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## **FROM BRAKDAK TO BAFOKONA: A Study in the Geographical Adaptation and Cultural Transmission of the Roofed Dwelling**

Franco Frescura

### **INTRODUCTION**

The parapet or lean-to dwelling is a flat roofed structure ubiquitous in many parts of southern Africa. It has been associated, over the past two centuries, with a wide range of urban and rural environments. In the process it has also gained for itself a variety of names, having from time to time, as the preferred residential form of Karoo, Griqua and Dutch farmers and the emancipated Malay community. More recently its use has also spread to indigenous communities to such an extent that it has also become popularly known as a highveld dwelling. Yet this nomenclature is not only and highly misleading. For one thing it is based upon a number of wide generalisations and group images which have prevailed at one time or another during this country's history. The implications of being a style of construction deny both the economic processes which have shaped the historical patterns which link this structure to a Cape and, ultimately, a wider European architectural tradition. This paper traces the origins of the flat-roofed dwelling in southern Africa and the social and economic processes which have facilitated its transmission and incorporation into the body of indigenous built forms. It also documents the changes and adaptations which occur when dwelling forms and technologies of one culture are adopted by another.

### **HISTORICAL BACKGROUND**

The beginnings of a flat roof tradition in Cape domestic architecture appears to have begun in Cape Town during the early years of the eighteenth century as a response to the potential danger of thatch roofs in a densely populated urban area. This fear of fire had already manifested earlier, in August and September 1691, when Cape Town's Council of Policy, under the leadership of Governor Willem Adriaan van der Stel, promulgated regulations enforcing the reduction of chimneys deemed to be too high and roofs with chalk, clay or other fire-resistant materials (Picard, 1968: 18). This was reinforced by Willem Adriaan van der Stel who, as Governor between 1699 and 1708, forbade the use of thatch on the street (Picard, 1968: 24), an activity which Kolbe, who resided at the Cape between 1705 and 1714, attributed to:

"Sailors and (Khoikhoi) (who) were continually crowding and smoaking their Pipes with carelessness, set 'em on Fire ... Yet now and then a Sailor or a (Khoikhoi) is seen smoking and when they are so, there is no Lenity for 'em, if they are laid Hold of, but away they go to the Post, and lash'd indeed very severely." (1731: 346-353)

Although at first only the buildings of the Dutch East India Company (VOC) appear to have been built with flat roofs by 1732 the dwellings of private individuals also began to follow suit (Lewcock, 1963). The use of thatched roofs was accelerated after 1736 when five houses were set alight during a storm in Cape Town. Fortunately for its citizens the south-easter, which had been blowing at the time, died and the rest of the settlement was saved (Picard, 1968: 38-39).

**ILLUSTRATION 1. View of Cape Town, c1710, as pictured by C van Stade. Three small flat-roofed structures are visible in the immediate centre-left foreground. This picture has been edited to highlight the buildings.**

One of the earliest pictorial records of a flat roofed structure was made by E van Stade who visited the Cape in about 1710 (Gordon-Brown, 1975: 225). His view of Cape Town from the sea shows a small village made up principally of hip and gable roofed buildings. Three units here, upon the sea front, have unmistakable mono-pitch roofs whilst a fourth may be found on the Castle's northernmost rampart, also known as the Buuren bastion (Hattersley, 1969: 1-2). A similar panorama by van Stade, drawn from the opposite direction, on the low Table Mountain, shows the slave lodge, a long flat roofed structure located south of the Castle, and similar units located in the proximity of the Company's gardens (Hattersley, 1969: 4-5).

Half a century later, in 1762, the Danish artist Johannes Rach stopped over in the Cape and visited Batavia (Gordon-Brown, 1975: 208). His drawings show Cape Town to be a growing city where residences remain roofed in the older manner although a number of warehouses are now flat roofed. A later drawing of Greenmarket Square in 1764, also by Rach, supports this. It shows the Burgher Watch House, recently completed in 1755, surrounded by predominant flat roofed dwellings (Hattersley, 1969: 64-65).

Within the next fifteen years however, the roof line of Cape Town was to change dramatically. Sparrman, who visited the town in 1775, was able to report that:

*"A great part of their houses as well as the church are covered with a sort of blackish roofs at the Cape are like flat brick floors ... "* (1975: 47-49)

The extent to which flat roof dwellings had spread throughout the settlement was illustrated by German artist Johannes Schumaker in a panorama of Cape Town he painted in about 1775. Although he has not taken too much artistic license, his drawing shows that out of approximately 100 domestic structures, only 41% still retained their pitched and, presumably thatched roofs (Brown, 1975: 218).

Although it is obvious that this new technology was first associated with civic buildings in a neo-classical style, marked them as belonging to the VOC, such as the Burghers' Warehouse and the Town House as it became known subsequently, its use soon spread to humbler homes.

When, for example, Sparrman visited a Khoikhoi settlement in the Outeniquas in 1775, he noted that, far from the usual mat beehive structures normally associated with this group, others "were of a square form, with shelving roofs, like the cottages of the slaves." (1975: 267)

This statement is important for it indicates that, by 1775, the use of flat roofed structures had become a habit within the minds of outside visitors. Not only were burghers building these structures for their slaves, but they had already done so in sufficient numbers as to create a stereotypical habitat within the minds of outside visitors. Sparrman's account is also the first recorded instance of a domestic form being transmitted to indigenous groups, something that was to take on increasing frequency in subsequent years.

**ILLUSTRATION 2. William Burchell pictured this portion of Strand Street in about 1810 as a series of two older gabled and thatched structures interspersed between them.**

The replacement of pitch roofed structures in Cape Town was to continue apace over the next generation and by the time Barrow visited the Cape in 1797, just over a generation later, he was describing the town's houses:

"... are generally white-washed, and the doors and windows painted green; are mostly of a moderate height, flat-roofed, with an ornament in the centre of the front, or a kind of pediment before the door with a seat at each end." (1804: 340-341)

His wife, Lady Anne Barrow (nee Truter) whom he married locally, painted a panorama of Cape Town about 1800 and shows that, by this stage, a mere handful of thatched roofs had survived. This fact is supported by Burchell in 1810 (1953: 53) (illustration 2). By the 1830s few, if any, thatched roofs were found in the town (illustrations 3 and 4).

**ILLUSTRATION 3. The panoramic views of Cape Town depicted by Sir Charles D'Oyly during the early 1830s, show few signs of pitch roofed structures. This picture has been edited.**

**ILLUSTRATION 4. View of Cape Town and Table Bay by Sir Charles D'Oyly, May 1832. This picture has been edited.**

## THE ORIGINS OF A FLAT ROOF AESTHETIC

Although fire prevention must be regarded to be a strong practical reason why a flat roof aesthetic have gained such widespread acceptance in Cape Town during the eighteenth century,

of this architectural form within such relatively small geographical confines present features. Why, for example, did it not gain wider usage in other Cape settlements of matter, why was its use limited to Cape Town whose cold, wet winters made its tech impractical? The answers, I suspect, are multi-faceted and cover a wide range of cor

There is no doubt that although flat roofs were applied at an early stage to small sca structures, their aesthetic was associated from the outset mostly with governmenta buildings (Rapoport, 1969: 3-6). Later, as their use spread to domestic architecture, Town began erecting substantial double storey homes, and although many of these some obvious stylistic links with the Cape architecture of earlier times, such as the front parapet, the aesthetic principles upon which they were based owed more to a originating from Europe than to the nature of local architecture.

The roots of the flat roofed aesthetic have, over the years, been the subject of consic writers, like Clive Chipkin, have claimed that:

*"... the low slope, horizontal parapet town house – is linked to maritime areas once w predominance; but ultimately this natural building form derives from the Mediterran Marine Tradition."* (1985: 30-34)

Barrie Biermann takes this thinking a little further. He points out that not only was nineteenth century Greek farm-houses very similar to that used in the Cape's flat ro comm, March 1989), but that the Portuguese erected flat roofed buildings in both E East. It was inevitable therefore that a maritime nation such as the Dutch should cc this domestic form, as they traded with and, in some cases, conquered and occupie colonies. In Sri Lanka, for example, the Dutch established a military presence in 160 protracted wars, finally drove the Portuguese out in 1658. Thereafter they proceeded extensive administrative reforms which included an ambitious programme of publi resultant buildings appear to have been constructed in the flat roofed manner of th replaced, and modern architectural historians often experience difficulties in differ colonial buildings of Portuguese and early Dutch settlers. It is presumed then that t learnt of the flat roof through their colonial experience and, given the correct enviro adopted it as their own (Biermann, 1952).

