

# Transatlantic exchange: lessons from Brazil in the work of Norman Eaton

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## Resumo

No período do imediato pós-guerra de fim dos anos de 1940, muitos arquitetos sul-africanos estavam profundamente influenciados pelo modernismo brasileiro. O arquiteto Norman Eaton (1902-1966), de Pretoria, foi um dos responsáveis por disseminar a influência brasileira na África do Sul. Eaton foi influenciado especialmente pelo trabalho de Oscar Niemeyer (1907-2012), a quem ele conheceu pessoalmente numa viagem pelas Américas em 1945. Na obra de Eaton, a tradução da variante moderna do modernismo brasileiro revelou-se compatível com atributos africanos. Foi provavelmente esse intercâmbio transatlântico que contribuiu para que Eaton encontrasse sua especificidade na transposição em direção a uma identidade africana.

**Palavras-Chave:** Brasil, Eaton, África

## Abstract

In the immediate post-war period of the late 1940s, many South African architects were profoundly influenced by Brazilian modernity. It was through amongst others, the patronage of Pretoria architect Norman Eaton (1902-1966) that the Brazilian influence was disseminated in South Africa. Eaton was influenced by the work of especially Oscar Niemeyer (1907-2012), whom he met personally on a tour of the Americas during 1945. In Eaton's work, translation of the Brazilian variant of Modernism was found to be compatible with African qualities. It was probably this trans-Atlantic exchange that contributed towards Eaton finding his own voice in the translation towards an African identity.

**Key-Words:** Brazil, Eaton, Africa.

## 1. Introduction

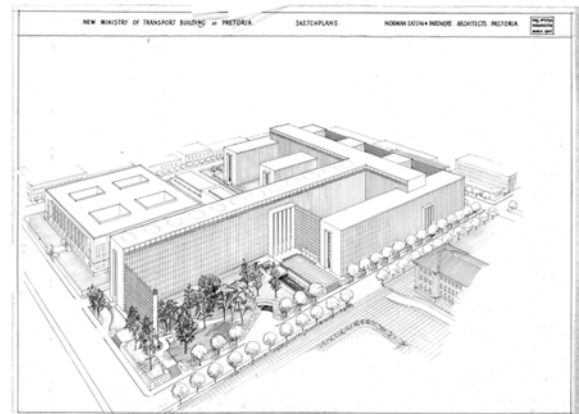
In the immediate post-world war period of the late 1940s, many South African architects were turning to an unexpected source of inspiration: Brazilian modernity, which swung away from the rigid International Style. In particular, graduates from the architectural schools of the Witwatersrand and Pretoria had an affinity for the Brazilian variant of Modernism. Amongst others, the inclusion of Brazilian architecture in the multiplicity of architectural directions on display at the 1947-exhibition entitled 'Art of Architecture', held at the University of the Witwatersrand, Johannesburg bears testimony to the latter.<sup>1</sup>

The international architectural press was already filled with reports on Brazil since the early 1940s – the original and most influential of them all being the 1943 publication of New York's Museum of Modern Art, entitled 'Brazil Builds' by Philip Goodwin and G.E. Kidder Smith. In 1944, the *Architectural Review* (readily available locally) had made a brief comparison between Brazil and South Africa, two distant countries far removed from World War II.<sup>2</sup> In both countries, small groups of young architects were in contact with Le Corbusier, both groups paying close attention to his five principles of architecture. However, the visual enrichment and above all the *brise soleil* contributions from Brazil soon infiltrated the South African architectural scene. The latter was already tempered by regional mutations that eased the acceptance of local architects of the Brazilian influence. It was especially through the auspices of two Pretoria architects: Norman Eaton (1902-1966) and Hellmut Stauch (1910-1970) that the Brazilian influence was disseminated locally. While Stauch was much indebted to the Brazilian influence and had indeed also visited Oscar Niemeyer (1907-2012) during 1948,<sup>3</sup> it was Eaton from the Pretoria crowd who had had the first opportunity to meet the maestro.

The following text highlights Eaton's trip to South America and in which ways the Brazilian influence played out in his own work. In order to

trace the similarities as highlighted throughout the text, specific references are made to the work of Eaton in relation to Casa do Baile (1943), by Niemeyer, and the Ministry of Education and Health (1963-1943) with amongst others, additional reference to the artwork of Candido Portinari (1903-1962). Finally, the landscapes of Roberto Burle Marx (1909-1994) unmistakably influenced Eaton's renditions of horizontal field and are again referenced throughout the text.

**Figure 1:** The design of the Ministry of Transport Building (1944-1948), by Eaton. The design was never executed, but was the first South African one in the Modern idiom for a civic client and the first to be influenced directly by the new Brazilian architecture.<sup>4</sup>



Font: Eaton Collection, University of Pretoria (UP) Repository.

## 2. Eaton meets Niemeyer

In the year 1945, a study tour was organized for Norman Eaton to the Americas in order to research the latest in office layout and design, following his commission in 1944 to design the ambitious and high-profile Ministry of Transport for the then South African government (See Figure 1). The design was the first South African one in the Modern idiom for a civic client and the first to be influenced directly by the new Brazilian architecture.<sup>5</sup> Besides the use of the unfamiliar term 'Ministry', the scheme owed much to the Ministry of Health and Education (1936-1943), Rio de Janeiro, Brazil, designed by the team composed of Lucio Costa (1902-1998), along with Oscar Niemeyer, and several others. Eaton's scheme for the Ministry of Transport (which was never realized) showed parallels

<sup>1</sup> Cooke in Fisher *et al*, 1998, p. 232.

<sup>2</sup> Chipkin, 1993, p. 235.

<sup>3</sup> Gerneke in Fisher *et al*, 1998, p. 212-213.

<sup>4</sup> De Beer, 2000, p. 110.

