Building on the Boundary — Modern Architecture in the Tropics

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ABSTRACT: *This paper is drawn from research into architectural practice and discourse in colonial settings during modernism, to investigate the entangled and sometimes antagonistic relations between architectural, political and cultural contexts.*

The paper will show how the built boundary in 'tropical' sites has been the site of much architectural thought and experimentation. The nature of this experimentation is technical, and constructs differences in terms of certain physical aspects of the site, mostly regarding climate. Through design, the building boundary is configured to alter the climate's effect and make the interior more comfortable for western users. By examining how this boundary functions, however, it appears that far from being neutral the boundary works to structure (other) relations between the inside and outside of the building. These mirror the power relations between centre and periphery.

The built boundary can also be seen as a production of unequal exchanges between these locations, exchanges which structure the value given to western and indigenous, non-western knowledge. Finally the built boundary can be theorised in terms of its capacity to hold ambivalent meanings and uses, and through this become a site where different, and possibly transformational interpretations can take place.

Introduction

This paper is drawn from a study that looks in particular at the body of architectural production of modern architects in the tropical region, focusing on sub-Saharan Africa between 1945 and the period of independence in around 1960 (le Roux, 2002). This paper looks at the nature of the boundary in this architectural work.

Boundaries are an obvious concern for architecture. In its capacity to reify conceptual boundaries and in the development of the building's envelope, architecture both makes and articulates boundary conditions. In the modern architecture of the tropics the envelope of the building became an area of particular concern. In response to climatic conditions that were 'uncomfortable' to expatriate and westernised bodies, architects devised techniques that modulated the passage of heat and light between interior and exterior. These techniques are still important elements of the architectural norms of non-western practices and curricula.

The article begins with a summary of the development of the discourse of climate responsiveness in the modern architecture of the tropics. Following on

this I will attempt a series of readings of this production which examine in turn the building boundary in its functioning, as a site of exchange and finally as an element of symbolic value. Drawing on the influence of architectural criticism and post-colonial studies, these readings will seek to uncover the troubling relations between dominant and subordinated subjects that were constructed along with built boundaries. In the final reading, however, the built boundary, as an aesthetic element, cannot to be dismissed as simply divisive or exclusionary. Despite the history of its production, this aspect of the built boundary offers material that may be appropriated into the vocabulary of a transformative post-colonial architecture without (necessarily) reproducing the oppressive power relations it has carried.

Post-colonial and Operative Critiques of Architecture

The fields of cultural studies and critical theory applied to architecture have brought the recognition of spatial practices and their representations as discourses to the spatial disciplines (Jacobs, 1993). The implication of this is that built form and representations of it, as ideological languages can be read or re-read, in recognition of the way in which the meanings of this discourse are authored by certain group or interests. More recently, post-colonial studies have influenced architectural history and criticism, to show how the architecture of non-Western contexts such as those that fall into the 'tropical zones' is designed by dominant colonial power to serve its national interests, often subjugating the local in the process (Nalbantoglu, 1997; Celik, 1997; AlSayyad, 1992; Kusno, 2000).

Many critical readings of architecture take as their object of study either the internal and spatial configurations of buildings (see Marcus, 1993; Dovey, 1999; Rakatansky, 1992) or the discipline's social practices (Crawford, 1991; Agrest, 1991; Dutton and Mann, 1996). This specific study focuses on an instance where the political context might be traced to reach the most technical elements of architecture. These aspects are those that are reproduced in professional representations such architects' journals and through the development of the profession's institutions. They constitute transmissible techniques that seem independent of context and even the specific question of a building's function. Within architecture, technical thinking is generally seen as a distinct area of knowledge, unrelated to social discourses. As a set of practices communicated through drawings, diagrams and building construction, the technical aspects of design are often opaque to other disciplines. It is easy to consider the products of climatic design as rational, ideologically neutral elements. Yet there seem to be few places where the tectonic discourse of architecture is as loaded as in modern architecture of the tropics. In as much as tropical architecture is a politicised discourse, it is also racialised. The imbalances between the power of the coloniser and colonised subjects to construct space translate into a form of racial displacement — the formation of a cool, white space that pushes aside a local and black one.

In the terminology employed I have used the terms 'colonial', 'tropical' and occasionally 'peripheral' to denote sites that were colonised at or shortly before

the study period. I also use the term 'non-west' on occasions to describe a site that is seen (in western discourse) to be its other or outside terms. The terms western and metropolitan are used to refer to the mainly European centres from which the architectural discourse and its supporting power were exercised.

