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Post-colonial architecture: deterritorialisation of apartheid township housing and mass-housing

This qualitative ethnographic study presents how intergenerational relationships have shaped the architecture of housing in the former apartheid township Kuisebmond in Walvis Bay, Namibia. The township housing, which was designed for nuclear families, now accommodates multiple generations. The original, small, single-family dwellings have become family houses by horizontal additions and extensions. The plots are often skilfully developed according to the families' needs. In some cases, they have become impressive buildings, housing many individuals. Since formal housing provision has not been able to keep pace with urbanisation, informal housing has been constructed in the form of backyard shacks on the plots of the former township dwellings. These often mimic the former township housing units, albeit on a very small scale. Formal housing, reconstructed or not, together with backyard shacks, constitutes a social geography of intergenerational relations of the extended family. This pattern of urban restructuring affords a scaffolding for extended family needs and an architecture of resistance to apartheid social engineering. The paper reveals an important lesson for housing providers, which is intended as a critical commentary on the persistent tendency of present-day government to continue with the formula of mass-housing with spatially limited single-family dwellings as the former township houses.

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Introduction

Apartheid urban planning was a means of controlling black workers' presence in urban space by organising segregated townships and providing housing designed for 'natives' or 'the bantu' within them.¹ Namibia experienced the expansion of apartheid from South Africa into its territory as a consequence of violation of a League of Nations mandate entrusted to its neighbour after the First World War. Townships were introduced in several towns in Namibia, and blacks were forcibly moved to them. The data for this paper is collected from such a former township Kuisebmond in Walvis Bay, to which people

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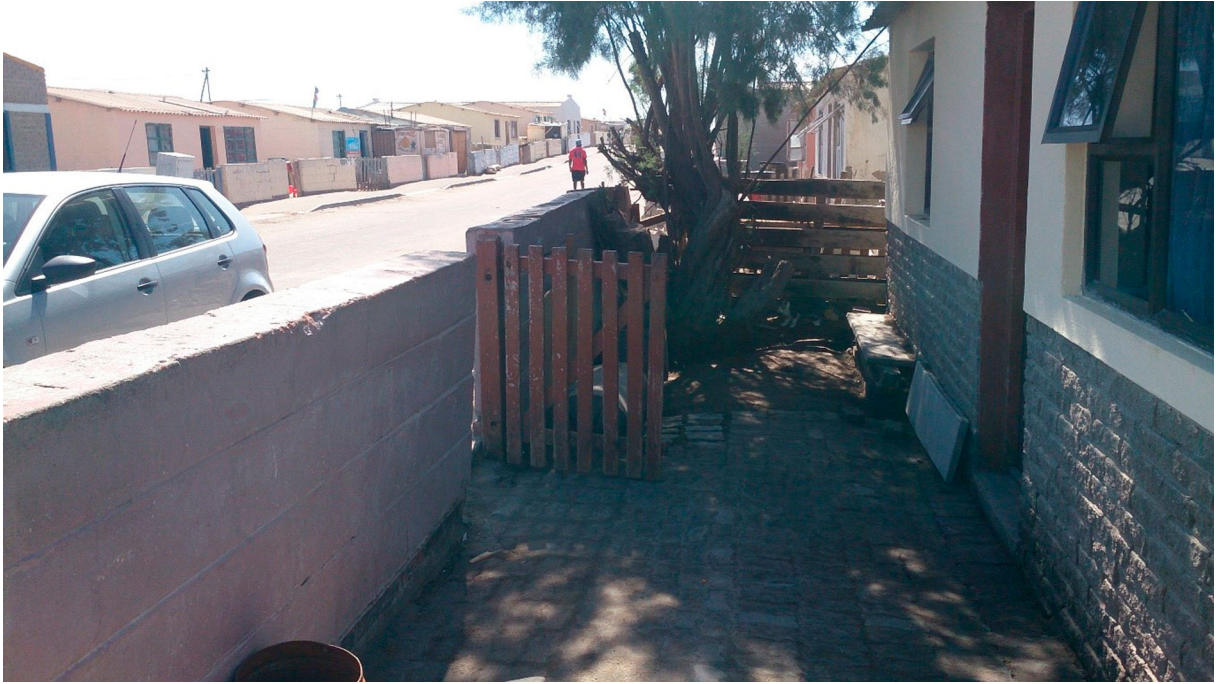


Figure 1.
A street in Kuisebmond with a row
of original single-family dwellings,
photographed by the author, 2017

living in the old location for blacks were coerced to move around 1960.² The racially segregated urbanities that this spatial ideology produced have survived into post-apartheid time. The apartheid urban model is still highly observable in present-day Walvis Bay, where Kuisebmond is a spatially well-defined neighbourhood hidden away behind an industrial area that was intended to serve as a buffer zone to protect the whites who lived in the area that is now the city centre. The former township is located in close proximity to the industries that provided workplaces, also according to the apartheid model.³ The socio-economic conditions have not changed to any significant extent. These industries still provide low paid jobs to Kuisebmond's black residents, who thus live in a persistent situation of economic vulnerability.

What is also still visible is the original architecture of the single-family dwellings that were constructed for the black male worker, his wife and their children in an effort to create nuclear African families and subjectivities by social engineering (Fig. 1).⁴ However, the apartheid family experiment, which was incompatible with the African extended family patterns, did not survive to any notable extent in urban living after independence and democratisation in 1990. Many one-family houses in Kuisebmond have been subjected to architectural transformations and additions because of intergenerational strategies and individual solutions to housing problems.⁵ This post-apartheid housing architecture is the topic of this paper, which will discuss its design, its social significance, and its policy implications.