<sup>5</sup> De Beer, 2000, p. 110.

with that of the Ministry of Health and Education in 'the juxtaposition of wings, the facades with fins on a grid and adjustable *brise soleil* and the sculptured lift towers'.<sup>6</sup>

Eaton had taken photocopies of his design for the Ministry of Transport along on the sea-journey from Cape Town to South America that started in July 1945. His travels included the following cities and places in chronological sequence, where he visited many prominent architects and buildings and made detailed notes accordingly: Buenos Aires, Rio de Janeiro, then a stop-over in Fortaleza before continuing to Trinidad, Cuba, Miami, Washington, Los Angeles, San Francisco, Chicago, New York, Boston, Philadelphia, Washington, Baltimore, Bermuda, London, Cairo, Khartoum, Kwasumi, Kitale, Deckham, Mozambique, and finally back in South Africa. In North America, he visited the offices of Richard Neutra (1892-1970) in Los Angeles. He met Frank Lloyd Wright (1867-1959) at Taliesin where he was a guest. He also visited the office of Mies van Der Rohe (1886-1969) and showed the latter his sketch design for the new Ministry of Transport.<sup>7</sup>

Eaton had kept a diary of the entire trip, where ultimately most of his time was spent in Rio de Janeiro. Other South African architects accompanied him on the journey – David Haddon (1905-1959) and Broderick Lightfoot (1905-1970), described as 'Haddon' and 'Lightfoot' respectively, and someone he called 'Reitz'.<sup>8</sup> Following a brief sojourn in Buenos Aires, the group was received in Rio de Janeiro on 20 August 1945, by the South African consul to the country along with architect Robert Prentice (1883-1960) – simply described as 'Prentice' in his diary – who seemingly at the time was the President of the Brazilian Institute of Architects.<sup>9</sup> Someone only described by Eaton as architect 'Cortez' accompanied the latter. Eaton and friends were housed in a hotel close to the Min-

istry of Education – so that a walk to the building was one of the very first activities undertaken upon arrival. At first, Eaton was disappointed that they were not introduced to any of the 'well-known names in Brazil Builds'<sup>10</sup> and that Prentice did not seem 'to know anyone'.<sup>11</sup> Following a detailed tour to the Ministry of Education building, Eaton's impressions of the building were 'deep' – he described the building as 'great, free, open planning on a brilliantly imaginative scale. An excellent solution of sun protection problem...'<sup>12</sup>

The architect Cortez showed him around the city, including some of his own work, and introduced him to architects Peter Pfisterer (1907-?) and Henrique Mindlin (1911-1971). The latter, also of 'Brazil Builds' fame seemed to have impressed Eaton, and also helped him with introductory letters to American architects. Above all, Eaton was impressed with the work of Oscar Niemeyer, whom he finally got to meet personally on 28 August 1945. The latter had showed him the scheme for Belo Horizonte and had also given him a copy of a new publication of the scheme.<sup>13</sup> Repeated subsequent efforts to arrange a trip to Belo Horizonte failed, as did additional attempts to meet up with Niemeyer, but Eaton did manage a visit to Niemeyer's nursery school, his own house and another house – all of which he described as being 'somewhat weather stained'.<sup>14</sup>

Eaton also met other figures, 'young architects'<sup>15</sup> including Mario Torres (unknown) and Egidio de Castro e Silva (unknown). He discussed his design of the Ministry of Transport with both Torres and someone only described as 'de Costa'<sup>16</sup> in his journal. Through Torres he also met with another 'Brazil Builds'-architect

<sup>6</sup> Gerneke in Fisher *et al*, 1998, p. 212-213.

<sup>7</sup> See Eaton's 1945-diary, from the Eaton-collection, UP Repository.

<sup>8</sup> See Eaton's 1945-diary, 24 July, from the Eaton-collection, UP Repository.

<sup>9</sup> See Eaton's 1945-diary, 20 August, from the Eaton-collection, UP Repository.

<sup>10</sup> See Eaton's 1945-diary, 21 August, from the Eaton-collection, UP Repository.

<sup>11</sup> See Eaton's 1945-diary, 21 August, from the Eaton-collection, UP Repository.

<sup>12</sup> See Eaton's 1945-diary, 23 August, from the Eaton-collection, UP Repository.

<sup>13</sup> See Eaton's 1945-diary, 28 August, from the Eaton-collection, UP Repository.

<sup>14</sup> See Eaton's 1945-diary, 9 September, from the Eaton-collection, UP Repository.

<sup>15</sup> See Eaton's 1945-diary, 29 August, from the Eaton-collection, UP Repository.

<sup>16</sup> See Eaton's 1945-diary, 5 September, from the Eaton-collection, UP Repository.

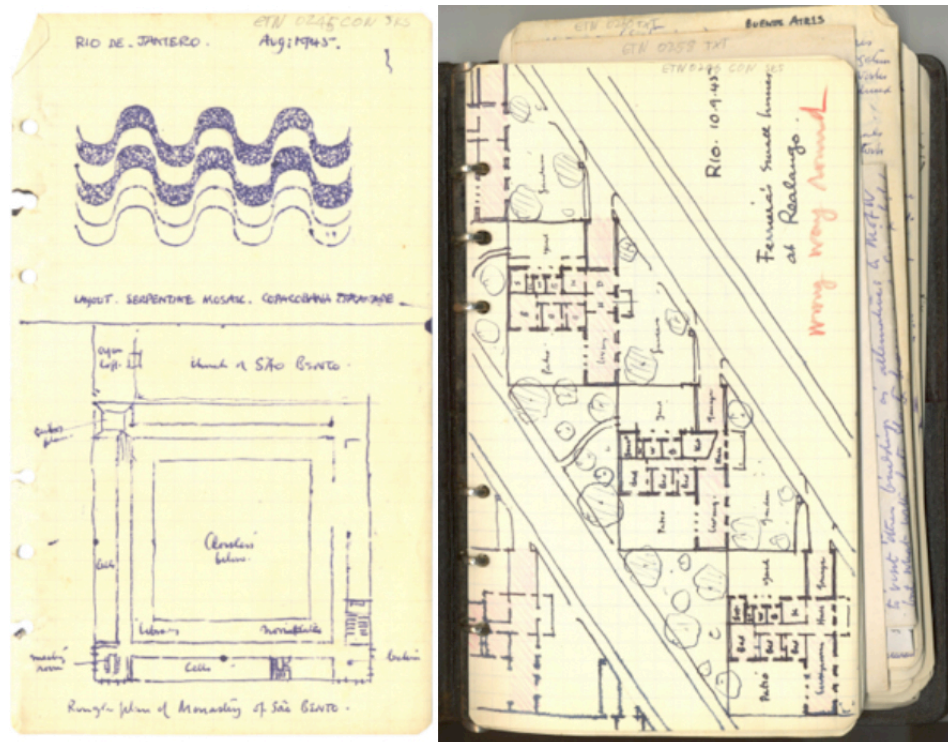
Marcelo Roberto (1908-1964) – with whom he spent a ‘most interesting’ morning before visiting the local Architecture School.<sup>17</sup>