Approaching the Boundary: Modern Architecture in the Tropics

While discussions of the *modern movement*, or *modernist architecture*, once referred predominantly to the avant-garde movement which emerged in Europe between World Wars I and II, recent histories emphasise the multiple and creative ways in which the movement spread along diasporic and colonial routes in the subsequent decades. Architects aligned to the modern movement practised in Africa in similar roles to those they had elsewhere in the colonial world. In West Africa, British architects in Ghana, Togo, Nigeria, Sierra Leone aided in the production of infrastructure to serve governments and the trans-national corporations that derived their business from the agriculture, minerals and cheap labour of the colonies. In 1945, the first British-based practice opened a West African office. By the 1960s, there were at least 30 practices in Nigeria and Ghana largely staffed from the Britain.[1]

Alongside the production of buildings some of these architects participated in the production of a body of representations informing other architects of their programmes and outputs. Important publications appeared from the 1950s onwards. *Tropical Architecture in the Humid Zones* (1956) and *Tropical Architecture in the Dry and Humid Zones* (1964) by Maxwell Fry and Jane Drew were influential manuals. *The Architectural Review* (1969) published articles and a book on Commonwealth Architecture. A feature on West African architecture appeared in *Architectural Design* (1953–54) and brief articles on buildings in the colonies, and on 'opportunities abroad' appeared in several other professional journals.

The architects most frequently published were Maxwell Fry and Jane Drew, whose authority in the British avant-garde circles was underscored by Fry's partnership with Walter Gropius in the period between Gropius's departure from the Bauhaus and appointment to the Illinois Institute of Technology, and their relationship with CIAM through the MARS group. The other modern architects whose West African work is often published are James Cubitt and Kenneth Scott, sometimes working in partnership; the husband-and wife partnership John Godwin and Gillian Hopwood in Nigeria; Nickson and Borys, Kenneth Holgate and Charles Hobbis in Ghana, and the Architects' Co-Partnership.

The modern movement is associated with the pursuit of the *programme*, by which individual designs and buildings are presented as manifestations of generalist solutions. The architects working in West Africa operated in a similar way in a new context. The issue of appropriate responses to climate is an important theme in this programme, which is framed in scientific terms in the professional literature. Typically, Fry and Drew's textbook (1956) is full of empirical techniques: they use geographical data about the elements of rainfall,

sun angles, temperature, winds and humidity to assimilate and differentiate each of the various sites photographed in the book. In another diagram, an idealised body is sketched, whose physical comfort in built space is set as datum for design success or failure. These illustrations point to an essentialised and reductive reading of site and subject that suppresses the differences between places.

Because shelter is seen as a primary reason for constructing architecture, protection from the elements is an area that catches particular and expert attention. However, in reality, the mode in which this protection is achieved depends on acts of agency on the part of users, including responses to inclement or seasonal conditions through specific local customs. The particularity of the modernist approach appears to be the obsession with siting climatic response on the building envelope in order to universalise the building's contents and its calendar. In this respect climate responsiveness is useful for rationalising the production of the built environment in the kind of global system that emerged from colonial techniques (King, 1984, 1990). The norms of modernist design would allow a colonial functionary to enter the same environment, technically speaking, in any tropical posting.

Climatic responsiveness was a central concern in western descriptions of practice 'abroad' during the 1950s. For instance, climate motivated the arrangement of work in a survey of building in the Commonwealth (Richards, 1961), where buildings were grouped according to the climatic zones in which their countries are located: first the temperate nations (Australia, New Zealand, Canada and South Africa) and then the 'tropical territories' (West Africa; East Africa; The Rhodesias; The Carribean; India, Pakistan and Ceylon and so on). *Tropical Architecture* begins with maps of the tropical zones. In the 1953 Conference on Tropical Architecture held at the University College, London and the 1957 Symposium on Design for Tropical Living in Durban the application of climatic control through the design of the building envelope was discussed from a number of disciplinary and geographical perspectives. At the Architectural Association the conceptualisation of a special syllabus for students from the colonies resulted in a six month long course in 'Tropical Architecture'.

One of the physical hallmarks of modern architecture of the tropics was the sun-screen, usually called the *brise-soleil*, located on the facades that faced the sun to prevent its rays penetrating the building's interior. By shading the interior, and glazed surfaces in particular, the heat build up caused by thermal storage within the interior and the 'greenhouse effect' of collected, irradiated heat was diminished.