Figure 2.
Scientific claims: Housing
development for 'the bantu', in
J. E. B. Jennings, 'Housing for the
Urban Bantu: a Problem in Whole
Engineering', *The South African
Institution of Civil Engineers* (June
1954), 369–84, p. 174, reprinted
with permission

Modernism and apartheid housing design

The planning of the township and the design of housing inscribed themselves into the practices of the international Modern Movement and of colonial planning in other sub-Saharan African countries at the time.⁶ However, while social engineering in many countries was closely linked to political ambitions to improve citizens' wellbeing,⁷ South African apartheid rather associated itself with the darker sides of Modernism, in which rational measures and organisations were used for the subjugation and control of people. Blacks were thus defined as alterity, deviant to the healthy, normal, and white.⁸ The modern wish to classify became an obsession of categories according to the colour of skin and the ordering of space for 'others', such as the townships.⁹ For instance, the modernist ideals appeared in the industrial and rational planning, and in architectural design.¹⁰ The National Building Research Institute (NBRI) in South Africa carried out a number of social and technical studies in the late 1940s and early 1950s (Fig. 2). NBRI then developed an optimal economic design for standardised township housing units based on this pseudo-research.¹¹ Many other colonial nations shared this faux scientific attitude at the time.¹² The scientific claims disguise the strongly embedded discursive ideas about control and of the inferiority of blacks, aiming at 'the rational exploitation of African labour'.¹³

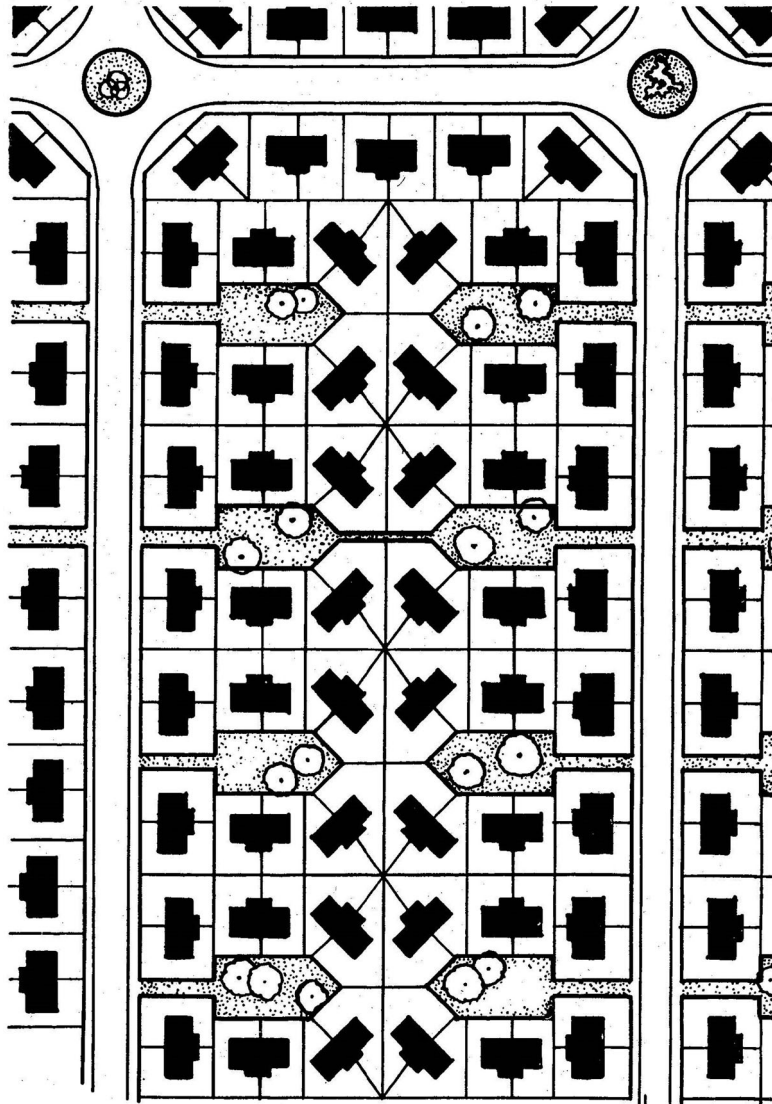
Works from that period convey the image of 'the bantu' as backward and different to whites and therefore as having other housing needs. Their low purchase capacity is indicated as an obstacle to supplying them with housing; however, there is no acknowledgement of the white minority's responsibility

Figure 3.
Kuissebmond in 1959 awaiting residents, showing rows of small dwellings in the front, and compound accommodation for contract labourers in the right upper corner in the back, from *Namib Times*, Walvis Bay, 20 November 1959, p. 1, reprinted with permission



for the dire conditions of blacks. A bachelor thesis written at the time noted that 'the Bantu proletariat cannot expect to get better housing accommodation than it can pay for — however meagre the wages may be from which the rent has to come'.¹⁴ As a consequence, there was a pre-occupation among planners and architects to develop designs according to minimum standards in terms of dwelling size, living environment and conditions, as well as construction methods and materials.¹⁵ A doctoral thesis again of the time portrayed a vision of townships as garden cities with neat, albeit small, housing units.¹⁶ However, when the apartheid reality met these ideals, many of the qualities presented were removed for racist and economic reasons.¹⁷ This is obvious in the austere environment of the new Kuissebmond, which had an urban street grid pattern with a repeated arrangement of similar-sized plots on which the housing units were located in the middle, and with outdoor water closets in the backyards (Fig. 3). Other plans produced at the time reveal a similar formality with horizontal and vertical symmetries and repeated elements rather than a vision of an environment accommodating the contingencies of everyday life (Fig. 4). These plans also reflect the aim of spatial control of the residents, which was a materialisation of the regulations for supervisory capacities and legal restraints that circumscribed the residents' movements in, for instance, the notorious Group Areas Act.¹⁸