Unusually for Eaton, there are not many sketches in his diary of the trip. On the first page of his journal however, appear two sketches – one of the ‘serpentine mosaic’<sup>18</sup> of the Copacabana Esplanade by Roberto Burle Marx and just below that, a ‘rough plan’ of the layout of the Monastery and Church of São Bento (1617-1641) in Rio De Janeiro (See Figure 2). It appears that Torres was working with Carlos Ferreira (1906-1996), also of ‘Brazil Builds’ eminence, and the design for the Realengo Housing project and Community Centre seemed to have made quite an impression on Eaton, as it was also one of the few sketches included in his diary as was shown to him on 10 September 1945 by Torres and Ferreira (See Figure 3).<sup>19</sup>

next few pages. Beyond the influencing of his work following the Second World War period, the Brazilian appellation had a huge following in the architectural fraternity and expanded to all Southern African architecture of the 1950s and 1960s. ‘Brazil Builds’ influences were especially evident in buildings explicitly displaying sun penetration with exaggerated louvers, *brise soleil* and egg-crate sun-guards, roof gardens in the Burle Marx idiom and sinuous lines.<sup>20</sup>

**Figures 2 and 3:** Excerpts from Eaton’s 1945 diary. Figure 2 is Eaton’s drawing of the ‘serpentine mosaic’ of the Copacabana Esplanade by Roberto Burle Marx (1909-1994) and just below that, a ‘rough plan’ of the layout of the Monastery and Church of São Bento (1617-1641) in Rio De Janeiro. Figure 3, to the right, is of the Realengo Housing project by Carlos Ferreira (1906-1996).

Font: Eaton Collection, UP Repository.



Even if the diary does not necessarily attest to it, the subsequent Brazilian influence on Eaton’s work was quite profound as will be seen in the

### 3. Brazil in Eaton’s work

Throughout his career, Eaton had taken various study tours abroad: to Europe, the Middle East, the Americas, and later also India and Japan. His most regular ports of call, however, were the countries of Africa, where he meticulously compiled diaries, sketches, and photo journals of

<sup>17</sup> See Eaton’s 1945-diary, 11 September, from the Eaton-collection, UP Repository.

<sup>18</sup> See the first two pages of Eaton’s 1945-diary, and also entry on 10 September, from the Eaton-collection, UP Repository.

<sup>19</sup> See the first two pages of Eaton’s 1945-diary, and also entry on 10 September, from the Eaton-collection, UP Repository.

<sup>20</sup> Gerneke in Fisher *et al* 1998, p. 197-231.

local art and architecture. His work reflected his concern for the African in South Africa, especially from the 1940s onwards. Spanning from 1932 to 1966, Eaton's work belongs to roughly three periods.<sup>21</sup> Although the dates do not strictly concur with those of World War II (WWII) from 1939-1945, these eras are divided as follows:

- 1930-1940: The pre-war period
- 1941-1945: The war period, a time of building restrictions
- 1946-1966: The post-war period, following his travels to the Americas, including Brazil

Early work from 1930 to 1940 oscillated between a domiciled National Romantic heritage and tempered versions of the Modern Movement as manifested in the erstwhile Transvaal, a former province of South Africa. The lineage of his built *oeuvre* demonstrated an ever-growing sensitivity to landscape and place. From the outset of his career, his work embodied an empirical response to climate and economical use of industrially produced materials, especially brick. Eaton became the main protagonist of a so-called Pretoria Regionalism or Third Vernacular.<sup>22</sup> Local restrictions on building materials from the period 1941 to 1945 had a direct impact on the architectural language and choice of materials of his work during the war period.<sup>23</sup>

Pointedly, the lineage of Eaton's work evolved into a more organic approach from 1946 onwards – the year after his return from his travels to Brazil. The following projects trace the Brazilian influence in his work. While the Ministry of Transport (1944-1948) was designed prior to his voyage, it was already representative of Brazilian influence. However, it is perhaps especially in the designs for the Greenwood House (1948-1953), the Netherlands Bank, Pretoria (1952-1955), Polley's Arcade (1957), the Little Theatre (c.1940-1950) and the Netherlands Bank in

Durban (1965) that influences from and parallels with Brazil are noticeable. Refer to Figures 12 and 13.

#### 4. The Greenwood House (1948-1953)

The Brazilian influence was most pertinently visible in the first design on his return to South Africa, a house for the Greenwood family in Pretoria in 1948. While the design is a culmination of the lineage of typologies of his design genealogy to date, it also departed in a striking way in its execution: The most notable difference between House Greenwood and his previous work, was the substitution of previously straight site binding elements with free-flowing, sinuous lines that seem to follow the natural curves of the site but also trace artificial, curvilinear form.

It seems that Niemeyer's Belo Horizonte had had a profound influence on Eaton – despite him never having been able to visit it first-hand. The curvilinear site bounding elements of Casa do Baile (1943), Pampulha, Belo Horizonte (see Figure 12) seemed to have inspired Eaton – perhaps he recognized the affinity between Niemeyer's free-flowing, sensuous curves and African organic plasticity.

Niemeyer had employed a combination of curvilinear low retaining walls, along with a curved concrete canopy to extend into the landscape and define a permeable edge between the sinuous swimming pool and the landscape beyond, terminating in a small changing pavilion. Where Eaton had previously reinterpreted the Cape Dutch<sup>24</sup> pergolas as rectilinear site binding elements, he now translated the pergola as a curvilinear extension of the scheme, dematerializing the solidity of the wall and extending into nature.

Eaton had wanted wide projecting eaves 'far-flung and shaded in appearance to suit the

<sup>21</sup> See Marguerite Pienaar's unpublished M. Arch dissertation, University of Pretoria, 2013. Available at <http://repository.up.ac.za/handle/2263/41017?show=full>. Accessed on 19 January 2017.

<sup>22</sup> Fisher *et al* 1998:124.

<sup>23</sup> See p.20 in Pienaar's unpublished M. Arch dissertation, University of Pretoria, 2013. Available at <http://repository.up.ac.za/handle/2263/41017?show=full>. Accessed on 19 January 2017.