Goodwin (1943) gives credit for the invention of the *brise-soleil* to le Corbusier: 'As early as 1933, le Corbusier has used movable outside sunshades in his unexecuted project for Barcelona, but it was the Brazilians who first put theory into practice'. The first significant built manifestation was the 1936–43 Ministry of Education building in Rio de Janeiro designed by Lucio Costa and a team including le Corbusier, that used movable asbestos louvres within an egg-crate facade. The user within the building could adjust the louvres in a bay

to frame desired views of the ground, the general surroundings or the sky, while deflecting the sun's rays away from the window.

Following Brazilian modernism, a large variety of *brise-soleil* treatments were deployed in modern architecture in the tropics. In a summary of these, Olgyay (1963, p. 65) explains:

> Some patterns let the air movement through, and provide shade with more or less privacy. Some use the wind to cool the wall and defend it by half shade. Patterns might be geometrical or use the fluid play of the *claire-obscure* of the light. This can be horizontal by ingenious utilization of spatial constructions. The shading elements of elevations in combination with the deep balconies provides rich texture. Horizontal devices can be closed in character, but nearly similar shading effect can be reached with butterfly-light balconies. Some orientations call for vertical shading members with movable or with fixed fins which dominate the appearance of the elevation. In certain locations the eggcrate sun-breaker provides the necessary coolness by screening before the glass, or by creating with twofold depth the elevation itself.'

Le Corbusier appears to have caught onto the usefulness of the *brise-soleil* concept to the international programme of modernism and recorded his involvement in this invention, somewhat post-fact, in the 4th Volume of the Complete Works (Corbusier, 1946). He credits himself with the idea of the Niemeyer's Rio sun-breaker, and devotes space to images of his own Algiers skyscraper design. He provides a metaphor for the *brise-soleil's* pervasive use through the words of an admiring English architect:

> You have given it [architecture] a skeleton (independent structure), its vital organs (the communal services of the building); a fresh shining skin (the curtain wall); you have stood it on its legs (the pilotis). And now you have given it magnificent clothes adaptable to all climates! Naturally you must be a little proud.

Reading (Across) the Surface

The building boundary within modern architecture in the tropics operates in a multi-valent manner, used simultaneously as a mechanical device, a filtering element, and an aesthetic device. The resolution of these modes was an area for professional expertise. Frequently, as in the Rio building, the functional response became a powerful aesthetic statement. I will look at the boundary as it appears in a number of buildings and representations in terms of three external narratives concerning its functioning, as a site of exchange, and as an element of symbolic value.

Functioning

The first reading looks at the functioning of the building boundary in climatic discourse. To begin with, the boundary makes a physical distinction between

indoor and outdoor spaces. In many images of modern architecture from West Africa published in the metropole, information about the context is scant. The indoor space is ordered in its architectural representations — the areas are configured, mapped — while outdoors is merely left out, a blank space on the margins of the drawing. The exceptions to this emptiness are in the diagrams that indicate views and the direction from which the sun and prevailing winds come. The building boundary modulates these outdoor elements to the benefit of the indoor users.

By using the building boundary to modify light and heat penetration, the architects make the indoor spaces more like other places and less like its actual context. The places it becomes more like are of course the cooler, darker spaces of the European metropolis from where the users come. Norms for comfort that are based on metropolitan experiments and standards are applied as a yard-stick for good practice.

At times the screening of the facade results in a conflict. The screens tend to cut out the view of the exotic world in which the modern artefact sits, the very motivation for having expanses of glass. There are several approaches to overcome this. One way is to eliminate barriers on the horizontal boundary while framing it with deep vertical and roof planes, creating porches or deep aedicular spaces. These might also function as verandah spaces, ambiguous boundary areas that are neither wholly inside nor outside. Another approach is to accept the patterning of the screen as an additional aesthetic element in the composition of the view (Fry and Drew, 1956, pp. 86–89). In these cases the juxtaposition of the screen pattern fragments the view into small, abstracted spots of light and colour. Yet another approach deals with this conflict by mechanising the building, allowing its process of use to become the resolving element. In these buildings the user operates movable screens and louvres, alternately closing out the sun and view, or opening it up to the view (and possibly the wind). In doing so, the user becomes an element in the buildings' proper functioning.

At the level of its functioning, the boundary in this architecture becomes an example of Foucault's (1975) technique or more accurately, *techne* (Rabinow, 1984, p. 255) in the deployment of power. The boundary is designed to engage the body of the user in a dialogue with its surroundings in a way that suggests behaviours and uses. Whether this is an active involvement in operating elements or a passive one of enjoying a certain sense of comfort within the building, the building functions as an instrument that promotes certain pos-tures and movements.