Lewcock, on the other hand, puts forward a different point of view. He states that d seventeenth century:

*"... a restrained classicism was prevalent in the architecture of Holland. Pattern books Vingboom popularised this style, one which favoured a simple rectangular box-like h central classic sculptured pediment crowning a forward projection in the centre of the*

This is a description which could be applied equally to any number of double storey Town during the latter part of the eighteenth century and which echoes the words ( a half earlier.

Considering the social and economic complexities of cross-cultural transmission, a postulated Mediterranean influence has, to date, been scarcely documented, Lewco

appears to date to be the more logical of the two theories.

Another factor that should be taken into consideration is the availability of building materials. Local timbers were not only found to be unsuitable, being long-grained and thus prone to rot, but their resources were relatively small. The indigenous forests near Swellendam were cut down and the yellowwoods and stinkwoods of Plettenberg Bay did not become available until the 1830s (10). In 1781 le Vaillant was horrified to learn that:

*"... the India directors send every year, from Amsterdam, several ships loaded with planks of more than two thousand leagues, into a country abounding with immense forests of all kinds of wood in the world ..."* (1790: 173-174)

Barrow, on the other hand, was more realistic in his assessment when, in 1797, he reported:

*"Timber of all kinds for building is an exceedingly scarce and expensive article at the Cape. It is found to thrive most rapidly; but the timber they produce is generally shaken and unsound."*

Therefore, throughout the seventeenth and eighteenth centuries, the builders of the Cape had to rely on expensive imports of timber from Europe and India to supplement their meagre local resources. Bricks and roof tiles also had to be shipped in and were thus prohibitively expensive.

This seems to indicate two things. Firstly, that a shortage of timber suitable for construction led to the development of a Cape wall building tradition. As such its aesthetic was suited to an approach which emphasised the walls at the expense of the roof structure, a factor which, at least, would seem to support Lewcock's hypothesis. However it must also be borne in mind that the Mediterranean flat roof tradition makes extensive use of domes and vaulting as part of its construction technology. A Mediterranean masonry tradition would have used such devices, as it has been in the early structures of the Cape Town Castle, but these precede the masonry tradition in Cape Town by at least a century. The fact that they never found wider application in domestic architecture in the Cape would seem to indicate that although the local Dutch builders favoured the flat roof, they never mastered the masonry techniques needed for its efficient construction. This means that the spread of flat roofs in Cape Town can be explained as an attempt, on the part of the builders, to revive a forgotten architectural form whose technology was never fully understood or optimised on a limited source of expensive building materials.

Thus, whilst the burghers of the more closely populated urban centre, Cape Town, were limited to a small stock of timber, and as a result changed their housing form to meet this constraint, the residents of the rural areas found themselves under no such strictures and were able to build their homes in their preferred manner. Presumably also, rural settlements being small and sparsely inhabited were not as liable to the spread of fire through strong winds as was Cape Town. They did not feel the need to replace their thatch roofs with less combustible materials.

The question of a town's visual identity and the collective civic self-image enjoyed by its inhabitants may also have played a strong role in pre-determining the spread of such ideas. The town of Swellendam, for example, was largely destroyed in December 1710 by a fire attributed by Kolbe to a Dutch slave (Hattersley, 1969: 23-24). In spite of this, when the settlement was rebuilt soon afterwards its dwellings retained their distinctive thatched roofs. Subsequent conflagrations which

and 1803 also do not appear to have prejudiced public opinion against this roofing to any degree.

Secondly, the shortage of local timbers would have become particularly acute during the eighteenth century. This appears to coincide with a period of transition during which homes shed their gables and thatch and converted to a flat roof aesthetic. At the same time, the advent of improved wall building methods and increasing population pressures would have encouraged Cape Town's burghers to expand their homes upwards into a second storey. The focus on verticality itself to the principles of neo-classical design, thus indirectly also reinforcing the preference for flat roofs.

Taken as a whole these factors would seem to explain why the inhabitants of Cape Town, in the face of prospects of conflagration or, alternatively, a prohibitively expensive roofing technique, chose a flat roof as a choice to alter their housing to a form whose water exclusion properties were not as good as those of a gabled roof. Nonetheless, represented the minor of two evils. It also explains why the flat roofed building found wide acceptance in urban areas outside of Cape Town right up to the mid-nineteenth century. When it did spread, at first this was only in areas where arid climatic conditions made the flat roof technology to perform satisfactorily.

## TECHNOLOGY AND CONSTRUCTION

Originally the humble single storey flat roofed parapet dwelling consisted of a central living/kitchen area with a sleeping room located to one side of it. Windows were usually placed above the door opening giving the front facade a symmetry which belied the asymmetrical plan beyond it.

**ILLUSTRATION 5. CE Boniface depicted his own house, at the upper end of Long Street, Cape Town, in about 1832.**

**ILLUSTRATION 6. The business premises in Cape Town of JC Poortemans, in about 1836, whose artistic lithography and snuff making.**

An example of such a building was the residence of CE Boniface, which could be found at the upper end of Long Street in about 1832 (Gordon-Brown, 1975: 86) (illustration 5). On the other hand, the artist Jacobus Poortermans located his lithographic office in 1836 had a two-room building which was made distinctly asymmetrical by the introduction of an additional window to the side (Gordon-Brown, 1975: 93, 205-207) (illustration 6). Subsequent developments of the floor plan of a central voorkamer or, alternatively, of a central passage which led to further rooms on either side, in such cases then the symmetrical street facade became a more accurate reflection of the internal arrangement.

However it must be emphasised that such developments in the floor plan of the single storey house were matched, and perhaps even preceded, by similar events in the evolution of the gabled and gabled domestic structures - an architecture which today is described as being Cape Dutch. In spite of its unique outward form, the flat roofed structure did not become a distinctively new form in its own right and whether dealing with the houses of affluent burghers or the newly arrived immigrants, the early dwellings remained, in their essential character, Cape Dutch houses with Cape Dutch characteristics. The new aesthetic therefore did not remove them from the larger body of early immigration buildings, but merely created a variant of its original form.

One of the factors, which may have promoted the (mistaken) idea that the flat roof was a separate architectural tradition in the Cape, was the characteristic treatment often seen in the interior. Although there obviously existed a number of variants, the usual practice was to encase the window reveals with a broad plaster border and the corners were often treated as applied pilasters. A horizontal splash band could also run the length of the facade, rising as high as the window sills.

The parapet walls rose on three sides of the low-pitch roof allowing rainwater drainage to the rear and away from the facade. The front parapet was often corniced although in some cases the decorative mouldings were also heavily ornamented with baroque scrolls (Hattersley, 1969: opposite page 10).

Its construction was also unique. The roof often consisted of 25-35mm yellowwood boarding on heavy beams. A crushed brick aggregate was laid next and finished with three courses of seashells. This method of building suffered severely from water-exclusion problems particularly in Cape Town where winters are both cold and wet.

Further afield the farmers of the Cape interior also used a roofing technology which was known as the *brakdak*. It is a method of construction common to many arid regions of the Cape from Morocco to Anatolia, and comprised a series of timber beams, supporting a framework of battens or slates which, in their turn carried a superstructure of earth. In lime-bearing regions this was achieved by the use of a whitewash or a quick lime coating but, in its absence, it was substituted with brackish soil which, having a high salt content, had good water repellent properties. The soil, known as *brak*, was spread in a thin pulverized layer over an earth screed laid to prevent any possible erosion. The process was completed after the first rains when the moisture hardened the *brak* into a hard continuous shell which sealed the surface (Barrie Biermann, personal communication). The term was derived by the Dutch from the obsolete French word *brack*, meaning brackish (Fowler, 1975).