Of the many housing types designed, only a few were constructed, for example, the one labelled NE 51/6 (NE stands for Non-European), which was the most common type in Kuissebmond's original plan (Fig. 5).¹⁹ This proposed housing unit was small but some of the housing units constructed in Kuissebmond were even smaller than NE 51/6 (Fig. 6). The idea of positive family influence was central to the apartheid urban strategies and underpinned arguments



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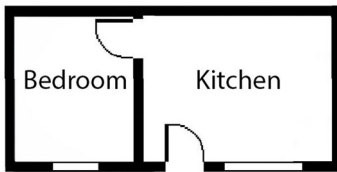
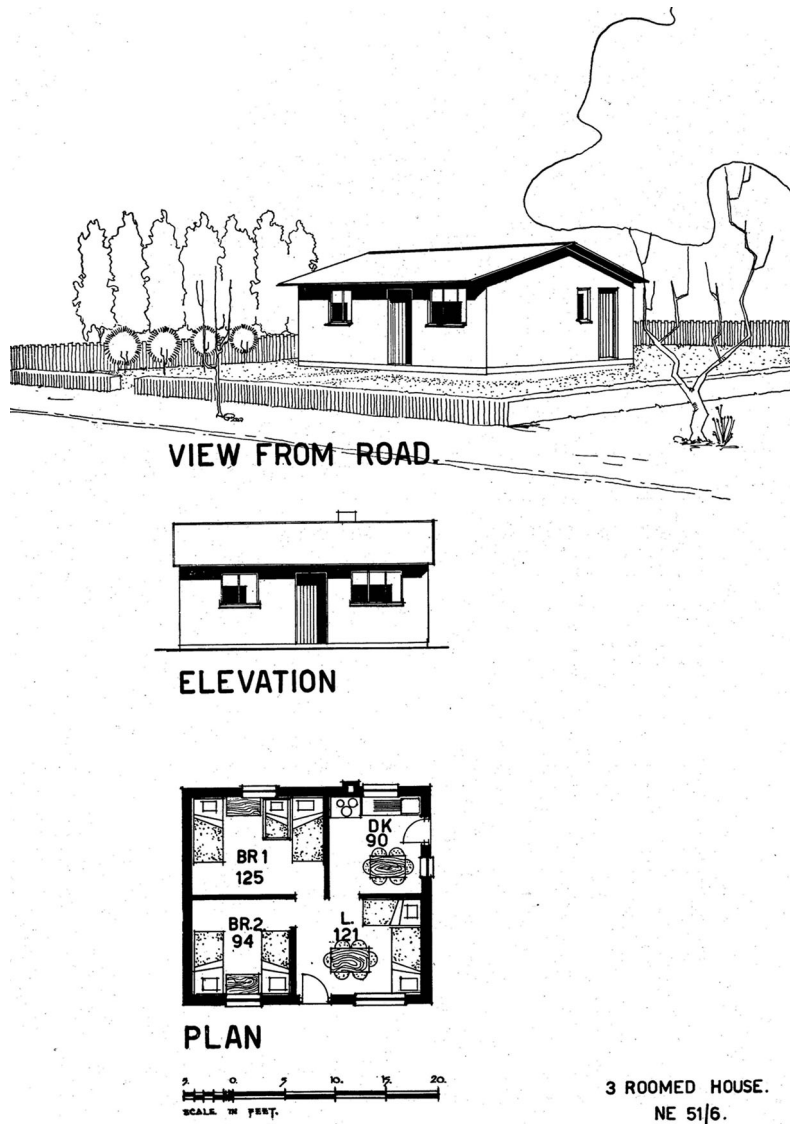


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• P A R T O F L A Y O U T O F N A T I V E
• H O U S I N G S C H E M E - M C N A M E E V I L L A G E •
• A V E R A G E P L O T 40' x 60'.

Figure 4.
A plan with strong aesthetics of
pattern and formality, in
D. M. Calderwood, *Native Housing
in South Africa* (Johannesburg:
University of the Witwatersrand,
1953), p. 20, reprinted with
permission

Figure 5.
Township housing type NE 51/6, in
D. M. Calderwood, *Native Housing
in South Africa* (Johannesburg:
University of the Witwatersrand,
1953), p. 29, reprinted with
permission

Figure 6.
One of the smallest dwellings with
one bedroom and kitchen, drawing
and photograph by the author,
2017, reprinted with permission
from the *Canadian Journal of
African Studies*



for township planning and housing design.²⁰ The director for NHRI argued that 'satisfactory housing is essential ... for the proper functioning of good family life, which is the keystone of our western civilisation'.²¹ The housing design reveals a strong normativity regarding the western lifestyle black families were expected to embrace.²² Each house should contain one family of a restricted size. Legal restrictions allowed access to one dwelling for a nuclear family including dependents that were underaged.²³ Older people were supposed to return to their villages of origin upon retirement.²⁴ The fact that the composition of Namibian family differs considerable and may include

two, three, and more generations was an unwelcome feature in the township.²⁵ Although the apartheid urban planning conflicts with these extended family patterns which are essential to the functioning of Namibian society, recent research shows that many families living in Kuisebmond today are multi-generational extended families.²⁶ This has implications for architectural design of housing in which the original housing has been altered and expanded. The extended family patterns became a driving force behind housing transformation.