<sup>24</sup> Cape Dutch architecture predominated in the Western Cape during the 17th to 18th centuries. It is arguably South Africa's only internationally recognized architectural style, and was systematized by sir Herbert Baker (1862-1946); houses in this style were distinguished through ornately scrolled gables, reminiscent of features in townhouses of Dutch style. Houses took on letter-type plans, with the front section of the house usually flanked by two wings running perpendicular to it. Walls were whitewashed, roofs thatched, and sash windows with external shutters typified the style (Fisher, 2000:45).

site...something that fitted quietly into the site rather than contrast it'<sup>25</sup> for House Greenwood. With the exception of the first floor study, which is faced with wood panelling, the external walls are of coursed random rubble stone, quarried on the site. The dwelling is rectilinear, north facing with strong horizontal emphasis – the latter is enhanced by the fact that Eaton had carefully selected rubble stone in roughly equal sizes with linear or elongated shapes to lay coursed horizontal strips. The house steps along the contours of the site, and extends into the garden where natural and man-made are sensitively integrated with the sloping site. Rubble stone-walls form sinuous lines that extend into the landscape to form a roughly circular clearing in the veld. Terraced banks embrace this planted lawn clearing while separating 'cultivated nature' from natural veld on the slightly higher levels beyond. Richly decorated brick paving with *rondel*<sup>26</sup> patterns and insets on the constructed terraces contrast the surrounding rocky outcrops.

Eaton had worked on a grid three-dimensionally derived from standardized building components (windows) in his later work. In the Greenwood House the disciplined grid of the windows is carried through so that all other elements align accordingly, which he had already done in his non-residential work. Contrasting and complementing the discipline of the grid, the kidney-shaped mountain pool and indeed the sinuous lines that bind the house to the landscape, are 'sublimation of the Brazilian impact found to be compatible with African qualities'.<sup>27</sup> Harrop-Allin described the pool as being reminiscent of an African calabash.<sup>28</sup>

In a chronological setting out of the various typological formations in his design lineage, it was especially possible to see the moment Brazil entered Eaton's design output. While his early designs oscillated between three basic types of configurations, his designs became increasingly more complex, yet simple, amalgamations of

formal diagrams. The typology that Eaton ultimately used the most in his designs was the 'additive rectangle'. Appropriate for the local climate, this typology consists of an elongated, rectilinear composition that Eaton positioned such as to optimize northern exposure. Outside spaces are created in-between building masses, recalling local Ndebele<sup>29</sup> settlement patterns.

Since the typological analysis of his work was done chronologically and on the same scale, it clearly demonstrates how his designs increasingly extended beyond the building envelope to include a defined outside perimeter. The relationship between building form and landscape is enhanced through the positioning of massing and energy is focused outward to the landscape. The moment he returned from Brazil, his rectilinear design typological formation changed to a series of free-flowing, sinuous lines. With exceptions, Eaton seldom applied African organic form-giving in the overall architectural massing of his work, but following his trip to Brazil, he translated organic form to planar fields. When he did express African form, allusion to the African homestead would be offset with rigid standardized structures. While his use of sinuous line was seemingly an initial African translation of Brazilian influences, he later transformed the sinuous line to an increasingly disciplined geometry of repetitive circles and semicircles that was used to define outside perimeters, while regular geometries were used to define building envelopes.

**Figure 4:** shows a construction drawing of the sinuous brick carpet for House Greenwood (1948-1953).

<sup>25</sup> Harrop-Allin, 1975:73.

<sup>26</sup> *Rondel* is derived from Old French, literally: a little circle, from *rond*, it means round.

<sup>27</sup> Chipkin, 1993:293.

<sup>28</sup> Eaton's own words as quoted in Harrop-Allin, 1975:73.

<sup>29</sup> The Northern Ndebele people are a Bantu nation and ethnic group in Southern Africa.

There are 8 projects from the war period presented in the table to the right. Eaton's plans are a direct reflection of building controls, as described previously. That as roofing material resulted in attenuated plan forms.

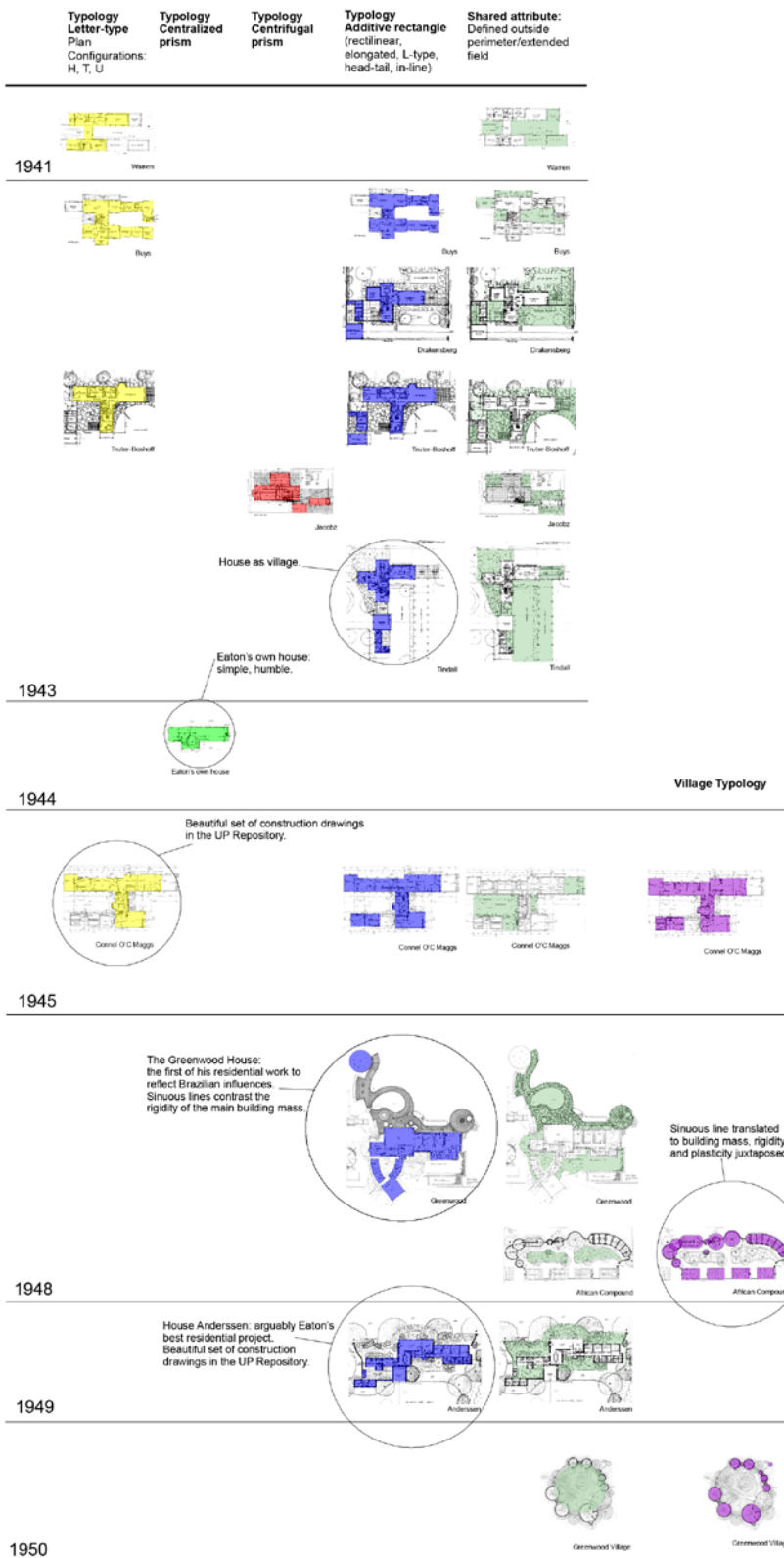
Plan configurations are increasingly complex, so that they do not belong to only one typological lineage. House Buys (1943) for example, is both a letter-type and an additive rectangle.