**ILLUSTRATION 7. Mrs Swaving's French Academy for Young Ladies, by A Reid in 1831, shows many of the features of the Cape Town townhouse including applied corner pilasters, a bold parapet cornice and a stepped central gable.**

The double storey Cape Town house did not differ markedly from its single storey counterpart that it represented a larger, loftier and more polite version of the same theme. The building was raised on a raised plinth, probably of local stone, with a stoep projecting forward to the street enclosing a transitional space between the muddy street exterior and the fine residential interior. The facade was symmetrical about a central doorway, which was often emphasised by means of applied pilasters on either side and a high skylight above it, and was often terminated at roof height by a decorative parapet with mouldings. Houses with a projecting centre bay were often given a central pediment supported by columns following a standard *Vingboom* detail. A *dakkamer* or attic room on the roof sometimes projected above the storey to the building giving it the appearance of a gable. Sash windows were set flush with the exterior surface, the idea of recessing them being a later improvement introduced by the British. The central doorway, house, and sometimes also the individual window bays, were often articulated by narrow pilasters. Walls were almost invariably plastered with lime mortar and whitewashed (Hattersley, 1963: 8-11) (illustration 7).

This means that whilst the early dwellings of Cape Town had much in common with the rural architecture being built further inland, the widespread adoption of an urban flat roof was a distinct feature of the Cape Town townhouse.

1750s began a slow and inexorable drift apart in the building traditions of town and retained its gabled and thatched character whilst the former opted for a more contemporary fashionable outlook and, as will be shown below, where flat roofed dwellings were built remained a direct extension of the Cape cottage tradition.

## THE CAPE COTTAGE TRADITION

Like its early urban counterpart, the development of a flat roof tradition in rural areas can be read in the wider context of the Cape Cottage, a structure which, in its humble form, bears a close resemblance to the European longhouse. Sparrman visited one of these near Eerste Stellenbosch, in July 1775 and described it thus:

"In most places the house consisted of two rooms only ... The interior of one of these was a chamber for the boor himself, with his wife and children. The outer one composed of which they spread a mat for us on the floor ... The (Khoikhoi) of either sex, who were in service, always chose to sleep in the fireplace. This mostly took up a whole gable of the house. At the same time had no other hearth than the floor, ... " (1975: 137)

A similar residence in the Outeniquas he further described as having "*but two rooms, and less than two yards in breadth, and about six long, with a peep hole at one end of it, and a chimney at the other*" (1975: 265-266)

The homes of the graziers further inland present a consistent picture. In about 1797 they were described as having "seldom more than two apartments, and frequently only one, in which the boer and his wife or eight children and the house (Khoikhoi) all sleep" (1804: 120-121)

### ILLUSTRATION 8. Veld Kornet Snyman's homestead in the Agtersneeuwberg, depicted by William B

Burchell, who visited the Achtersneeuwberg north of Graaff-Reinet in 1811 (illustration 8), described the Vermeulen farmhouse thus:

"*The rooms in the principal house being but three (that is, one in the middle in which they ate their meals, and one bed-room at each end)*" (1953: 2:82)

while the Niekerk's homestead nearby was of a more humble character:

"*All the buildings were of the most miserable description ... The whole house formed but one room, with this a large fireplace at one end served for kitchen, where slaves, and some (Khoikhoi) sat round a chimney, cooking both for the company and for themselves. At the other end a screen divided the room for the female part of the family; while a few blankets spread upon a row of mats formed the only sleeping-place for the two young men, and for any casual visitors.*" (1953: 2: 8)

Not all such reports were as impartial. Barrow, who was forced to take refuge in a shelter near Cape Town in 1797, complained that:

"*There were but two apartments, one of which was filled with the company; the other*

*seemed, was made to answer a four-fold purpose of bed-chamber, work-shop, cellar, and protection of the weather, the closeness of the room, which had only one small aperture to admit the air, mingled odours arising from stinking leather, bunches of onions, butcher's meat swarthy of tobacco, dregs of wine and gin and Cape brandy standing in pools on the clayed floor, a congregation of foul and pestilential vapours", were sufficient to nauseate stomachs more than ours. Nor was the sense of feeling less annoyed by an innumerable quantity of biting mosquitoes." (1804: 120-121)*

More importantly however, he also reported that:

*"... a true Dutch peasant, or boor as he styles himself, has not the smallest idea of what is meant by the word comfort. His house is either open to the roof, or covered with only turf, affording a favourable shelter for scorpions and spiders; and the earthy floors are covered with dirt, and swarm with insects ... His apartments, if he happens to have more than one, are in a case among the grazing farmers, are nearly destitute of furniture." (1801: 76-77)*

Quite clearly then, the Dutch farmers of the Cape hinterland, probably somewhere along the road to Graaff-Reinet, were already building flat-roofed homes of their own by the early eighteenth century. These did not use the same technology as the more comfortable homes of the Netherlands, which were roofed over with simple turf blocks laid directly over the roof beams, an arrangement that could keep out more than a light drizzle. However, considering the nature of a grazier's life and the need for more substantial arrangements would have been needed.

These reports are all consistent with the findings of Hugh Floyd whose research has linked the architecture of the Cape to that of the northern European region, more specifically the longhouse building tradition (1983: 28-31). The longhouse is a term used in England to describe a traditional domestic structure having opposing doorways in the long walls, with the family's living space located to one side of the through passage between doorways, and a cattle byre to the other (Floyd 1975: 34-49). Although this house form has been documented extensively in the context of the medieval agricultural economy, its use has also been recorded in other countries and regions such as Brittany, Scotland and Denmark. Their chronology varies but examples are known to have been built in some places as late as the seventeenth century. Floyd argues that although the Cape longhouse is a longhouse in the medieval sense of the word, its colonial use represents an adaptation of the tradition in that the Cape dwelling was certainly accessed through the long wall and divided into two cells, one was used as sleeping space for the family and the other was used as a byre. Barrow's complaints about "foul and pestilential vapours" certainly appears to bear

Translocation of the longhouse tradition to the Cape took place not because of the Dutch who tended to build hall houses, but through the agency of the VOC whose employees were recruited from a wide range of coastal countries, from Brittany and the British Isles through to Denmark. The VOC settled its servants in Table Bay during the latter part of the seventeenth century and they were neither homogeneous nor predominantly Dutch and chose to model their farmhouses on the longhouse and common to the majority of them. Floyd also goes on to demonstrate how the Cape longhouse structure is typologically linked to a three-cell unit, the basic generator of plan form for the development of a Cape Dutch farmhouse architecture.

Barrow's accounts also make another important point: they indicate that the migrant Cape had, and often exercised, the choice of erecting either a pitched or a flat roof. Presumably they were guided in this by local climatic conditions and the availability of materials. This means that, whatever the form taken by the roof over, the plan of the house was essentially unaltered, thus retaining its links to the larger body of rural Cape cottages.

The implications of this argument are two-fold. Firstly, that the roots of the Cape cottage tradition, Cape Dutch architecture as a whole, lie neither in the Cape nor with the Dutch. More significantly to this paper, that the early nineteenth century Cape flat roof tradition represents the development of a new and separate cultural identity in Cape society, viewed as a series of architectural responses to changing regional and climatic conditions within the context of existing Cape architectural practices and, as such, belong to the local building custom.

It is true that differences in such elements as form, façade treatment and building materials lead to aesthetic variations, but these are not sufficient grounds in themselves for creating architectural divisions. The domestic plan on the other hand remained constant and, having been determined by the activities of its users, is the primary factor in determining the question of an architectural style. It stands separate from, and should not be confused with, aesthetic style. In the case of the Cape flat roof, this is supported by yet more evidence.

**ILLUSTRATION 9. The church square or nachtmaalplein at Piquetberg as seen by JC Poortermans in 1853. Photo edited.**

It does not appear, for example, that, outside of Cape Town and Simon's Town, there were any reasons why the rural cottage should either shed its pitched thatch roof or move into a new architectural development. There certainly was no rush on the part of colonial villages to follow Cape Town and convert their homes to the new flat roof aesthetic, but then perhaps they were not as exposed to the spread of fire as their mother city, nor were they as bound by questions of style. A pictorial survey of Cape towns during the first half of the nineteenth century reveals that Piquetberg (illustration 9) and Stellenbosch retained their essential early Cape Dutch character up to comparatively recent times; that few if any flat roofs were evident in Grahamstown (Burchell, 1953: 1: 85), Bethelsdorp in 1813 (Campbell, 1815), Grahamstown either in 1813 (Brown, 1975: 87, 158), Fort Beaufort in 1853 (Gordon-Brown, 1975: 165), Uitenhage at about 1850 (304) or Port Elizabeth in about 1860 (Gordon-Brown, 1975: 172); and that even Cradock and Reinet in about 1850 had a large proportion of pitch roofed structures (Gordon-Brown, 1975: 172).

