottom left : House Paradys (2003) (author 2009). Bottom right: House Fagan in McGregor (2005) (author 2009).**

The house is both dug in and raised up at the same time and the crossing point forms a logical position for the entrance. Die Es (1965) steps down with the site and seemingly forms itself out of the plastic white walls that grow from the garden. In House Raynham (1967) the garage is submerged out of sight, anchoring the building in the ground while the hovering ramp provides a sense of disconnection from the earth. House Swanepoel in Hermanus (1990) anchors itself to the earth through the partially submerged garage and stone retaining wall to the north. A low garden wall to the south completes the framed “base” while the rest of the house perches above in unison. Houses Paradys (2003) and Fagan in McGregor (2005) are connected to the earth in similar ways as their garage and front door entry points merge in the earth. Paradys is less submerged but in both cases a strong link to the earth is formed at these points.

### **The chimney as focus (figures 40 - 42)**

The chimney is an important vernacular element both in terms of its formal importance as a recognizable feature and because of its physical and spiritual function as the hearth of the home. Fagan has recognized the nostalgic associations and in Die Es (1965) exaggerated this feature to create a fireplace room and a focus point externally. House Patterson (1966) has a similar fireplace room but the chimney is not as evident in the formal composition. Here the counterpoint to the monopitch roof bears similarities with Keurbos (1965). The chimneys to houses Paradys (2003) and Brink (2002) provide a counterpoint to the linearity of the houses. There is also a subtle distinction in the relationship of chimney to wall. In houses Keurbos (1951), Patterson (1966), Auldearn (1992) and Brink (2002) the chimney engages with the adjoining wall surface, while at Die Es (1965), Paradys (2003) and House Lückhoff (1981) the chimneys maintain differing degrees of independence from the main form.



**Figure 40**

**Top from left to right: Chimneys at House Die Es (1965) (author, 2009), House Patterson (1966) (author, 2008), House Keurbos (1951) (author, 2009), House Paradys (2003) (author, 2009).  
Bottom from left to right: Chimneys at House Brink (2002) (author, 2009), House Auldearn (2002) (author, 2009), House Lückhoff (1981) (author, 2009).**

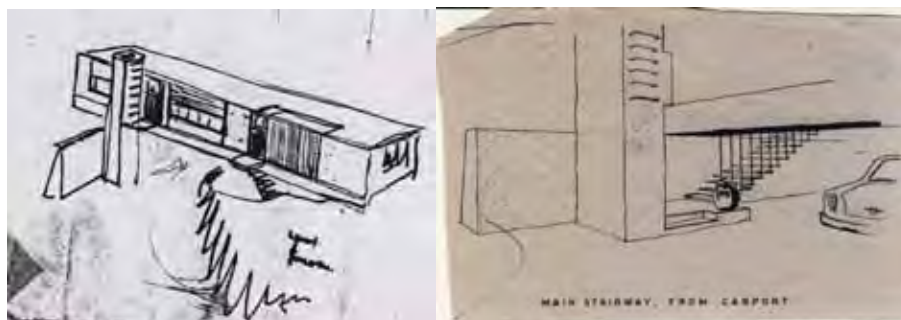
But in houses Neethling (1983) and Swanepoel in Hermanus (1990) the chimney takes on a new role as structural support for the roof. In these houses the chimney becomes both the physical and functional hearth of the home and provides both an internal and external focus point. The plasticity of the column chimney is innovatively explored in House Neethling, where the chimney twists to accept the tapering roof beams. House Beyers (1998) is also centered at the roof pinnacle but does not act as a structural member. Here as in House Swanepoel in Hermanus (1990) light filters into the living spaces through glazed connections between chimney and roof.



**Figure 41**

**Left: House Neethling (1983) (Author, 2009). Middle: House Swanepoel in Hermanus (1990) (author, 2009). Right: House Beyers (1998) (author, 2009).**

In House Bertie-Roberts (1966) the chimney takes on many roles. Although the cantilevered floor structure is supported on the grounded wall, the position of the chimney visually assists in a supporting role. Apart from its functional role as hearth, it defines the entry area and serves as a ‘lookout’ tower, a requirement of the owner who was a fisherman. Access to the outside of the chimney was gained from the study. The chimney also acts as counterpoint to the linear box form and as focal point to the building.