Note the increase in expansion of horizontal field beyond the envelope of building mass.

There are:

- Four letter-type configurations, of which 3 are also additive rectangles.
- There is one centralized prism
- One centrifugal prism
- Two additive rectangles.

Plan configurations reflect the amalgamation of the traditional Cape Dutch spatial diagram, traditional Ndebele settlement patterns and initiate the idea of the house as a village.



**1946–1964 POST-WAR YEARS**

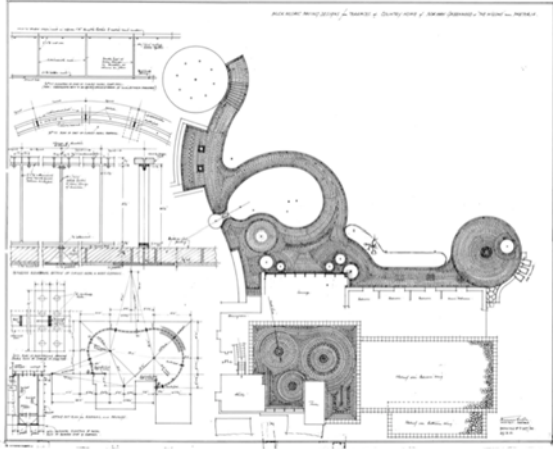
Plan diagrams are more complex from this period. Clearly reflected in the plan configurations is the Brazilian influence of the sinuous line.

There are 16 projects from the post-war period in the table to the right.

- 13 of the projects are additive rectangles.
- Three projects can be classified as being part of a 'village typology' grouping.
- Most of the projects are both additive rectangles and of the village typology.

Font: Eaton Collection, University of Pretoria (UP) Repository.

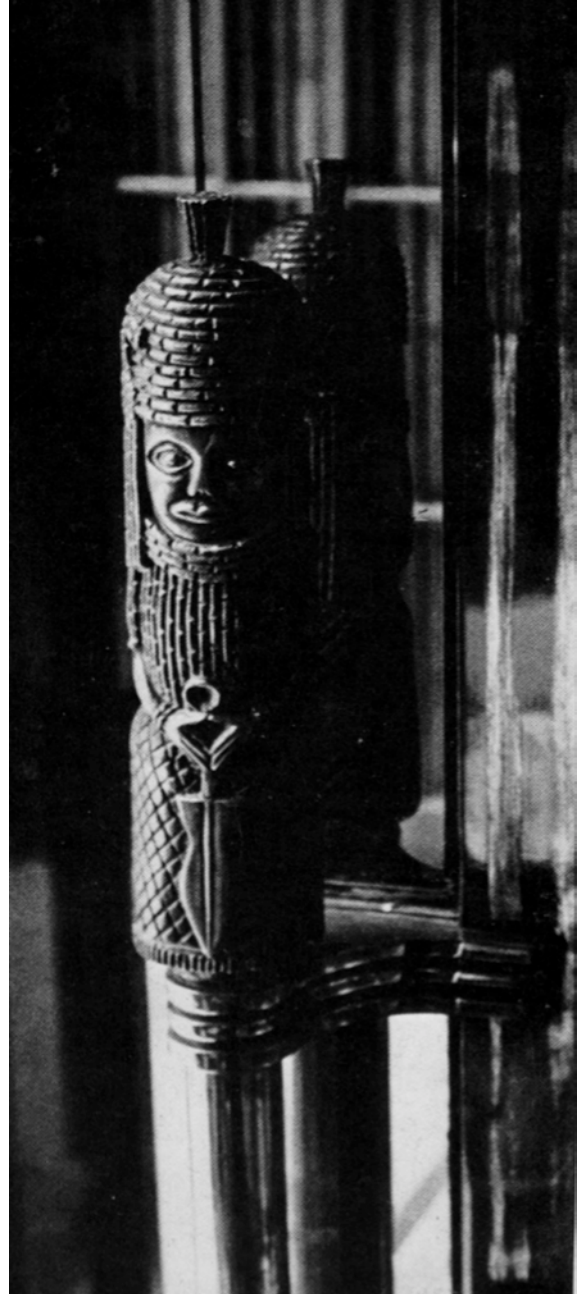
**Figure 5:** is an excerpt of the typological lineage of Norman Eaton's domestic work, which shows the direct impact of the Brazilian influence on his design genealogy.



Font: The above diagram is from Pienaar's study of Eaton's domestic work.<sup>30</sup>

## 8. Netherlands Bank, Pretoria (1952-1955)

**Figure 6:** Benin figure-heads make up the handles to the main entrance of the Netherlands Bank, Pretoria (1955).



Font: Image by Pienaar, M.

Similar to the design of the Ministry of Transport Building, the design for the Netherlands Bank, Pretoria utilized a grid three-dimensionally derived from standardized building components. The detail resolution of the Netherlands Bank from 1952 to 1955 recall African motifs, and range from smaller objects to patterned textures, integrated carefully into the whole scheme and

<sup>30</sup> See PIENAAR, Marguerite. The Norman Eaton Legacy – a critical appraisal of the documentation of his domestic oeuvre. Unpublished M. Arch dissertation, University of Pretoria, 2013) Available at <http://repository.up.ac.za/handle/2263/41017?show=full>. Accessed on 19 January 2017.