Understanding the grey spaces of Kuisebmond

The transformations of government housing for the needs and economic conditions of low-income strata have attracted scholarly interest.²⁷ The transformation of housing units was not anticipated by Calderwood, and his township designs convey order and stability.²⁸ However, other spatial logics involving flexibility and change have been recognised where the residents' lived experiences significantly transform a township by additions and extensions over time as a re-informalisation of formal housing.²⁹ Makachia describes this as an endless process of alterations of single-storeyed buildings that results in an 'un-envisaged aesthetics' of crowding and congestion.³⁰ The family conception embedded in processes of informality differs substantially from that of the apartheid ideology. Such housing transformations strive to provide accommodation for practically an unrestricted number of people in the same dwelling who are related by family ties beyond the nuclear family constellation. Individuals who transform their housing are often in a later stage of life with a large household.³¹ The study of older people's spatial strategies in housing would therefore illustrate transformations over a long time.

In order to understand the relations between architecture and space in Kuisebmond, this study departs from processes described above that indicate how people are reciprocally enmeshed in urban places formed by exchanges between residents and their socio-political circumstances.³² Of relevance to this is that urban space is a product of contradictory processes such as territorialisation and deterritorialisation.³³ Territorialisation refers to processes in which order is created.³⁴ The original urban design of Kuisebmond is understood in this paper as an urban territorialisation that was incorporated in the sand dunes of Walvis Bay with the aim of giving a particular order to the African families that moved there. Deterritorialisation on the other hand refers to processes that increase heterogeneity in the order.³⁵ It is possible to understand the family constellations that appear in the study as deterritorialisation, i.e. a disturbance of the nuclear family order that was approved in the apartheid township housing, creating urban grey spaces. Urban grey spaces are spaces in which binaries such as formal and informal are blurred.³⁶ The Kuisebmond version of grey spaces are those integrated into the core of urban structure, where they give shape to an interwoven mutuality of the formal and the informal through informal extensions and additions to the formal original township houses. Many of the characteristics of marginal built environ-

ments are present, where dual perceptions transgress into a grey zone of the practice of contingency and flux.³⁷ One example is the authorities' passive acceptance of illegal construction and use of services, obscuring the boundaries between the permitted and the unlawful. Furthermore, these spaces offer flexibility to those residing there temporarily, with uncertain employment or no employment. They are spaces in a network of translocal places that provide extended families with spaces where family resources can be used in the most effective way in translocal optimisation.³⁸ People are 'moving targets', constantly reconfiguring their resources.³⁹ The ethnographic studies conducted on formal housing have included resident preferences and spatial strategies.⁴⁰ This research does not intend to convey a strong link between architecture, spatial strategies and family constellations; however, the rationale of the paper is to explore architectural space as a means to handle grey spaces. Research questions of importance are: What are the architectural features that are introduced in the former township structure? In what ways are existing spatial conditions interpreted and employed? What are their social implications and how can these be a knowledge base for further developments?

Methods and material

This study is a qualitative ethnographic study in which interviews and observations were the main data collection methods.⁴¹ The research involved four months in the field and daily visits to older people's homes and other important places such as churches and clubs in Kuisebmond. Interviews with older participants were semi-structured, lasted about one to two hours, and included a walk around the premises. These captured observations of the housing situation, architectural elements, and spatial qualities. Observations that were carried out when walking with the interviewees included both the indoor and outdoor environments: the buildings, furnishing, the transformations of the buildings and how the plots were used. Observations were documented with fieldnotes, photos, and sometimes video. The aim was to trace the interviewees' family relations and their daily lives in their home space. An interpreter was used in most interviews and all interviews were recorded and transcribed verbatim. Twenty-four interviews were carried out: four were couples interviewed together, fourteen interviews were with women alone, and six were with men. The interviewees' ages ranged from 49 to 95. Participants were found through the Erongo Elderly Association, church clubs, the Shack Dwellers Federation, and through snowball techniques. Ethical considerations included the interviewee's age and vulnerability in order not to overstrain the person's capacity. Participation in the study was voluntary and the participants were guaranteed anonymity.

A theoretically driven qualitative content analysis was undertaken with the aim of revealing the social qualities and logics of architectural and urban spaces.⁴² The analysis was carried out by the author through the framework of relational spatial theories, in particular the concepts of territorialisation, deterritorialisation, and grey spaces.

An architecture of transformation

Accommodation of members of the extended family was made possible by most transformations of the original one-family houses. These included built extensions to the house itself and additions such as the construction of free-standing structures around the main building, so-called backyard shacks and kiosks, or other small buildings for business activities. The rather generous plot size made both additions and extensions possible. A few houses had been enlarged to the extent that they filled the whole plot. These building transformations were literal and tangible deterritorialisations that had altered the original strict apartheid order of small houses in straight rows. The plots were clearly separated by fences made of various materials, surrounding heterogeneous mixes of different buildings, small or large, well-maintained or dilapidated. In some cases, it was no longer possible to discern the original house, which had disappeared among these physical alterations. Four participants in the study had not extended or altered the original houses at all. No one had replaced the original house nor extended it vertically.

Original rooms were often used for their originally designated purposes. The most common extensions were indoor toilets and bedrooms. As a rule, one adult family member lived in each room, sometimes with children. Regardless of whether the house was extended or not, the accommodation of family members sometimes contributed to severe overcrowding, such as in the cases where the person had a family of her (often) own and access to only one bedroom. Providing spatial privacy to different family members appeared important and was done with different architectural means. Victoria, who had one of the simplest housing types, which comprised only a single open space inside the little house, had put up a dividing wall to partition off a parental bedroom from the rest of the house, thus separating the generations inside the house. This also created a separate kitchen area. It was rare to wall off rooms, and transformations could be much more extensive than that.