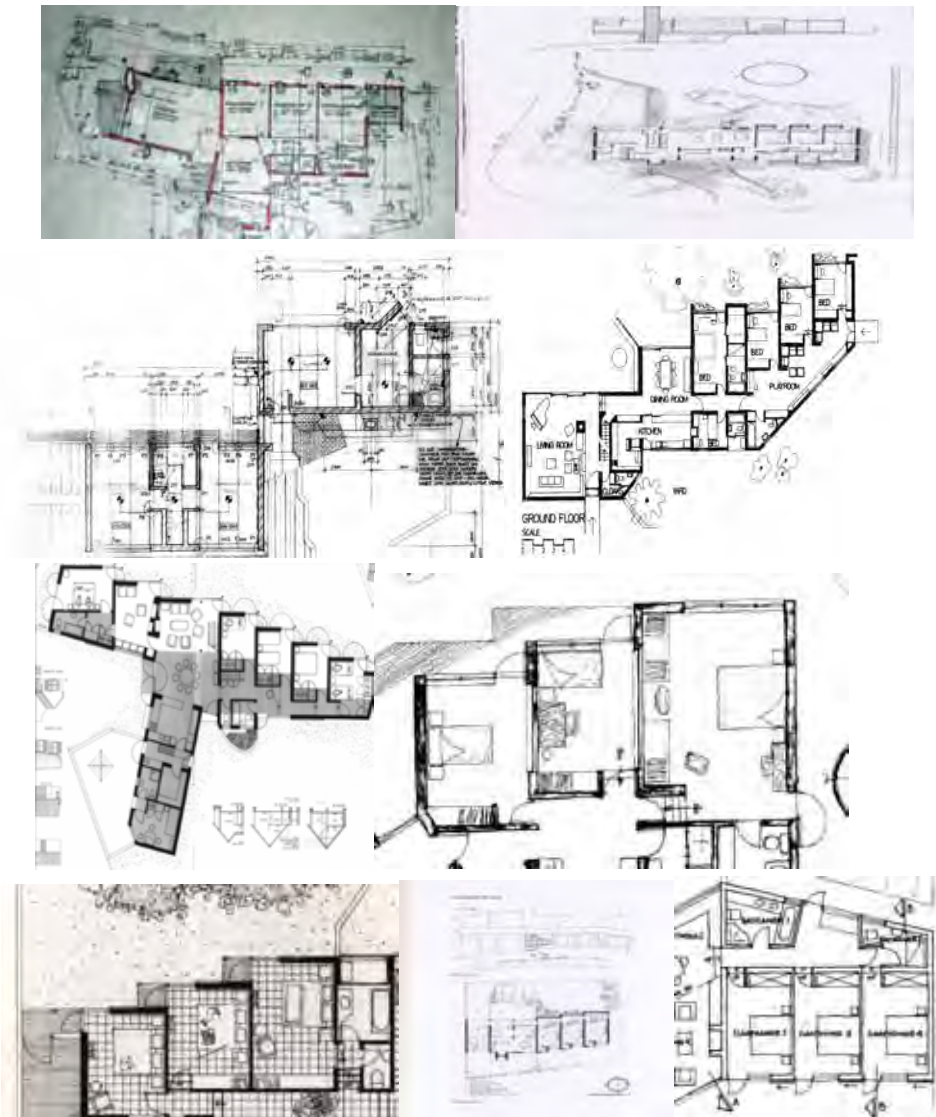
**Figure 42**

**Fagan’s sketches for House Bertie-Roberts (1965) showing supporting role of chimney on left and access on right (Fagan archive - Job No. 644, undated).**

### **Bedroom privacy and external contact (figure 43)**

Fagan once remarked (1996) that bedrooms should never suffer from the ‘Holiday Inn syndrome’ explaining that once you left your bedroom and stepped on the balcony you were there for all the world, including your neighbour, to see. In House Bertie-Roberts (1966) the first evidence of

the creation of private spaces outside bedrooms can be seen. Fagan extends the cupboard areas outwards to create private recesses. In House Raynham (1967) the stepped plan was used for the first time and Fagan (2008c) remarks that here he had space to be able to step the plan and create a private space for each bedroom, which made an enormous difference to the qualities of the interior space. In houses Swanepoel in Cape St. Francis (1980) and Hermanus (1990) the stepped plan encompasses a corner window. In houses Raynham (1967), Blommaert (1982) and Neethling (1983) the bedrooms have a more direct relationship with the garden, a similar approach to that of Paradys (2003). Here, for the first time, the bathrooms are used (together with the stepped plan) to create privacy for each room.



**Figure 43**

**Part plans showing relationship of bedrooms to the exterior. Top left: House Lombard (c.1960s) in Nylstroom by Fagan's contemporary Karl Jooste - note the slight wall splay at each bedroom (Courtesy of Cultural History Museum Pretoria). Top right: House Bertie-Roberts (1965) (Anon, 1968: 12). Second from top left: House Blommaert (1982) (Fagan archive - Job No. 8204). Second from top right: House Raynham (1967) (Fagan, 2005: 52). Second from bottom left: House Swanepoel in Cape St. Francis (1980) (Fagan, 2005: 73). Second from bottom right: House Neethling (1983) (Fagan, 2005: 83). Bottom left: House Swanepoel in Hermanus (1990) (Fagan 2005: 103). Bottom middle: House Paradys (2003) (author, 2009). Bottom right: House Fagan in McGregor (2005) (Fagan archive - Job No.0507, undated).**