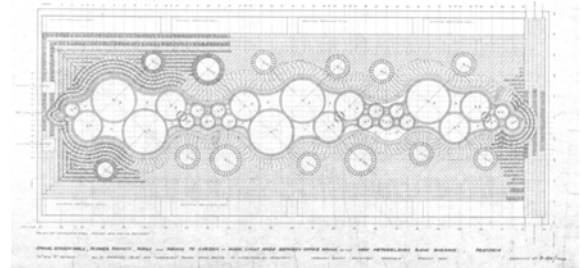


repeated at different scales. There would always be a control and restriction to his rendering of detailing and pattern, never allowing for mere beautification. Textures would become woven carpets to promote hierarchical differentiation, give meaning to spaces and to create contrast, always conforming to the outline of the precise geometry underlying the design.

The interior of the building is rendered in small-scale repetitive 'faggoting' tiles to create a seamless interior – a device Eaton had used as early as 1936 to render meaning to surfaces.<sup>31</sup> The word 'faggot' means 'bundle of sticks', as derived from Latin.<sup>32</sup> Eaton used such corrugated tiles as a metaphor to recreate reeded surface patterns in his various Bank buildings, reminiscent of African reed weaving, but also of certain Egyptian tombs.<sup>33</sup> These terra-cotta tiles were made to Eaton's specifications with fine corrugations running along the outer surfaces. Placed vertically, the corrugations of the tiles are reminiscent of 'African tribal grass'.<sup>34</sup>

A comparison could be drawn with the murals of Brazil – where local sea-life was reflected in the murals of the Ministry of Education and Health, Rio de Janeiro, by artist Candido Portinari,<sup>35</sup> Eaton translated the symbolic Brazilian mural into an abstracted metaphor of woven African screens to give new meaning to surfaces. Seahorses and shells adorn the surfaces of the Ministry building, while Eaton translates African tickbirds and tiny oxen into a line to form the neck of a bird that holds a waterspout in the Bank. Benin figurines embellish the door handles of the entrance portal (see Figure 6), while the bronze water-spout of the fountain on the sidewalk is a 'purely African shape'.<sup>36</sup>

**Figure 7:** The roof garden of the Netherlands Bank, Pretoria (1948-1955).



Font: From the Eaton Collection, UP Repository.

Brazilian influences are again clearly visible in the undulating lines of the roof gardens, recalling the swelling lines of Burle Marx (See Figure 7). Eaton seemingly translated the sinuous, free line of Marx into a carefully controlled undulating line, with circles (perfect geometries as opposed to Marx's free form) repeating at various scales along the periphery of the central 'spinal screen wall' (the word Eaton used to annotate the drawing of the roof between the office wings).<sup>37</sup> The series of circular and semi-circular plant pockets and pools are constructed of rich brown roughly textured bricks placed vertically.

**Figure 8:** shows the wall detail in the shop interior of Polley's Arcade, Pretoria, 1955-1960.<sup>38</sup>

**Figure 9:** (to the right) shows an African tribal shield within the woven carpet of mosaic.<sup>39</sup>



The referencing of the African landscape continues in other examples, including Polley's Arcade (1957), which was a pedestrian linkage between two streets. Eaton envisioned the arcade as a carpet of mosaic that lines the entire interior – he seemingly translated the symbolic Brazilian mural into a metaphor of woven African pattern to give new meaning to surfaces. The pedestrian walkway and undulating wall of the Little Theatre (c.1940-1950) forge a connected surface of patterned masonry, that sets up an imaginative dialogue of ever-changing patterns and shadows – again reminiscent of Belo Horizonte.

<sup>31</sup> *Ibid.*

<sup>32</sup> *Ibid.*, p. 29.

<sup>33</sup> *Ibid.*, p. 37.

<sup>34</sup> *Ibid.*

<sup>35</sup> Deckker, 2001, p. 47.

<sup>36</sup> *Ibid.*, p. 143.

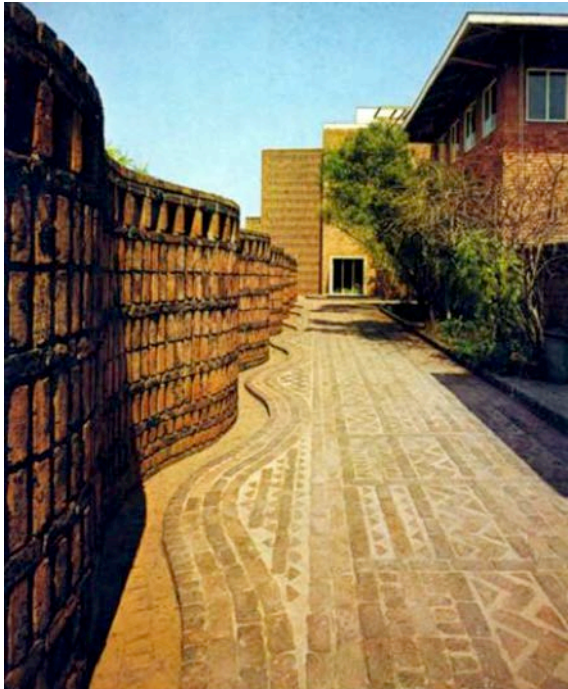
<sup>37</sup> *Ibid.*

<sup>38</sup> Harrop-Allin, 1975, p. 102.

<sup>39</sup> Image by Pienaar, M (2008).

Brick surface ‘carpets’ bound inside and outside space in his later work, documented in carefully crafted hand drawings, again recalling African motifs of weaving and making to emulate woven textures as documented in his travel sketch books.

**Figure 10:** The pedestrian walkway and undulating wall of the Little Theatre (c.1940-1950) forge a connected surface of patterned masonry, that sets up an imaginative dialogue of ever-changing patterns and shadows – again reminiscent of Belo Horizonte.



Font: From the Eaton Collection, UP Repository.

## 9. Netherlands Bank, Durban (1965)

Where Eaton rendered the Netherlands Bank in Pretoria (1948-1955) in heavier earthy, ochre tones to respond to the setting amidst rocky outcrops, the Netherlands Bank along the sub-tropical coastline in Durban (1960-1965), was rendered in cool hues of carefully selected blues and greens and a filigreed facade that commands attention and contributes to a very different sense of place. Eaton’s Netherlands’ Bank in Durban, on the sub-tropical Kwazulu-Natal coastline, is recognized as his masterpiece. In many ways, the design was an adapted version of the more stereotomic Bank in Pretoria where thermal mass is appropriate for the climate. Eaton responded to the sub-tropical environment of Durban, by peeling the skin of the building away, so that it became a layered façade

appropriate to the climate. He described the resultant screen on his drawings as an ‘open sun protection screen built up of glazed reinforced tiles’<sup>40</sup> – an adapted *brise soleil*.