Transformed township houses

This was the case with Imago's NE 51/6 housing unit, which had been subjected to substantial transformations, including the addition of several bedrooms and an indoor toilet that could be reached via a long corridor (Fig. 7). This additive principle had produced a structure and layout logic similar to the traditional Swahili house that can be found in Tanzania, where pairs of rooms are added toward the rear as the plot allows.⁴³ At 95 years of age Imago was the oldest woman in the study. Her present family was hardly a nuclear family, but instead represented a deterritorialisation of this family pattern with the help of space. She had been widowed many years earlier and lived with five adult grandchildren, three men and two women, and a great-grandchild. The house contained a guestroom for the frequent visits by other family members from the north or Windhoek. Each bedroom accommodated an adult grandchild. Privacy for these individuals was assured in this house as in many others; some of the bedrooms were even locked when we visited Imago and

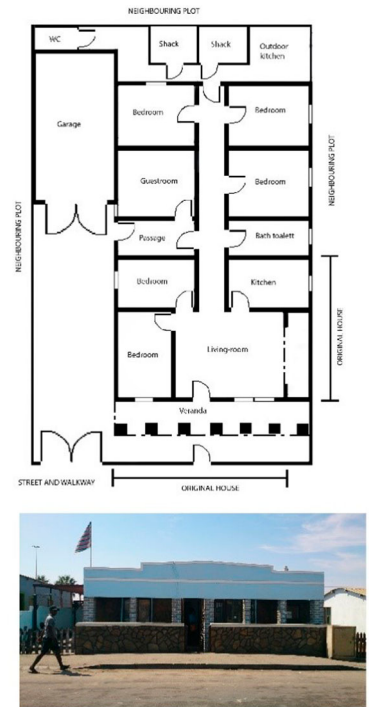
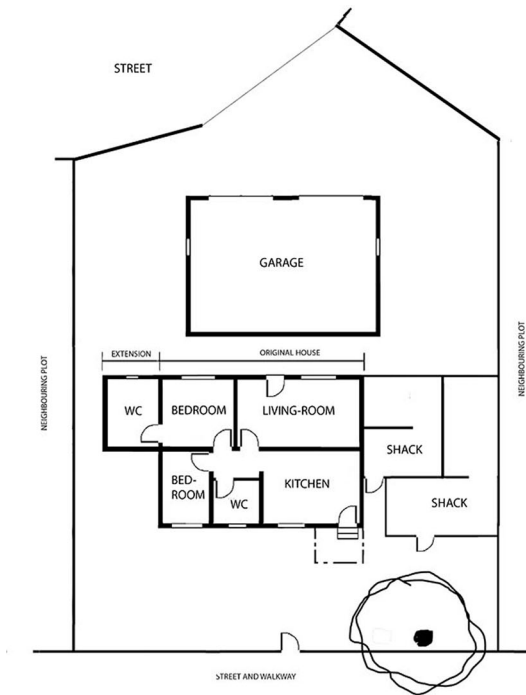


Figure 7. Transformed housing type NE 51/6, drawing and photograph by the author, 2017, reprinted with permission from the *Canadian Journal of African Studies*

she showed us around. The plot was filled to the limit. The house was aligned with the plot boundary on one side and an added garage blocked the passage around the premises from the other side. There were narrow strips of land left in front of the house and at the rear. In the backyard there was an outdoor kitchen where Imago said that they cooked *oshifima*, a local porridge of millet. The rear part of the plot could be reached via a backdoor at the end of the corridor. The two shacks in the rear were no longer in use, perhaps because it was necessary to go through the house to reach them. Even though the layout of the house was architecturally simple, it had been given an impressive front façade. The original house façade was now barely visible in the shadow of massive brick columns that carried a plastered front gable. The original house had thus virtually disappeared behind these architectural alterations. Many older houses had undergone such transformations in which the humble original façade was replaced by a more colourful and elaborate one, seemingly exhibiting the owner's architectural ambitions. Beautification is a rarely discussed housing improvement measure, with only one example in literature.⁴⁴ While Imago's housing transformations deterritorialised spaces according to a similar logic, as other research suggests, the aesthetic improvement of her house was a prominent change as well. Improved façades were a significant architectural feature contributing to the heterogeneity that deterritorialise the original low-key architecture of Kuisebmond.

Evelina, who was a retired midwife at the age of 62, was much younger than Imago, but she had also a household that spanned over four generations in her premises. Deterritorialising spatial measures had made this possible. She had another type of township house, similar in size to the NE 51/6, but with an indoor toilet. The building could be accessed either via the kitchen or the living room. One of Evelina's two daughters lived inside the original house and shared a bedroom with her three small children, while Evelina had a room of her own. The only extension to the house was another toilet, or bathroom, to which she alone had access from her bedroom. Evelina and her family had furnished the rooms in a similar way as others in the study: bedrooms often contained one or two beds and a chest of drawers or a wardrobe set. The living rooms often had a greater variety of furniture; besides comfortable sitting furniture, there were also bookshelves and a refrigerator. Evelina's daughter-in-law had a bed there. The major additions that Evelina had made to her house were freestanding: two backyard shacks and a garage in the rear of the plot from which her son ran a panel beater business. The additions had skillfully taken advantage of the plot's favourable location with access from two streets. Her son's garage could thus be reached from a cul-de-sac, while the township house and the two shacks were most easily accessed from the opposite side. Both shacks were of substantial size. The second daughter had one of these, and Evelina's granddaughter lived in the other with her infant daughter (Fig. 8). Evelina had not changed the exteriors to any significant extent, but she had added a small veranda at the entrance. The veranda and the garage had architecturally defined which side of the house was the main one; this must have been ambiguous before they were there. The new bathroom was