## Functional separation (figure 44)

Many of the interior organizations of Fagan's houses echo the bi-nuclear planning arrangement used by Marcel Breuer<sup>15</sup>. The 1951 Keurbos house clearly separates living from sleeping areas on both levels. In Die Es a vertical separation is used but the regularity of the bi-nuclear arrangement is returned to in houses Bertie-Roberts (1966), Raynham (1967), Neethling (1983), Paradys (2003), and Mitchell (2005). In houses Swanepoel in Cape St. Francis (1980) and Fagan in McGregor (2005) the living space becomes a mediator between sleeping spaces on each side. Most plans also rely on a served and servant arrangement, with bathrooms and kitchens positioned on the colder and less open side of the site.

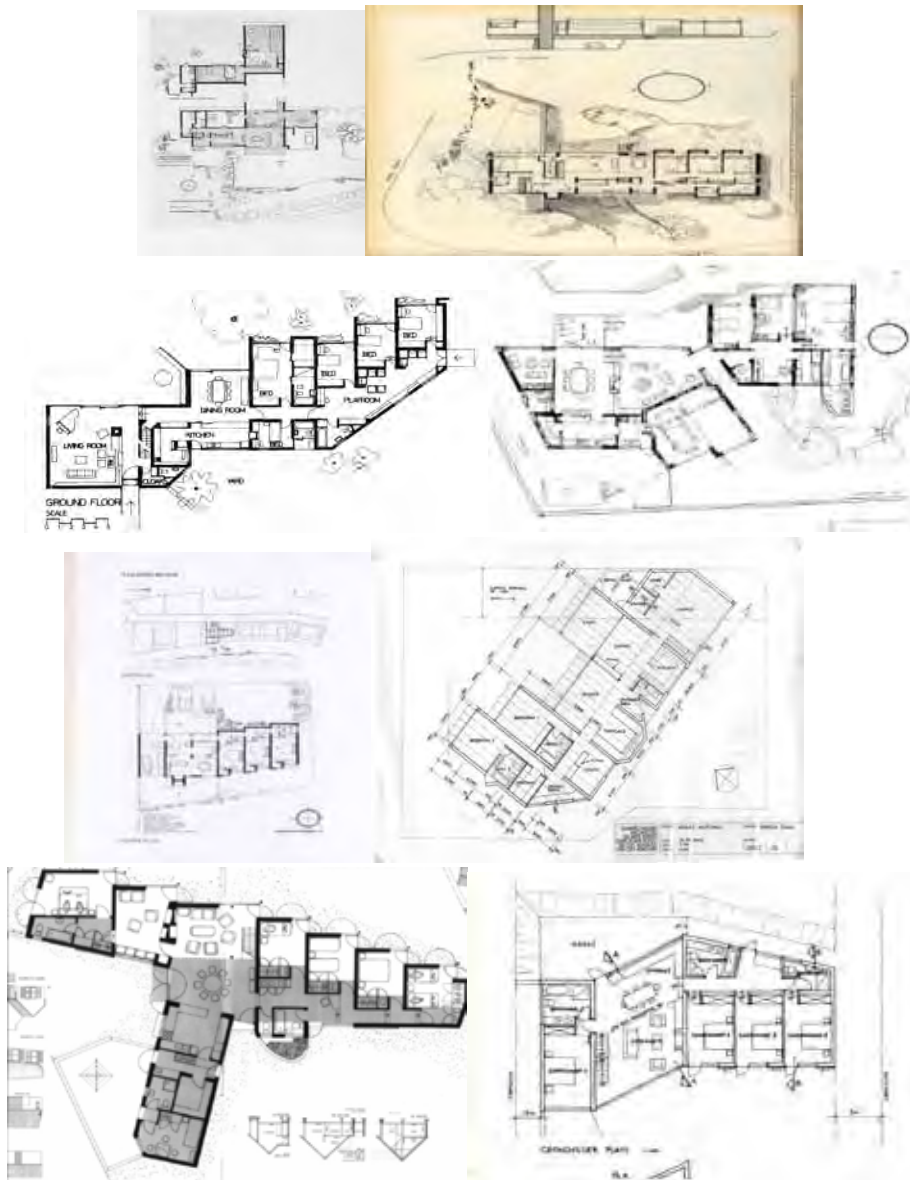


Figure 44

Blue areas indicate bedrooms and associated spaces. Top left: House Keurbos (1951) (Wale, c.1964: 50). Top right: House Bertie-Roberts (1965) (anon, 1968: 12). Second from top left: House Raynham (1967) (Fagan, 2005: 52). Second from top right: House Neethling (1983) (Fagan, 2005: 83). Second from bottom left: House Paradys (2003) (Fagan, 2005: 125). Second from top right: House Paradys (2003) (author, 2009). Bottom left: House Swanepoel in Cape St. Francis (1980) (Fagan, 2005: 73). Bottom right: House Fagan in McGregor (2005) (Fagan archive - Job No.0507, undated).