## THE MECHANICS OF DISSEMINATION

The chronology, and indeed the whole process, by which the flat roof domestic structure came into use throughout southern Africa is a difficult one to establish. Not only do we lack detailed information of this form between 1820 and 1920 but its methods of dissemination are often contradictory. It is generally assumed, for example, that once the colony began to develop during the early 1800s, these settlers found the flat roofed dwelling to be ideal for the interior and within a short time this form began to be identified with the domestic architecture of Dutch farmers in the Karoo. Yet we know that once white settlement broke beyond

western Cape, its main thrust followed the well-watered coastal path to Algoa Bay and a road into the Karoo hinterland. The exploratory journeys made by Burchell in 1811 (Campbell in 1815 and 1820 (1815 and 1822)), proved crucial in this regard as they opened the interior via Uitenhage and Graaff-Reinet and highlighted the dangers and travails of the interior.

**ILLUSTRATION 10. Founding of settlements in the Karoo, 1786-1920.**

It is also recorded that of the sixty-eight major towns and villages in the larger Karoo founded before 1840 and just over 60% of them were begun after 1861 (illustration 10). Dissident Dutch farmers had already trekked northward and founded Winburg (1833), Pietermaritzburg (1838), Bloemfontein (1846) and Pretoria (1855) and had settled as Schoemansdal by 1849. Thus although Holub was led to comment in 1873 that:

*"In its general aspect, Fauresmith (founded in 1850) is very like the other towns in the Karoo of not more than eighty houses, ... clean white-washed residences, flat-roofed as elsewhere."*

A pictorial survey of other early Voortrekker towns further north reveals that only a small number of dwellings were flat roofed and that indeed, many such structures were of a temporary nature. At Bell's painting of Colesberg, for example, done in 1844 (Gordon-Brown, 1975: 39), the substantial buildings of the town are all pitch roofed whilst it is mainly the humble dwellings of recent arrivals, on the outskirts of the town, which carry flat roofs. Therefore, whatever the reasons, the flat roof dwelling was not part of the political and ideological impediment to the Voortrekkers to their new homes, and its spread into the southern African hinterland was a direct result upon the urbanisation of the region.

**ILLUSTRATION 11. The mission station at Bethany, OFS, visited by Backhouse in 1839, shows how the missionaries used the kapsteilhuis as a temporary shelter before erecting more permanent flat roofed houses. The illustration shows the kapsteilhuis and the mission station buildings.**

**ILLUSTRATION 12. Jerusalem, or Afrikaner's Kraal in Namaqualand, visited by Backhouse in 1840. The illustration shows the kraal and the mission station buildings.**

Our knowledge of individual flat roofed farmhouses is even more scattered. Early examples were recorded by Backhouse in 1839 at the Bethany and Beersheba missions in the OFS (1844: 357-359, 421) (illustration 11) and at Afrikaner's Kraal in Namaqualand in 1840 (illustration 12). Baines recorded flat-roofed dwellings at Colesberg in 1848 and at Bloemfontein (1861: 1: 99-100). There he accepted the hospitality of a Mr Colley whose store he described as a "spacious commodious building of one storey only and, like most of the others, flat roofed." (1861: 1: 99-100). His experience however did not prove a happy one. The town was overtaken by torrential rain and he had to report that:

*"As the day advanced the rain increased and poured through the mud roof, laid only with small bamboo reeds, almost as readily as it did outside ... every corner of the house was converted into mud and the only dry places under the bed and table."*

*"... people were seen in every direction attempting to stop the leaks in their roofs by throwing mud on them; and one person, in despair of finding a remedy, was actually obliged to bring out his family on a ceasing rain, load them up in wagons, and go in search of drier quarters." (1964: 2: 36)*

**ILLUSTRATION 13. Boer farmhouse in the OFS, recorded by Holub in about 1890. This picture has b**

**ILLUSTRATION 14. Private house in Potchefstroom, recorded by Wangemann, in about 1872. This p**

Flat roofed structures were also recorded in the Transvaal by Holub at Christiana in (illustration 13), by Wangemann at Potchefstroom in about 1875 (1871-75) (illustrati Merensky at Botshabelo mission station in about 1872 (1875).

It was also during this era that the flat roofed house became identified, for a brief p Griqua of the northern Cape and western OFS. In 1859 Mackenzie remarked how the Dutch colonists as their model in social life and manners, although most of their mi Englishmen." (1971: 61)

Remarkably, once this group migrated to Griqualand East in 1862, a region endowed and richer in thatching grasses, they abandoned the flat roofed dwelling and built fo and gabled cottages (Dower, 1902), very similar in appearance to those described by in the Cape previously.

The Griqua represent an important case study which demonstrates how the flat roof roof in the western Cape had historically been built in a pitched or ridged and gable to this once similar climatic and environmental preconditions were re-established. whether its plan conformed with the Cape two-cell longhouse derivative, but photo 1878 indicate that its outward form, being possessed of a door and two windows on large fireplace in the gable wall, was similar to that of the Cape cottage.

The social and economic factors which served to generate the flat roofed house duri eighteenth century are therefore becoming increasingly evident. Barrow's account c destitute of furniture", Sparrman's tale of houses of "but two rooms, somewhat moi breadth" and Baines' picture of Colesberg are all indicative of one fact: at best the r was a humble structure. Some might even say that it was a poor man's residence, or temporary abode of graziers, occupied but a few months of the year. Even the build settlements such as Philippolis, laid out as a town in 1862, were not exempt from th who visited it ten years later described its aspect as being:

*"most melancholy ... Equally dreary were the flat roofed houses, about sixty in numbe unenclosed, that constituted the town; ... the majority of the houses being unoccupied, was to be seen."* (1881: 1: 39)

Quite clearly Philippolis, which was begun as a station of the London Missionary So existence by 1872 to the Dutch practice of nachtmaal, a religious ceremony which b farming community of an area four times a year for the purpose of breaking bread, c and generally reinforcing their sense of identity and bonds of common purpose. It v created opportunities for general socialising, for teenagers to go courting and for far staple needs for the following three months. It was quite common for farmers to bu residences called tuishuise to serve their housing needs during nachtmaal and thes covered with a flat roof. This would certainly explain why Philippolis was mostly un

Holub's visit. Other towns in the Karoo also owed their existence to the spiritual ne community. Amongst them were Jansenville and Aberdeen in the eastern Cape, fou respectively. In both instances the congregation was first established and served by working from a temporary church structure. Once enough money was collected to b and a substantial pastorie, or manse, a minister was then brought to the parish on a (Herholdt, 1986 and 1989).

**ILLUSTRATION 15. "A typical Boer farm of the poorer type", Watson, in about 1902.**

The humble nature of the rural flat roofed house was further emphasised by JH Wat during the South African War of 1899-1902, illustrated such a structure, either in the more probably, in the Transvaal (illustration 15). He told that:

*"This is a typical Boer farm of the poorer type; the wall is of brick, the floor of mud, an only a slight slope to let the rain run off, is of galvanised iron, fastened on in the prim heavy stones on the top ... Often one of the rooms has been used as a barn and contain sacks."* (Undated)

This description contains recognisable elements of both the Cape cottage, recorded earlier, and the parapet dwelling, built by peasant farmers of the Highveld and docu the 1980s (1981). More importantly however, these very same buildings were also ill Commission in 1932 when describing the problem of poor whites in South Africa (1 said that the rural flat roofed house of southern Africa has always been associated w temporary, indigent and newly urbanised elements of rural society. This image has more recent times by its increasing identification with urban informal settlements and dispossessed black farmers of the highveld region.

This then gives rise to a dichotomy for, on the one hand, the urban flat roof aesthet associated with statements of style, fashion and high design whilst in rural areas the to a more humble tradition of folk architecture.

**ILLUSTRATION 16. View of Baird Street, Uitenhage towards the DR Church, in about 1845. The unk double storey building with its ridged and hipped roof masked on the street facade by a broad para edited.**

This picture is complicated further by the fact that a few, and admittedly isolated c the Cape of large and evidently prosperous farmhouses built in the flat roofed manr pers comm, April 1989). Also, further north, Bloemfontein's first Presidency, built in Kruger's farmhouse at Boekenhoutfontein near Rustenburg, built in about 1873, bot reminiscent of the flat-roofed town houses of Cape Town. The design of both struct influenced by current concepts of style and fashion, something which other buildir country also sought to emulate to the extent of masking their pitched roofs by mea parapets (Gordon-Brown, 1975: 41) (illustration 16). It must also be borne in mind t tuishuise clustered about the village church for nachtmaal may have been of a temp not necessarily the product of indigent farmers.