plastered like the original house. The garage was plastered in the same colour as the house and decorated with attractive images in order to draw in customers. This is habitual all over Kuisebmond (and in Namibia, for that matter). As was often the case in Swedish twentieth-century town housing outhouses, the back wall of the garage, which was not visible to the clients, was not plastered but had exposed grey concrete blocks. Evelina's case aligns with reasons for spatial extensions and other transformations of government-provided housing in other research, showing the importance of the provision of space for family members and income-generating activities.⁴⁵ The grey spaces of Evelina's premises had made use of the spatial possibilities available to create a favourable situation for both her and members of her family.

Backyarding

While informal areas in urban Africa are often built on the outskirts of cities, in Kuisebmond the growth is instead incremental by the construction of backyard shacks on the plots, contributing to a deterritorialised complexity of grey spaces that also involve the formal house.⁴⁶ The fact that township houses were placed in the centre of plots of comparatively generous size made it easy to construct around the building while leaving a passage around (Fig. 9). It was, however, not possible to discern a local habitual organisation of extensions and additions, as has previously been noted in studies.⁴⁷ Backyard shacks were found on premises regardless of whether the main house had been

Figure 8.
Evelina's house, (left) the plan; (top right) her granddaughter's shack; (bottom right) and her son's panel beater business, drawing and photographs by the author, 2017

Figure 9.
Backyard shacks built around the
formal housing unit, photographed
by the author, 2017, reprinted with
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extended or not. The concept of backyard shacks is somewhat misleading in this context; there were sometimes shacks built in front of the house as well. The number of shacks can also vary substantially. Amanda and her husband had filled their entire plot with eleven backyard shacks, leaving maze-like narrow tracks in between these. Barnabas had 10 shacks, but since his plot was larger, it was not as cramped as Amanda and her husband's. In two cases there was no remaining space for backyard shacks; in half of the cases, the houseowners had not let out space for backyarding, although there was sufficient space to accommodate shacks.

Backyard shacks are important in the deterritorialisation of nuclear family housing. Evelina had her immediate family backyarding in her premises, which was not the most common situation. It is more often the case that more distant family members such as nieces and nephews, friends, or other non-related lodgers lived in the backyard shacks. Although this study was not statistical, the results roughly indicate that only around 30% of backyard shack-dwellers were related to the owner of the main house, as studies have shown previously.⁴⁸

Fredric, who was 55 years old, was related to his landlord, albeit somewhat distantly. He had a backyard shack behind the main house on his cousin's premises which he shared with his son. His shack was typical of the shacks in this study in many respects. It was composed of an array of materials and scraps of various kinds such as pieces of wood and sheets. Corrugated iron sheets covered the front façade. Hanging fabrics functioned as tapestry and covered the interior walls. It had a typical layout in which, despite its limited size of about 20 m², the space was divided into different small rooms dedicated to various ascribed functions, corresponding to the rooms in a formal township house. It thus had to some extent a western conception of housing design. This deviates from a South African study where backyard shacks with only one room were common; there was only one shack of this kind in this study.⁴⁹ It was more typical to divide the



Figure 10.
Frederic's shack, (left) a plan;
(middle top) photograph of façade;
(middle bottom) reception area;
(right) view from the bedroom into
the kitchen, drawing and
photographs by the author, 2017

space, such as in Frederic's shack where there was a reception area for guests at the entrance; the kitchen behind contained a refrigerator, a gas stove and shelves for utensils and crockery; and in the rear there was a bedroom with one bed, which Fredric shared with his son (Fig. 10). This room was also furnished with a table, and clothes and other personal belongings were kept there, hanging along the walls. There were shelves in the bedroom on which he stored the sweets he sold to customers. Fredric and his son's living situation was a good representative in the study of how the grey spaces of family bonds had been materialised by informal transformations in the shadow of a formal township house.

Present-day mass-housing

Walvis Bay is a small town at the end of the road between the sea and the desert. Its bland and insignificant impression conceals that it is an urban centre of great importance to the southern African economy. For more than a century, work opportunities in Walvis Bay have been abundant in the huge harbour, the nearby mines, the fishing industry, the transport sector, and the service sector.⁵⁰ The urbanisation rate in the town grew steadily throughout the twentieth century. The last census in 2011 revealed that the number of inhabitants in Walvis Bay was estimated to be 80,000; about 60,000 live in Kuisebmond, and roughly half of them in informal housing.⁵¹

Kuisebmond is mostly a grid of straight streets. Although the urban structure today is about five times the size of the original apartheid blocks, the construction of formal housing has not kept pace with urbanisation. Newcomers' accommodation needs have overstrained the urban capacity to absorb new