### **The roof as holding element (figure 45)**

The double pitched moulded roof typology is used by Fagan most successfully to create a sense of plasticity and unity. Houses Raynham (1967) and Neethling (1983) are similar in their copper forms rising to the focal point of the chimney in the living room. The roofs form almost awkwardly at times but are strong elements that control and hold spaces below. A volumetric interaction between room and roof space occurs and boundaries are seemingly blurred in a continuously flowing interior space. This continuity is less evident in House Swanepoel in Cape St. Francis (1980), but the roof still holds powerful sway over the internal spaces and external walls, allying itself to the slope of the dunes below. At Die Es (1965) a sinusoidal roof form holds the upper floor spaces together. Glazed sections above the internal doors foster a spatial continuity that allows the roof to lightly control and hold the private spaces.



**Figure 45**

**Top left: House Raynham (1967) (Photo courtesy of the Raynhams). Top right: House Neethling (1983) (author, 2009). Bottom left House Swanepoel in Hermanus under construction (1990) (Fagan archive - Job No. 9020, undated). Bottom right: House Die Es (1965) under construction with Fagan and his son Hennie working (Fagan archive - Job No. 656, undated).**

In early sketches of House Simpson (figure 46), Fagan organizes a series of independent roofs that rise to the climax of the chimney in a very Frank Lloyd Wrightian way – Taliesin West is mentioned on one of the sketches.



**Figure 46**  
**Fagan's sketch of the roof to House Auldearn (1993) with reference to Frank Lloyd Wright's Taliesin**  
**(Fagan archive - Job No. 9302, undated).**

## Conclusion

Fagan has manipulated the influences of the formal, spatial and functional canons of the Cape vernacular and a mediated Modern Movement to create his own typologies. His design solutions mediate between generative interpretation and productive invention, and in so doing create a new and appropriate local architectural language that synthesizes new and old. The new patterns are convergent solutions in the sense that they are constantly used but are reworked in each new design and although they provide the architecture with a recognisable signature they avoid stylistic monotony. A new and timeless architecture appropriate for the Cape is created by a synergous relationship between an inherited tradition and mediated Modern Movement influences.

## Notes

- |   |   |
|---|---|
| <p>1 Attenuated refers to the 'stringing' out of functions along a line (often facing north) while bi-nuclear refers to a planning organization where living and bedroom spaces are mediated by entry and circulation spaces.</p> <p>2 Frampton (1995: 6,7) defines the distinction between stereotomic (cut from stone) and tectonic (framed) construction as being that of heavy and light.</p> <p>3 Allied to this is the use a curtain to visually separate spaces.</p> <p>4 After Curtis (1996: 13).</p> <p>5 After Curtis (1996: 13).</p> <p>6 After Semper (Semper &amp; Mallgrave 1989: 111).</p> <p>7 Fagan has used a flat roof to connect independent elements in Die Es and on House Brink but both are punctured by roof lights.</p> <p>8 The owners have subsequently added a roof to part of the courtyard which takes away light from some of the spaces.</p> | <p>9 In this instance there is less need for mediation as the forms of both influences bear many similarities, partly due to their, often, common Mediterranean inheritances.</p> <p>10 Greig (1970: 17) defines two vernacular traditions in South Africa - the first being developed through the influence of the Dutch and the second through the British. The author postulates that a third was formed through the influence of Baker and the Arts and Crafts movement while fourth was developed through the influence of the mediated Modern Movement in South Africa and expressed in the work of architects such as Revel Fox (1924-2004), Pius Pahl (1909-2003) and Gawie Fagan.</p> <p>11 For a detailed understanding of Fagan's development of type see the section on new and renewed typologies that follow.</p> <p>12 These configurations seem to be used most often when the houses are in close proximity to the sea.</p> <p>13 This is very much in line with Stauch's efficient use of space and his ex business partner</p> |
|---|---|

- Nation's comment (2001) on Stauch that no space should ever be wasted. Stauch's own house Hakahana in Pretoria has a similar mezzanine configuration.
- 14 He is also uncompromising in his definition of external form, so much so that the possibility of windows in external walls to bathrooms in House Beyers (1998) were not explored or instituted. This caused much consternation to the clients (Beyers, 2009).
- 15 Fagan clearly describes how Breuer achieves this separation in the 21 April 2008 interview, but explains that client requests drove the programmatic separation. Although this may be the case, the formality of the linear organization follows Breuer's approach very closely.
- 16 The author suspects that the surname should read Rushmere.

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