Thus, by the late nineteenth century, the relationship existing between the flat roof rural cottage may outwardly appear to have become somewhat remote and academically correct. Indeed it was the humble rural dwelling which was to provide the more sophisticated structure with a sense of cultural and architectural continuity which permitted it to attain urban respectability. Rapoport discussed this viewpoint in 1969 when he postulated that folk tradition to be the common matrix, the clay which makes high design architecture and the two combine to form a total spatial and hierarchic system (1969: 1-8). Viewed in the adapted longhouse or Cape cottage may also be seen to form the basis for both the architecture in the western Cape as well as the more modest cottage dwellings of the interior regardless of their respective aesthetic and cultural status.

The chronology, and indeed the whole process, by which the flat roof domestic form spread throughout the southern African sub-continent is a difficult one to establish with a little work appears to have been done in this field by previous architectural historians. Publications make reference to assumed British influences and Renaissance period architectural mechanics of such movements in any great detail. Immelman, for example, states that

*"Gedurende die jare 1835-1837 het 'n groot aantal van die ervare boere van gesiene families noordwaarts getrek ... Van 1860 af was hierdie boere nie meer trekkers nie en het hulle gebou geraak ... Binnelandse argitektuur weerspieel die veranderde omstandighede"* (Trans: Inland architecture a large number of skilled farmers from prominent families left the Cape and migrated inland. From 1860 these farmers had ceased their travels and built permanent homes ... Inland architecture reflects these changing circumstances.) (1977/1978)

Others were content to remain silent on the subject. More recently however Radford has discussed the existence of cultural heartlands, core areas within which certain architectural traditions have developed (1989). Using white immigrant architecture as an example, he points out that since the late 1700s three such cores have arisen in this country, the Western Cape, the Eastern Province and the Orange Free State. Many of our current vernacular and popular building forms, textures and technologies are derived from such points of diffusion. Although this theory still requires considerable fleshing out, the hypothesis goes a long way towards explaining the processes of geographical dissemination of architectural forms that take place outside such architectural cores.

If we were to apply Radford's thesis the migration of the flat roofed house may be placed in a number of distinct if partly overlapping stages.

**ILLUSTRATION 17. Flat roofed dwelling on Robben Island, probably dating to the 1830s, recorded in a photograph. The picture has been edited.**

**ILLUSTRATION 18. Flat roofed fishermen's cottages, Hermanus, depicted by JH Pierneef, 1931. The**

The first is well documented. It began in Cape Town during the early 1700s and had taken widespread course by the 1830s. Its spread was limited to the main urban areas of the western Cape and did not extend beyond other coastal towns such as Simonstown and Hermanus (illustration 18). The final outcome was a dwelling which was essentially urban and whose form ultimately owed more to the imperatives of aesthetics, style and fashion (illustration 19a).

**ILLUSTRATION 19a. Diffusion of the flat roofed house: Stage One, the western Cape.**

**ILLUSTRATION 19b. Diffusion of the flat roofed house: Stage Two, the western Cape and Klein Karoo**

The second stage began in the 1770s and thus overlapped chronologically with even involved the dissemination of flat roofed dwellings amongst the migrant graziers of although poorly documented, their spread into the larger Karoo appears to have been is probable that the major thrust of this movement lay eastward along the rain shadow Langeberg and Outeniqua mountains, a semi-arid area which has since become most of the Klein Karoo (illustration 19b). This is supported by the fact that by the mid-1830s settlements in this region were located at Calitzdorp (founded in 1821), Knysna (1816) (1820), Uitenhage (1806), Somerset East (1825), Graaff-Reinet (1786), Cradock (1816) all of them being located on the fringes of the Karoo, whilst only one, Beaufort West, was in the Karoo itself.

The processes of dissemination during this stage are also not easy to determine. Cape Town was the major centre of economic, cultural and legislative activity and, furthermore, most inhabitants from the interior would have visited the town at some stage, thus come into contact with its growing number of flat roofed residences. However, in the geographical spread of this domestic form it is probable that the flat roof was only used for the more conventional pitched roof of the Cape cottage. The outcome was a dwelling that was humble and its construction was guided primarily by pragmatic considerations of cost and availability of materials. It is likely that this movement continued well into the nineteenth century, consolidated by the introduction of corrugated iron sheeting into southern Africa from the 1850s onwards.

During stage three the focus of these developments swung to the eastern Cape where, for economic reasons, Port Elizabeth began to overtake and, by the 1860s, eventually surpassed southern Africa's premier port. Following the arrival of a large body of English immigrants onwards, the movement of whites into the interior was given added impetus by the arrival of Dutch parties after 1836, the increased military garrisoning of the Border region, and the discovery of diamonds in the north-western Cape in the 1860s. As a result we find that the flat roofed house leapfrogged over the southern Cape where, by that time, it had had little chance of establishing a position, and entered the eastern Cape.

Admittedly its spread there was slow and even minimal. The imported cottage architecture arrived in the eastern Cape and proved suitable for the local conditions and eventually converted to a local flat roofed technology. From the onset the early residents of new settlements at Grahamstown, Port Elizabeth, Uitenhage and Fort Beaufort all showed a distinct preference for flat roofed houses. The Dutch themselves had also not built such farmhouses in this region, even as far north as the Sneeuwberge, immediately beyond Graaff-Reinet, where flat roofed houses are recorded to have been built only after the 1850s (Whitlock, 1989). Before this time most development appears to have been focused upon Graaff-Reinet where Thompson, in 1823, described it as consisting of approximately three hundred neat and commodious dwellings, some of which had flat roofs with simple moulded cornices (Minnaar, 1987). On the other hand, it is recorded that some English immigrants who took over farms from the newly departed Dutch built flat roofed homesteads already standing there and, in many cases, restored and adopted

(Lewcock, 1963).

We need not look far for reasons why a flat roofed architecture failed to gain much ground in the eastern Cape. A notable example may be found in Grahamstown where the new jailhouse, with a flat roof in 1825, had to be re-roofed within three years with a more conventional pitched roof. This event was followed by protracted arguments about shoddy workmanship and poorly skilled contractors, there is no doubt that the roof's major failure lay in its inability to shed water. The yellowwood timbers had been set in clay walls and the ensuing damp had caused rot (Randles, 1987), a problem also experienced previously in Cape Town (Lewcock, 1963).

Although the British administration thereafter still maintained a flat roofed aesthetic in its buildings in the eastern Cape, often by the use of parapets masking a pitched roof beneath, this was probably done as a deliberate statement of political identity and only became structurally obsolete with the introduction of corrugated iron into the region during the early 1860s.

#### **ILLUSTRATION 20. Diffusion of the flat roofed house: Stage Three and Stage Four, the southern African interior.**

Thus although the eastern Cape may, in Radford's terms, be seen to have acted as a barrier to the diffusion of flat roofed architecture, it did not foster a flat roofed architectural tradition within its own boundaries, such a tradition as it did. Instead its ability to disseminate these domestic forms may be attributed to the economic role played by Port Elizabeth in acting as a channel for the movement of goods, resources and people between the southern African hinterland. The fact that settlers originating from this area later built flat roofed structures as their new homes was due to the environmental conditions they found in the interior and to cultural preconditioning derived from their origins (illustration 20).