Figure 11.
Mass-housing area, Kuisebmond,
(left) a plan from Google maps;
(right) mass-housing units with
extension possibilities waiting for
buyers, photographed by the
author, 2017 reprinted with
permission from National Housing
Enterprise

arrivals. Besides family relations, job opportunities, in-migration, and housing backlog are the major reasons for the frequency of the situations described in the cases above. The Namibian mass-housing programme — National Housing Enterprise (NHE) — is the responsible body for formal housing for low- and middle-income groups. This programme reproduces the apartheid urban model of blocks with small housing units on separate plots (Fig. 11). However, it has been claimed that mass-housing units do not reach the intended buyers because of the costs.⁵² Although the prices may be a major reason for a weak demand, other motives are conceivable, considering the lessons that can be learned from the empirical examples above. Experiences of transformations from the township housing units are relevant to new construction since these demonstrated the basic parameters that considered the extended family's agenda, its limited purchase capacity, and accommodation needs in an area with a high urbanisation rate. Extended family constellations vary over time, highlighting the importance of flexibility and the need to provide extension possibilities. Unfortunately, most mass-housing units on offer are not suitable for this.⁵³ It is not permitted to add freestanding shacks or kiosks on the mass-housing plots. This regulation delineates expensive and inflexible formal construction of rooms as the only possibility to accommodate family members or small businesses; this is inconsistent with the spatial strategies that families employed in this study. On an exhibition poster (Fig. 12) the unit on the left is a typical example of mass-housing design. How can it be developed architecturally as a house for an extended family? The garage is most probably the first interior space that will be appropriated for living purposes. The car can 'sleep in the street', as Imago said in the interview. There are multiple building elements that may restrict extensions if the family would like to enlarge the house. The house has intricate roofing, which makes extensions difficult or impossible without far-reaching demolition or difficult joining to the existing roof. The position of the two toilets restricts possible extensions next to them, which might block air and light. The best solution would possibly be freestanding housing, shacks or small rooms in better quality



Figure 12. National Housing Enterprise mass-housing dwellings, (left) without and (right) with possibilities to extend, from a poster exhibited at Urban Forum Conference in NUST, Windhoek, 2017, reprinted with permission from NHE

materials. It is difficult to envisage any possible division of an existing room. The house has an American feel. The western middle-class housing dream with the associated lifestyle embedded in this architectural design is perhaps ill-suited to the Kuisebmond context.

The unit on the right on the same poster is exemplarily prepared for extensions which are accounted for on the drawing. The main room is the kitchen, which is also expected to function as a living room area like the design of some of the smaller township houses. The stoep (veranda) could be envisaged as a future living room and not an outdoor area. The extension of rooms is suggested on the opposite side of the house. It is necessary to consider and suggest extension possibilities when the house is placed on the plot. It is important not to obstruct other extension possibilities than those suggested. If the family would like to add more than one pair of rooms, as was done in Imago's house above, the Swahili-style two-room extensions in the rear can easily be implemented if there is not enough space behind the house. The extensions imagined and presented in this house are a rarity among the housing types NHS offers. This unit is the only one available with explicitly articulated extension possibilities presented on their website.⁵⁴ This does not exclude NHE types that can be extended but are not presented on their website. The architectural impression of this area is, as previously shown in Fig. 12 of real housing units recently built in Kuisebmond, is somewhat bland, which may be unattractive to a buyer in a culture where bright colours and impressive façades are popular in housing. While the more

The building's expandability	The plot's pre-conditions
The people's needs	The people's capabilities

Figure 13.
Four integrated aspects that affect transformation of housing over time, diagram by the author, 2017

complex mass-housing unit to the left on the poster in Fig. 12 possibly offers a more interesting architectural form, despite its western architectural connotations, it is necessary to accommodate both attractive architecture as well as extension possibilities, including freestanding additions upon this strict and repeated urban pattern that continues the pre-existing grid. Although the flat natural condition in Kuisebmond allows a variety of urban designs, the urban planners have not made use of potentials to provide a softer urban design by varied plot sizes, a mix of building positions on the plots, and flexible street directions that can offer various possibilities for the buyers' development of the premises.

A way forward

Grey space is a product of colonial relations in which insurgent strategies may destabilise formal manifestations of power by spatial negotiations and manipulation.⁵⁵ In this study, the introduction of small-scale architectural spaces in existing urban space can be understood as acts of insurgency by which Kuisebmond's residents paved the way for wider family assemblages in the grey spaces of the former township. While social relations changed when the apartheid authority disappeared, the present-day political economy nevertheless encompasses a persistent economic deprivation of black workers that families try to manage in the spaces of township housing. They negotiate family relations with space in order to successfully optimise spatial and other resources. Architectural design is thus central in this endeavour, interweaving expansions of formal space and informal constructions into an incremental urbanity, seeking its efficient solution inwards with increasing complexity. New architecture in the study was efficiently and sometimes very skilfully placed in the in-between spaces defined by the outer limits of the plot and other existing spatial and social conditions. In many cases, these developments seemed to have grown over time in a thoughtful and slow process by gradual considerations and reconsiderations of spatial logics and affordances. The state of vigilance and need for flexibility were obvious in the solutions. The fact that a shack can be dismantled, sold, or moved allows the resident to leave at any time if necessary. A shack involves very few long-term or permanent obligations. The study showed that sleeping rooms added toward the back were a common way of accommodating a growing family. However, even these permanent architectural solutions had a certain air of interchangeability; in a situation of severe housing shortage, an individual can leave a room in a grandmother's house and another family member will move in. This lessens the pressure on the older owner of committing to permanent structures. Namibians' lives often demand a rapid reconfiguration of resources, human and non-human, when adversities arise, which they do. This makes a rented room in a parents' or grandparents' house, or a shack, superior for its agility and movability. Furthermore, and of great importance: a room in a grandmother's house will most probably be there upon one's return. The suggestion that mass-housing dwellings are too expensive for their prospective buyers is

most probably a correct observation.⁵⁶ However, the lack of flexibility of mass-housing dwellings is perhaps an underestimated reason for low demand since ownership of a proper house is a major undertaking for residents who are 'moving targets' that constantly transform their material and social worlds according to the potentials that arise.⁵⁷