Hollow bricks of the green glazed sunscreen that wrap around three sides of the building were made to special measurement and individually glazed to a colour determined by Eaton himself through a long process of experimentation. The bricks were threaded vertically onto steel rods – the entire construction suspended from the flat roof. Details are repeated on various scales in the building so that texture becomes like a continuous field.

The aquamarine mosaic on the pillars and across the back wall of the hall echoes in miniature form the pattern of the screen; the curved line of the marble skirting that tracks down the edges of the stairwell repeats a curve in the external podium edge where it rises to secure the glass sheets which form the outer wall...Detail is in conversation with detail; space with structure; line with volume, surface with masses; aesthetics with functions.<sup>41</sup>

A richly patterned roof garden in quarry tiles and brick paving, along with carefully selected plants, made up the fifth facade of the Durban Bank. The patterns created the effect of a woven carpet, with careful, disciplined configuration. Again, comparison can be drawn with Burle Marx’s roof gardens and the meaning given to surfaces through dressing.

**Figure 11:** The Netherlands Bank, Durban (1965).



Font: photo by Morné Pienaar, 2007.

<sup>40</sup> See the construction drawings of the Netherlands Bank, Durban (October 1945) in the Eaton Collection, UP Repository.

<sup>41</sup> Morphet in Judin, Vladislavic, 1998, p. 156.

## 10. Sublimation of the Brazilian impact?

In Eaton's work, the idea of the African landscape plays out on the surfaces of the modernist envelopes – as abstractions of original textures. Before his trip to Brazil, he already consciously used brick and tile patterning to 'bear in mind the simple effects in indigenous bead and basket work'.<sup>42</sup> Following his journey, these expressions became more pronounced and he started employing sinuous lines to juxtapose and offset rectangularity. The sinuous binding wall, used for the first time in the Greenwood House was probably a distillation of the Brazilian organic line found to be compatible with African qualities.

In Pienaar's timeline of African translation in the work of Eaton,<sup>43</sup> it becomes clear that Eaton expressed African references more explicitly after his trip to Brazil. Not only in initial sinuous horizontal form-giving, but also in detailing. In the entrance wall for the Little Theatre, he translated a drawing of an African screen-detail (from his 1944-Africa diary) expressed explicitly in the materiality of the brick wall, so that a central brick pier gives stability to the thickened, undulating screen wall.

Similar to the mural of tiles of the west façade of the Ministry of Education and Health, references to the local continued in Eaton's selective object detailing with a strong African reference. Perhaps because of their small scale and exquisite craftsmanship, his objects lose their sense of being curios, somehow not falling victim to becoming Disneyfied architectural souvenirs. Portinari's repetition of seahorses in the mosaic work of the Ministry of Education and Health somehow abstracts scale, so that similarly, the object detailing lack the sense of becoming Disney-like – a term that Eaton used himself with reference to vulgar architectural interpreta-

tions.<sup>44</sup>

If architecture can be thought of as a mediating force in the world, where the idea of mimicry plays a central role, Eaton's treatment of surfaces is then a form of mimicry, a visual correspondence between things – a representation of symbols to present new meanings or imbue alternative forms of identity. Allusions to African motifs became ever-more restrained and nuanced in Eaton's work following his initial expressive Brazilian translation: mat-like bamboo screens, untreated wooden poles, brick screen walls, rectangular piers topped with simple conical lanterns, and freestanding cylindrical brick drums to articulate entrances. In his final work, interconnected courtyards with linked pavilions recall Ndebele settlement. The combination of vertical and horizontal textures on various scales is carefully considered to give the appearance of having been woven like African grass mats.

## 11. Conclusions

As an architect operating in the space between Africa and Modernity, Eaton's adaptation of an African identity was noteworthy – in the architectural realm, it was a singular endeavor at the time. He had a profound influence on a next generation of local architects who attempted to locate architecture within a particular place-identity, learning from his experiences – and therefore indirectly also from Brazil.

While Eaton's work continued to evolve over the years to connect ever more closely with the landscape on the one hand, and the African continent on the other, it was the Brazilian experience that somehow opened his eyes to alternatives of abstraction of architecture as a mediating force in the world. It was probably because of the contribution of his trans-Atlantic exchange that he ultimately found his own voice in the translation of African qualities.

<sup>42</sup> See Eaton's own essay, 1946:110.

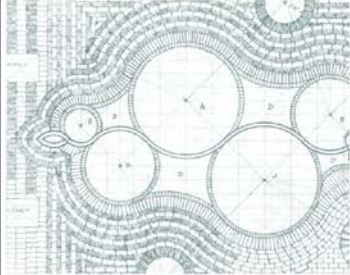





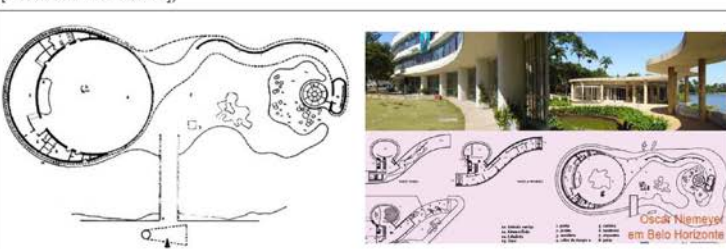
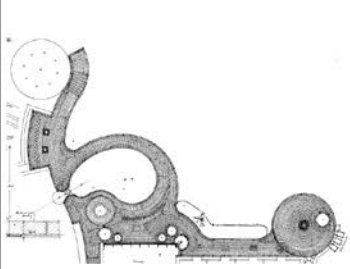
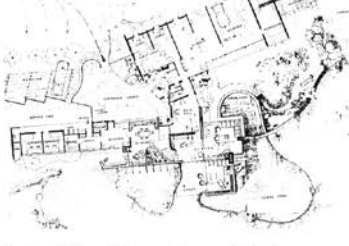
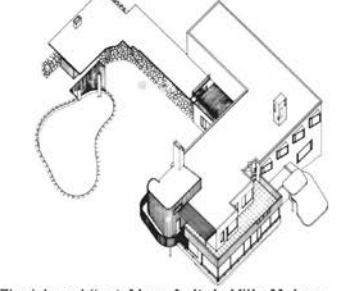
<sup>43</sup> See p. 149-156 in Pienaar's unpublished M. Arch dissertation, University of Pretoria, 2013. Available at <http://repository.up.ac.za/handle/2263/41017?show=full>. Accessed on 19 January 2017.