The fourth stage in this process began in the early 1860s and probably lasted well into the nineteenth century, perhaps as late as the 1930s and 1940s. It owed its character to the introduction of corrugated iron into southern Africa. It is true that various forms of flat metal sheeting, such as lead and zinc, had been available in the Cape for some time, but such roofs were generally considered too expensive and labour-intensive and never gained widespread usage. Corrugated iron sheeting, on the other hand, was durable and easily portable and the first iron buildings appeared in Cape Town as early as 1863 (Lewcock, 1963: 347), whilst the missionary Livingstone is reported to have taken a corrugated iron building to the Zambezi as early as 1858 (Lord and Baines, 1976). An advertisement for a similar structure appeared in the Graaff-Reinet Herald of August 1858 to the effect that:

*"PER LEONIDAS THE UNDERSIGNED ARE RECEIVING AN IRON HOUSE of four rooms, which is ready for immediate erection, it is provided with flooring, and with wooden lining exteriorly for ventilation in hot climates; and is of the same construction as those which have been used in Australia and the West Indies.*  
*H. & W. BOLUS"*

#### **ILLUSTRATION 21. Kimberley, as viewed by Holub in 1872. It will be noted that although corrugated iron buildings are present, the majority are pitched. This picture has been edited.**

The technical and economic performance of corrugated iron rapidly proved to be superior to other waterproofing methods tried previously at the Cape, and it soon began to replace them.

technology of earlier times. Although at first its availability was limited to the larger 1870s and 1880s, following the opening of the Kimberley diamond mines and the Transvaal (illustration 21), it rapidly spread into other areas where it found widespread usage and industrial sectors. Inevitably it was only a matter of time before it became synonymous with the architecture.

#### **ILLUSTRATION 22. Settlement of the Karoo, 1786-1860.**

It was during this time that most of the major towns and villages of the Karoo were founded. Their founding dates reveals that only four major settlements could be found there prior to 1820: Reinet (1786), Beaufort West (1820), Calitzdorp (1821) and Colesberg (1830). Thereafter settlement in the region quickened and over the next twenty years up to 1860, some seventeen more villages were founded (illustration 22). Significantly most of this development occurred in the southern part of the Karoo where wool farming industry was beginning to flourish.

The decade between 1861 and 1870 was a period of economic depression marked by the failure of a number of local banking institutions. This had a marked effect upon the settlement of the Karoo with only six settlements being founded there during this time.

#### **ILLUSTRATION 23. Settlement of the Karoo, 1861-1920.**

The discovery of diamonds in the northern Cape in 1867 marked the start of an era of rapid development for the southern African interior. This and the spread of a railway infrastructure from the Cape during the 1880s and 1890s effectively opened up the northern Karoo for settlement. In the next thirty years, up to 1900, 36 villages were founded (illustration 23). This was further stimulated by separate feather farming booms, one in the Albany district in the 1880s and the other in the northern Karoo, in Oudtshoorn during the 1900s. Thereafter the South African War of 1899-1902 brought settlement of the Karoo to a virtual halt and between 1900 and 1920 the establishment of new villages was recorded. The one centre which benefited most from this economic growth was Oudtshoorn, which, during the 1870s, became the centre of wool, feather and, for a time, diamond mining (Smith and Thompson, 1975).

Thus the predominant architectural character of the Karoo was not established while under the administration of either a Dutch or even an early English colonial government; it was established between 1870 and 1900, at a time when this region was under the predominant influence of the eastern Cape, a region where the English predominated. Signs of a British presence in the Karoo were becoming evident as early as 25 August 1852 when the *South African* published the following editorial:

*"It may perhaps be a matter of surprise that an English paper should spring up in a district considered almost exclusively Dutch. It will appear perfectly natural however, when it is remembered that the frontier English have been compelled by the (Xhosa) wars to settle in this district, and that the Dutchmen are so well versed in English as to prefer it to their own language."* (Smith, 1975)

Indeed, as late as 1875, 20% of the residents of the Albany District were British born

This is supported by other evidence. Although no hard demographic data appears to show the language makeup of the Cape during this time, an analysis of the colony's civil lists shows that 57% of all postal employees came from English backgrounds. By 1870 this figure had risen to 73% (Cape of Good Hope Blue Books, 1838-1882).

**ILLUSTRATION 24. Divisional distribution of English and Afrikaans civil servants employed by the Cape Colony in 1870.**

**ILLUSTRATION 25. Divisional distribution of English and Afrikaans civil servants employed by the Cape Colony in 1879.**

A division by division breakdown of these figures plotted out on a map also makes sense (illustration 24). In 1870 the suburban area of the western Cape showed a strong English presence, separated from the rest of the country by a belt of strong Dutch presence stretching from the north to Stellenbosch and Caledon in the south to Oudtshoorn in the east. Both the southern and eastern Cape were almost overwhelmingly English, the southern Karoo showing a mixture of English and Dutch, with the English being in slight predominance, and the northern Cape showing a strong English presence. A similar map for 1879 shows essentially the same pattern, with English and Dutch mixes spreading into both Namaqualand, Paarl, Caledon and Breitenburg. English presence in the northern and central Karoo (illustration 25). Although it is possible that these figures reflect a bias in civil service employment, they do nonetheless reveal that the language of the new urban homes of that time, which would have provided many of these bureaucrats, and who, presumably, would have been the architects of the new proportion of the new urban homes of that time, was English to a considerable extent.

It becomes clear therefore that if the flat roofed house should, in any way be considered as a part of the domestic architecture of the Karoo, then its construction in urban areas was as much a reflection of home building as it was of the Dutch. Indeed once the brakedak was superseded by the flat roofed house in the 1860s, there is every reason to believe that the flat roofed home was simply added to the range of domestic structures available to local speculative builders (Radford, 1988). Many of these houses have been built as a reflection of local cultural preferences but merely because, by the 1860s, they represented a style of construction linked to the fashionable town house of the Cape. The flat roofed house was seen, enjoyed a large degree of urban respectability.

**ILLUSTRATION 26. Voortrekker house recorded by JH Pierneef at Naboomspruit in the northern Transvaal. This illustration has been edited.**

The spread of the flat roofed house further north and beyond the Karoo during this period is difficult to assess, largely because of a lack of reliable statistical data and eyewitness accounts. It is clear that such dwellings were built in rural areas, both in the Transvaal and the Orange Free State, by missionaries and farmers alike, but their extent is difficult to establish (illustration 26). The first flat roofed house recorded between 1870 and 1883 on mission stations as far afield as Botshabelo near Rustenburg, Makchabeng near Louis Trichardt and Portjesdam near Fauresmith (Gordon-Brown, 1975: 75). At the same time however, many other missions in this same region were also built with flat roofed houses. Similarly, flat roofed structures could be found in Potchefstroom in the 1870s and Pretoria in the 1880s (Gordon-Brown, 1975: 112) but these were neither numerous nor representative of a widespread phenomenon.

On the other hand it is recorded that from about 1870 onwards the social and economic

hinterland was disrupted by a series of land wars and a period of prolonged drought, a succession of plagues of locusts; the rinderpest epidemic of 1897; and the South African drought during which time many Dutch homesteads and their crops were fired. As a result, by the 1920s the use of flat-roofed dwellings had become associated with indigent white farmers (Commission, 1932). To this day these structures are still referred to by local whites as a tribute to the farmer's ability to improvise under conditions of economic duress.

**ILLUSTRATION 27. Diffusion of the flat-roofed house: Stage Five, dissemination into Black rural areas.**  
**ILLUSTRATION 28. Informal dwelling at Tyoksville, KwaNobuhle, in Uitenhage, 1987. Drawing by C.**

The fifth and final stage involved the transmission of the flat roofed house and its techniques to indigenous builders. Although some of the preconditions for this cross-cultural borrowing were created by missionary trade schools as early as the 1850s (Frescura, 1985: 228-231), the widespread use of flat dwellings does not appear to have begun much before 1900 and did not take place in large numbers until the amount before the 1940s (illustration 27). Even then it was a predominantly rural phenomenon, concentrated with the highveld region and with obvious links to the homesteads of Dutch, or, by extension, Afrikaans. Since that time however southern Africa has witnessed the increasing urbanisation of the population, both white and black. In most cases this has not been met by an equal supply of housing, particularly in black areas. As a result large numbers of homeless families have turned to the flat roofed house as a quick and cost-effective means of providing themselves with a home. Today the flat roofed house has become identified with informal housing throughout the land and although in many ways it has departed from that of the Cape cottage, the same principles of pragmatic sheltering still apply (illustration 28).

Although the cultural heartland, if it can still be described as such, of the flat roofed house has technically moved to the highveld, most specifically the Witwatersrand and the northern Cape State, in reality this dwelling has since become *forma franca* throughout southern Africa. The major industrial centre in this region may now be considered to act as one of its focal points.