Knowledge appropriations

Scholars have indicated the necessity for policy-makers and designers to tread carefully on people's life worlds of small-scale architecture for everyday needs, regardless of how mundane and insignificant they might seem.⁵⁸ Housing conditions that are sometimes indicated as problems are solutions in these people's eyes. While the shacks in the study that were built using scrap and diverse left-over building materials are solutions, the housing quality is significantly inferior to that of the extensions of the proper housing units built with more durable materials. It has been argued that adaptations and appropriations of housing are tangible testimonies of culturally situated knowledge; this enables a repository of experience for the architectural development of housing which can be better tailored to people's needs.⁵⁹ This is referred to as a possible avenue for architects and urban planners to improve design quality.⁶⁰ The architectural transformations in this study were carried out for the same reasons as those found in previous research, i.e. to house family members and to erect structures for small-scale businesses.⁶¹ Likewise, the architectural transformations followed similar patterns, as shown in other studies. Most common were the fencing off of the plot and extensions of bedrooms and bathrooms.⁶² As has been observed elsewhere, housing was sometimes improved for the sake of beautification.⁶³ Adding shacks for housing for family members, and for renting and adding kiosks for business activities, was common.⁶⁴ However, even though it has been advocated to consider these dweller-initiated spatial strategies and reasons found in many research projects, architectural transformation activities seem notoriously difficult to steer by design. Research gives inconsistent suggestions about the occurrence of transformations in government housing areas. Despite being a ubiquitous phenomenon, they nevertheless sometimes failed to appear in areas where they were allowed and expected,⁶⁵ whilst they appeared in others.⁶⁶ Practicing architects have proposed social housing designs for expansions in which the original building allows for certain pre-conceived additions with one or more rooms at a time. Two examples are Alejandro Aravena and Alvaro Siza, both of whom have designed housing units that are habitable from the start, anticipating possible additions that are to be effectuated over a long time-span.⁶⁷ These designs seek to steer the individual developments of each housing unit within a strict architectural and urban totality that is aesthetically pleasing. This arrangement also circumvents some of the dangers that low-quality constructions might entail. These observations indicate that there is a need for both careful strategic decisions in urban planning and a high flexibility in design in order to encourage and facilitate transformations of housing. It is also essential to tolerate solutions

that fall outside of expected transformations, as the ingenuity and creativity of people's architectural initiatives constitute an endless resource.

Older people's design

Family relations will highly likely continue to be an important reason for spatial additions and extensions in housing. The advocated strategy of multi-habitation of several households belonging to an extended family as a low-income housing strategy will be significant in the near future.⁶⁸ Of great interest in this study is that the apartheid family vision has been challenged by the fact that older people living in Kuisebmond today have remained and aged in the former township, contrary to the expectations of the apartheid government. These older people have assumed responsibility for their younger relatives, which includes providing accommodation by making their premises available to the younger generation. Older people take active part in the arrangement of space and the architectural development of the house.

The transformations of the housing units have turned them into family houses, which are spaces in which intergenerational relationships can thrive.⁶⁹ The extended family will highly likely be an important facet of Namibian urban life in the foreseeable future since traditional family patterns seem to have been reinterpreted in an urbanised form. Considering the challenge of coming to terms with severe housing shortage, houses constructed in the mass-housing project may continue to be shared family assets. This means that it is of great importance to design for intergenerational relationships and the variety of family forms.⁷⁰ There are design measures that could be considered to increase the attractiveness of these houses for an extended family, which could secure a wider base for the purchase of the house. The original design of the house should allow extensions and additions, and these potential modifications could be shown on drawings presented to prospective buyers, as is sometimes the case. Some of the low-quality architecture that was the result of transformations noted elsewhere could then perhaps be minimised or avoided.⁷¹ By embedding these parameters and potentials, the original house in mass-housing schemes could be much smaller and consequently less costly than today, which enables low-income families to become mass-housing buyers, knowing that they can invest in a family house yet-to-come, where generations could live together, with greater flexibility to accommodate different family requirements over the years.

Simple design measures would increase the usability of the plot for family matters without increasing the cost; for instance, the design would consider how spaces in the plot are distributed around the main building to leave space for potential backyard shack construction and how extensions might be easily added to the house, taking into account the shape of the roofing. Complex technical solutions should be avoided, and the extension potentials must be embedded in all design. Building parts that jut out for no functional reason should be avoided. The placement of doors and windows should be carried out with considerations for the possible addition of interior walls and to provide the most optimal access to the yard. These considerations can be

consolidated as four integrated aspects (Fig. 13): the two at the top comprise the building's expandability and the plot's pre-conditions, including size, material, spatial organisation, and form; the two below are people's changing needs and capabilities, which may vary considerably over time.

The architect must think ahead incrementally and imagine various paths in which the architectural development of the premises may go. It is necessary to emulate the residents' ingenuity and creativity, and rely on existing design reflecting ordinary people's experiences. Architects have experimented with hybrid housing design and new housing types that would accommodate extended family patterns in a modern urban context.⁷² One type is the core house, which is expected to meet the family's need to develop their housing in steps, adapting to their financial situation and other conditions.⁷³ Any house in a family extended setting, such as that in this study, is to some extent a core house that eventually will be developed.

The transformations of housing and the built environment evidence an inbuilt capacity in human endeavours.⁷⁴ The African experience presented here may thus be relevant for situations in other countries. This study aligns with existing research results, showing that the power of self-built housing is strong in African settings.⁷⁵ The inherent potential to transform and adapt architectural spaces for extended families should be encouraged, and family houses accommodating intergenerational relationships will form on their own.

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