<sup>44</sup> Eaton actually used the expression 'Walt Disney-like' in a diary entry on 22 August 1945 to describe some of the residences along the Copacabana. Eaton Collection, UP Repository.

**Figure 12:** A comparative analysis of Eaton's work to the left and Brazilian influences to the right.<sup>45</sup>

KEY WORDS: **Brazil Builds, Aalto, Stauch, texture, sinuous lines**

MOTIF SHEET **11**

Drawing of project by Norman Eaton (Eaton Collection UP Repository)	Analogy - as referred to in text	
 <p>The brick textures, sinuous lines and central curvilinear wall from which all patterns resonate – Eaton's roof terrace of the Netherlands Bank, Pretoria, dated August 1954 (now destroyed).</p>	 <p>Roberto Burle Marx's sidewalks at Copacabana, one of Rio de Janeiro's beaches as drawn by Norman Eaton on his travels in 1945 to the Americas (Eaton's 1945-diary in the UP Repository).</p>	 <p>While there is no evidence in Eaton's diaries that he had ever actually met Marx in person, he was clearly exposed to his work as demonstrated in the diary extract (top left) – the diary entry of the Copacabana Esplanade is the first entry in his 1945-diary. (Photos by Malcolm Raggett, from <a href="http://www.mraggett.co.uk">http://www.mraggett.co.uk</a> [Accessed 13/01/2013]).</p>
 <p>The swimmingpool at the Greenwood House(1948–1951), The Willows, Pretoria (Harrop-Allin, 1972:54).</p>	 <p>Burle Marx had organized indigenous plants and surfaces in accordance with the aesthetic principles of the artistic vanguard of Cubism and Abstractionism. From left to right: Marx's project for the terrace garden of the Ministry of Education and Health, Rio de Janeiro (1938–43) by Oscar Niemeyer, Lúcia Costa, Affonso Reidy and team, consulted by Le Corbusier (From the Collection Burle Marx &amp; Cia Ltda). Middle: The actual terrace garden, as must have been seen by Eaton and his fellow travellers. Far right: The gardens of Casa do Baile (1943). Pampulha were also done by Marx (Photos by Malcolm Raggett, from <a href="http://www.mraggett.co.uk">http://www.mraggett.co.uk</a> [Accessed 13/01/2013])</p>	
 <p>House Greenwood, The Willows, Pretoria – the revised concept proposal (May 1949).</p>	 <p>Eaton had been impressed with the work of Niemeyer, who had showed him the scheme for Belo Horizonte and had personally given him a copy of a new publication of the scheme (Eaton's 28/8/45 diary entry). The curvilinear site bounding elements of Casa do Baile (1943), Pampulha, Belo Horizonte possibly inspired Eaton – he could have recognized the affinity between Niemeyer's free-flowing, sensuous curves and African organic plasticity (Chipkin, 1993:289).</p>	
 <p>Above: Construction drawings of House Greenwood (March 1951), showing the detail of the brick paving and kidney-shaped pool.</p>	 <p>Helmut Stauch's own house: Hakahana, Hartebeestpoort Dam, 1952. Stauch also contrasted linear form with sinuous line in his domestic work following his trip to Brazil, as demonstrated in the curvilinear swimming pool (Peters in Fisher <i>et al</i>, 1998:182–184,195).</p>	 <p>Finnish architect Alvar Aalto's Villa Mairea (1938–39), Noormarku, Finland with the symbolic kidney-shaped pool and sinuous formal extensions (Frampton,1980; 1992:199).</p>

<sup>45</sup> The original can be viewed in Pienaar's unpublished M. Arch dissertation, 2013:142, available online.

**Figure 13:** An extract from a comparative analysis of Eaton's work to the left and Brazilian influences to the right.<sup>46</sup>

KEY WORDS: **Brazil Builds, Stauch, texture, sinuous lines, porous architecture**

MOTIF SHEET **12**

Drawing of project by Norman Eaton (Eaton Collection UP Repository)	Analogy - as referred to in text	
 <p>Above image of the interior wall surfaces of the Land Bank (1941), Potchefstroom. Eaton's construction drawings show the word 'faggots' to describe the vertically corrugated, glazed tile surfaces. Faggot means 'bundle of sticks' (Image from Harrop-Allin, 1975:44).</p>		
 <p>Above: Fountain spout detail for the Netherlands Bank, Pretoria (1955). Eaton rarely translated themes directly.</p>	 <p>Above: Reflections of local sea-life: Mural of tiles of west façade of the Ministry of Education and Health, Rio de Janeiro, by artist Cândido Portinari (1903-1962) (From: Archive of Hispanic Culture, Prints and Photographs Division). Left: The Ministry of Education and Health or Gustavo Capanema Palace (1939-43), designed by a team composed of Lucio Costa, along with Affonso Eduardo Reidy, Ernani Vasconcellos, Carlos Leao and Jorge Machado Moreira. Oscar Niemeyer, who was to become Brazil's best-known architect, also played an important role in the design process. The group invited Le Corbusier to oversee the project, which was designed from 1935 to 1936 (Blasi, Tostões, 2010: 56-65). The building was included in the influential publication 'Brazil Builds 1652-1942' (1943), staged at the Museum of Modern Art (MoMA). Recognizable aspects of the design include: <i>pilotis</i>, facades with <i>brise soleil</i>, roofscape garden (by Marx), juxtaposition of blocks, flexible office space.</p>	
 <p>Below: One of Eaton's own collection – a photograph of the Wachthuis (1956): Office block for the South African Police Provident Fund, with sinuous brick baskets on the roofscape to contain services.</p>	 <p>Above: Stauch's synthesis of 'Brazilian design' for the Meat Board Building (1950), Pretoria – long, modular office block raised off the lower ground slope with cylindrical <i>pilotis</i>, <i>brise soleil</i>, curvilinear roof garden, deep blue mosaic cladding of spandrels (Germeke in Fisher <i>et al</i>, 1998:224).</p>	
 <p>Below left to right: Ministry of Transport Building (1944-48). The design was the first South African one in the modern idiom for a civic client and the first to be directly influenced by the new Brazilian architecture (De Beer, 2000:110).</p>		

<sup>46</sup> The original can be viewed in Pienaar's unpublished M. Arch dissertation, 2013:143 – which is available online as per references.

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