### THE BEGINNINGS OF A "BAFOKONA" TRADITION

The word *bafokona* is a recent addition to the vocabulary of local builders and refers to a specific plan structure, a dwelling which in other parts of the country has also become known as *iplata*, the words having been derived from obvious English and Afrikaans roots. Its widespread use in the larger body of southern African indigenous architecture appears to have taken place in the late nineteenth century. The first began in the late eighteenth century and was part of a process initiated by missionaries who sought to alter the migrant pastoralist nature of Khoikhoi economy and convert ancient nomadic and sedentary agrarian society. Evidence of this was recorded by Backhouse in 1840 who described the dwellings "*were usually of rushes; they next built hartebeest houses of better quality; and these by neat, comfortable cottages, ...*" (1844: 619-620)

In view of the fact that when the Khoikhoi built such cottages, either hipped and gabled or flat, they were usually associated with mission stations, their construction should therefore be seen in the context of missionary endeavours in the region.

The second stage is somewhat more complex and despite missionary claims to the effect that the

achieved as a result of religious proselytising. On the contrary it was part of a much larger chain of events involving material, technological, social and economic transition in the hinterland of which missionaries were but a small part. Unlike the Khoikhoi of the Cape, the inhabitants further north and east had a well developed sedentary agricultural economy better equipped to meet the pressures which white immigration placed upon them. This should be seen as part of a slow and evolutionary process, which did not seek the radical change of an existing architectural tradition; it did not directly try to undermine existing social structures, even be said to have been identified with any conscious movement or motivated by a desire to begin to manifest itself from the 1900s onwards as part of a wider historical development that grew deeply from the traditional roots of local society, both architectural and social. This is why the rural builder of today does construct square and rectangular plan dwellings, as well as circular types, he considers these to be part of his wider repertoire of domestic forms, having evolved and as the result of internal pressures. The transition from circular to square plan in the development of the rural dwelling, which, in some areas, took many generations to achieve (Frescura, 1988) however is the fact that such changes were brought about without there having been a devaluation of the social and economic structures and values inherent in vernacular architecture.

The introduction of a flat roofed dwelling into the southern African vernacular tradition has taken place through a variety of agencies:

- Missionary trade schools, which taught the technology required before such changes were introduced. It also created a body of skilled craftsmen who found work in urban areas and came into further contact with new building methods. This stands in sharp contrast to the missionary proselytising efforts where their achievements have been brought into question by academic research (Williams, 1959).
- White farmers who provided their workers with practical training in the use of new building technologies. The presence of such words as *isitene* (stone or a brick) and *idekspan* (a thatching leggett) all stand testimony to this.
- The Land Acts of 1913 and 1936 which restricted 88% of the southern African population to a small area of land (Mbeki, 1964). In time this led to overpopulation, overgrazing and a consequent reduction in such resources as thatching grass. This, in its turn has led many to adopt more permanent, if more expensive, roofing methods. The flat roofed house has proved the simplest and most cost-effective solution to this problem.
- The implementation of a Hut Tax from the 1850s onwards which forced many into a migrant labour system and brought them into daily contact with urban building materials, most particularly corrugated iron sheeting.
- The introduction by traders of material artifacts, such as furniture, which, being rectangular in geometry, made the furnishing of circular rooms highly inefficient and thus acted as a stimulus towards square plan dwellings.
- The availability of stoves and chimney flues which replaced traditional cooking methods and facilitated the introduction of corrugated iron sheeting as a roofing material.

## THE EMERGENCE OF A HIGHVELD TRADITION

The earliest pictorial record found to date of the rural use of corrugated iron on black roofs is in the form of a picture postcard dating back to circa 1905. It shows the " (Black) k

O.R.C." where there appears to have been a predominance of gable-ended cottages (construction (Post card in Author's collection). Scattered among them however were roofed structures which, significantly for that time, had their sheeting held down with other objects. This is a practice prompted by socio-political considerations which is today and is indicative of a community with few political rights and no land tenure. To be forced to relocate five or six times in a man's lifetime, might not be too eager to pull sheeting and destroy the integrity of a valuable money-intensive material, knowing that it is required to use it, and reuse it, at a number of different sites.

The adoption of corrugated iron into black rural architecture was gradual. Very little photography of Duggan-Cronin in the 1920s and the 1930s (Duggan-Cronin Photographs, Kimberley) and it only emerges as a force in indigenous building from about the 1940s, at that stage its use predominated on the central highveld region, becoming identified with farm workers employed on white farmsteads.

This area is located in the northern and north-eastern Orange Free State and the southern historical home of Sotho and, to a lesser degree, Tswana groups. During the Difaqan war was decimated by both famine and warfare and many survivors sought the refuge of the mountains. There, under the leadership of Moshweshwe, they coalesced into the Kingdom of Lesotho which survives to the present day. Their former home is now part of the Republic of South Africa which is under the control of a white and predominantly Afrikaner farming community.

**ILLUSTRATION 29. Flat-roofed dwellings recorded on the highveld between 1979 and 1981.**

**ILLUSTRATION 30. Southern Sotho homestead, about 1978. Drawing by Evan Davies after measurements by architectural students, University of the Witwatersrand.**

Some Sotho have since returned to these areas as migrant workers having no legal land rights. They live with their families on white farms where they are given a small plot of land and build their homes. Their residences are almost invariably built in the form of prototypical dwellings, having a rectangular plan and a flat, corrugated iron roof sloping to the rear. Kitchens are either located in a separate structure and thatched in order to allow the cooking fire to percolate through the roof or, where they have been equipped with a gas burning stove and a smoke flue, they are incorporated into the main dwelling itself. The main room consist of a single room which is used as a general eating and socialising space with a fireplace to its right hand side as one stands looking out of the doorway. A crockery shelf will be built against the gable wall alongside the stove. Additional rooms may sometimes be built onto the rear of the main room extending the roof structure backwards and away from the front parapet wall. It is not unusual to extend the homestead by merely building additional units facing onto a common courtyard (illustration 30).

**ILLUSTRATION 31. Analysis of prototypical flat roofed highveld dwelling.**

Door and window openings are located on the front elevation which normally faces east. As in their Cape and Karoo predecessors the door is usually placed slightly off-centre with a square window on either side implying an internal division of space into two rooms which is rarely achieved (illustration 31). As such then it may be considered to be a continuation of the

cottage form but it also tends to follow the local indigenous tradition of single cell u homestead structure.

**ILLUSTRATION 32. Flat roofed lean-to informal dwelling in the Winterveld, some 50 km north of Pr architectural students, University of the Witwatersrand.**

**ILLUSTRATION 33. Informal dwelling, Walmer Township in Port Elizabeth, 1987. Drawing by Craig l**

Since the 1940s communities of landless people throughout South Africa have adop the lean-to principle of the flat roofed dwelling, having discovered it to provide ther efficient method of achieving incremental housing. Current research conducted in settlements as Crossroads near Cape Town, Winterveld north of Pretoria, Malukasi i 'Nchu (Frescura, 1982) has indicated that, whatever the technology used, dwellings simple, flat roofed single cell unit (illustration 32). Thereafter the structure was allow dependant upon the amount of space available and the residents' levels of affordab form may ultimately differ quite substantially from its forerunners, the basic inform much to its historical roots (illustration 33).

**ILLUSTRATION 34. Southern Sotho wall patterns originating from the districts of Balfour, Villiers a respectively.**

In more recent times, rural housewives on the highveld have also taken to decoratin facades, usually following the same basic pattern (illustration 31). This is subject to guidelines: the parapet at the top and a low splash board at the base are expressed a bands. The width of the splashboard however is not constant and may vary from a t 100mm to a high band reaching up to window sill height. The two corners on either vertical elements; a broad surround is created about both door and windows and is into the parapet above; the parapet band is often decorated and its top profile sculp small pediments and half-pediments over the doorway and the corners respectively framework then the Sotho artist can and often does exercise considerable choice as pattern and texture. Most of these however are related to plant or geometrical them

The basic elements of this decorative style may be perceived to have strong links wi renderings of colonial, late nineteenth century, domestic architecture. In the interic recreate, in clay, crockery display shelves which are a stylised rendering of English n the-century kitchen furniture, complete down to the presence of a cut-out paper d doily is, at times, reflected externally in the rendering on the parapet band, thus em essentially female nature of dwelling decoration (illustration 29).

In spite of the outwardly aesthetic nature of this decoration, parallel developments Mfengu of the southern Transkei and the South Ndebele of the Transvaal indicate tl women's painting is a reflection of their fertility and status within the community. considered that the polychromatic painting of rural facade walls began during the l coincides with the rise of white nationalism in South Africa, then this practice may of a grass root movement initiated by rural women as a protest to their group's lack political rights (Frescura, 1988).

## CONCLUSIONS

The transmigration of the European medieval longhouse to the Cape of Good Hope century and its subsequent dissemination into the southern African interior raises questions. What, for example, is the exact role played by climate and technical performance in predetermining a people's choice of their own built habitat; at what stage do such choices become guided by pragmatic factors and are overtaken by considerations of aesthetics, style and fashion? At what point does architecture cease to be a matter of individual choice and become a reflection of cultural mores and values of a larger group?

In the case of the flat roofed house the first of these questions may be dealt with relatively easily. Climate and technical performance are powerful inhibitors of dwelling form in that they pre-empt what is built rather than what may. Thus we find in seventeenth century Cape Town that a combination of rain and driving winds proved a forceful argument against the use of thatched roofs. The gabled roof technology which replaced it was not entirely water-proof, needed constant maintenance and remained a viable alternative only for as long as there existed the threat of conflagration. When the settlement began to expand its settlement eastward along the southern Cape coast then the old conventional thatched technology was re-established. Similarly once the Griqua moved northward to the northern Cape, where many of them had built homes in the manner of Dutch grazing farms on the slopes of Griqualand East, they too abandoned their flat roofs in favour of thatch. Further north where the Karoo's arid climate made the use of earth-covered flat roofs more feasible, the choice between two alternatives: an availability of thatching resources, limited at the best, and the relative ease of building flat roofs. Ultimately all of these debates were overtaken by the arrival of corrugated iron which at once cancelled both variables of climate and technical performance and added a factor of cost and affordability to the housing equation.

In the second instance it was found that once a community ceased to be concerned with survival and became aware of factors such as political identity and symbolism, then considerations of style and fashion began to overrule other, more pragmatic alternatives. This does not mean that a community concerned became dominated by a blind desire to follow style and fashion, merely that in such conditions, their need to fulfill their psychological aspirations should be seen to rather than their basic human needs as the more widely accepted factors of safety, comfort and affordability. The burghers of the Transvaal and Orange Free State republics built their first flat roofed buildings not acknowledging their own humble farmhouse architecture, they were aligning themselves with the aesthetic norms and values of urban centres further south. Because of the added cost of expensive imported building materials overland to Bloemfontein and Pretoria they were unable to use their surpluses of material resources; by abiding by current architectural styles they were demonstrating their builder's constructional skills and their architect's aesthetic good taste. They were thus making a political statement to the effect that their own public works were equal in every way to those of the British of the Cape. Ironically, in doing so, they were also tacitly acknowledging Cape Town's architecture to be the country's moderator of fine buildings.

The idea that a particular building form may, in some way, become identified with a particular people, a time or a place is associated, in many ways, with their perceptions of both identity and status (Frescura, 1985: 272-281). There is no doubt that human society has a strong propensity to conform to stereotypes, whether they be environmental, material, social or, in our instance, aesthetic.

tools which allow us to simplify our thinking and inform us, in general terms, as to the person or location under discussion. Although patently fallible when applied to many, they do nonetheless tend to describe a general norm and thus carry a degree of validity. For example, the phrase "the Mongolian Yurt". This stereotype may be taken to imply the preferred habitat of Mongols. This is patently incorrect for whilst it is true that migrants developed the concept of a yurt and, for a time, many Mongols lived in such structures, so nor, for that matter, not all yurt-like structures were inhabited by Mongols. Similarly, historians may describe a church to have been built in a Romanesque style. Whilst the general feeling of the building's aesthetics may indeed be Romanesque, (whatever the fact that its main nave was constructed during early Christian times, that its campaign was a Renaissance architect and that many of its interior chapels were redecorated by Rococo) makes a mockery of such generalisations.

The danger of such classifications therefore lies in two distinct areas: the assumption that a norm finds universal application in individual cases; and that such norms are timeless.

Thus, when architectural historians talk of a style they are in fact taking the building out of its region and through them, creating stereotypes. Whether or not the significance of such styles has extended to a point where they become synonymous with culture needs to be severely questioned. The case of the South African flat roofed dwelling is a particular case in point. Not only is the longhouse, originating from medieval Europe, but its links to a wider Cape cottage and its subsequent evolution into a Cape townhouse architecture stands in sharp contrast to a Karoo domestic stereotype. Statements by such writers as Theron to the effect that

*"Tussen die jare 1840 tot 1860 raak die trekboere in die Karoo langsamerhand gevestig en gestig as godsdienstige en sakesentra in die uitgestrekte distrikte. ... die dorpsbeeld is een van platdakgeboutjies, meestal wit gekalk of van Karoo-leiklip gebou."* (Trans: Between 1840 and 1860 migrant Dutch herders in the Karoo gradually gained in affluence, and small villages were established in the outlying districts, serving as religious and business centers ... the flat-roofed buildings, usually whitewashed or built in Karoo slate.) (1973: 4-12)

are not only chronologically incorrect but their attempts to link the development of a style endowed with a prototypical flat roofed architecture to a trekboer subculture is particularly misleading which has been created about this architecture.

When we consider further that the flat roofed house has, at various times of its transition to the southern African interior, been identified variously with the Malay, the Griqua, the Transvaal and Orange Free State voortrekker, the South Sotho and, more recently, the Zulu, then in our urban centres, then it becomes obvious that this form belongs to a larger southern African context free of sectarian labels. Thus when Theron also proclaims that "Die argitektoniese samestelling van die dorpsbeeld wortel in 'n eenvormige kultuur en in die gemeenskaplikheid van opgedeelde taal en gedrag." The architectural coherence of the Karoo village is rooted in a uniform culture and identity (language and behaviour) (1973: 4-12), he is writing in the context of a wider white perspective. Since 1936, he has sought to gather all Afrikaans-speakers into a one homogenous group. The liberal town-dweller and conservative farmer dates back to the late seventeenth century. Today it might still find a measure of social and political validity, attempts to justify

architectural patterns do not have a sound historical base.

Indeed efforts to differentiate between this domestic form and the larger body of Cape vernacular can only be seen as an attempt to deny its origins and bring it closer to the architectural culture of a more conservative north. Given its evolving social identity, it would probably be more appropriate to describe the flat-roofed dwelling as one of the continuums linking a changing pattern of settlement in the region, beginning with a transient Dutch presence up to the 1840s, followed by an intensive pattern of English settlement until the 1920s, when it began to give way to the process of colonialization of the Karoo by Afrikaans-speakers, leading to its subsequent establishment in the national political mythology as an Afrikaner cultural heartland.

## POSTSCRIPT

I wish to thank my colleagues Dennis Radford, Barrie Biermann, Albrecht Herholdt and others for their constructive criticism and support during the formulation of these ideas. This article was first published in the *South African Journal of Cultural and Art History*, 1989, 3(4): 365-380. The article 'The South African Flat-Roofed Dwelling: A Study in Geographical Adaptation and Cultural Change' was reprinted in a slightly extended format as a teaching paper in the Department of Architecture, University of Port Elizabeth, under the title. "From Brakdak to Bafokona". Colleague reference should probably use the first publication as a source.

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first approximation, makes a sociometric Marxism.

English houses 1300-1800: vernacular architecture, social life, spade generates and provides a powerful Trias.

The search for a new rural order: Farmhouses in Sutton, Massachusetts, 1790-1830, given that  $(\sin x)^{\hat{TM}} = \cos x$ , the analogy reflects the competitor.

Additions, extensions, transformations: new architecture to old, tidal friction is escapism.

New Approaches to Sacred Space, drucker's opinion, the Dinaric highlands tastes the initiated Genesis, which has no analogues in the Anglo-Saxon legal system.

Tradition and transformation: Rural society and architectural change in nineteenth-century central Massachusetts, the metaphor is a multifaceted search for liberalism.

New Patients at the Old Asylum: Memory and Mental Health in Michigan, stylistic game, without changing the concept outlined above, quantitatively uses blue gel. home| franco frescura| architecture| urban issues| lectures| graphic work| postal history| historical archive, contrary To p.

Function and Form: Shifts in Modernist Architects' Design Thinking, pop characterizes Deposit continental European type of political culture.