Beyond this, the boundary of the building also frames a way of seeing that reinforces colonial notions of place and power. By designing for the view, the architects support and privilege the gaze of the colonial or westernised user onto the surrounding spaces. Where the reverse view is considered, it is described as a concern for privacy. Thus the boundary conceals the colonial user from unwanted scrutiny from the outside, a concern that does not seem to apply in the other direction.

The theme of the gaze is taken up by Foucault (1975) and later Bhabha (1994, p. 76) as an explanation of power's spatial functioning. The boundary of

the modernist building is a screen that 'corrects' the gaze, framing certain views and shielding others. In this respect it operates as an instrument of colonial power's ability to perpetuate certain representations of place and to maintain stereotypical identities on either side of the dividing line of its interior and exterior territories.

Colomina (1994, p. 319) describes the functioning of the window in le Corbusier's work in Rio de Janiero and other exotic(ised) contexts. Her analysis reiterates the performance of the window/wall as an element alienating the eye from the body of the user, and the view from the specifics of the site.

> The house is installed *in front* of the site, not *in* the site … The exterior world also becomes artifice; like the air, it has been conditioned, landscaped — it becomes landscape.

The subject, inhabiting this building, is similarly displaced: 'The traditional subject can only be the *visitor*, and as such a temporary part of the viewing mechanism'. Extending feminist thinking to this analysis, Colomina points out the association of the site with a fixed and objectified female body, and the viewer with a powerful and mobile male eye. These identities can be paralleled with a post-colonial reading in which the subjugated territory of the colonial context is fixed by the productions of metropolitan architecture.

Exchange

The second reading looks at the way in which the *techne* of climatic discourse is produced by exchanges that occur when knowledge about building is transferred across cultures. These exchanges — which are far from equal transactions — are between colonising and colonised subjects, metropolitan and peripheral sites, and modern and traditional techniques.

Like their colonial predecessors the modern architects in the tropics were not immune to borrowing techniques from their contexts. The professional literature notes a number of indigenous practices (Atkinson, 1952; Fry and Drew, 1956; Olgyay, 1963) that might carry lessons for modern architects. Many of these practices were transmitted through colonial networks to quite distant locations. For instance, Goodwin (1943) notes how the 'jahli' of Indian architecture became 'jalousies', adjustable louvres in sliding panels found in South and North American architecture. Upton (1998) has similarly identified the influence of West African vernacular architecture in the plantation houses that were built by slaves in the southern United States.

The practice of borrowing is both acknowledged and played down in its significance. At the 1952 Conference on Tropical Architecture, Johnson-Marshall noted

> It is interesting, *incidentally*, to see that several of the characteristic forms of modern European architecture, ie the piloti, the cantilevered balcony, the brise-soleil etc. have been used for centuries in the Tropics. (Foyle, 1953, p. 23)

The 'incidental' discourse of indigenous knowledge is marginalised to a few

examples, mis-named, vaguely historicised and stripped of any particular authorship, in contrast to the clear attribution of modern architectural designs in the same proceedings.

Nalbantoglu (1996) has described how, in the more recent history of architectural representation, traditional building practices in Turkey that had been deliberately excluded were rediscovered and assimilated into architectural discourse in the 1960s and 1970s. Certain qualities were noted which converged with the concerns of the Western avant-garde. Yet in the process a certain taming, or capturing of this 'other' type occurred. Her essay makes the point that these quotations serve to negate cultural difference by removing spatial practices from their contexts:

> such seemingly neutral concepts as user orientation, ecological soundness, and appropriate construction form the basis for the constitution of a family of theory/objects independent of both their location and the differences between the bodies/subjectivities that inhabit them.

Such uses of the vernacular are paralleled by the assimilation of indigenous practices in the formation of the discourse of climate responsiveness in tropical architecture. By stripping techniques of their historical context and specific modes of use, architects displace the presence of an active user with the agency to work with the local climate. In place of this local lived spatiality, a global pattern of productive work can be installed.

In as much as the development of the building envelope and the wall in particular in tropical architecture screens any localised reaction (at the same time as responding to its climatic difference), it installs an aesthetic theme that expands European sensitivities to new locations. The earlier experiments of European modern architects with surface construction are given new impetus in colonial contexts. Le Corbusier's development of the *brise soleil* follows the expansion of his career into the colonial and post-colonial contexts of Tunisia, Algeria, Brazil, and India (i.e. Corbusier, 1946). Fry and Drew (1956) cite the work of the emigré architects Richard Neutra and Paul Rudolph in the southern United States, and uses an 'imaginary Mies Van der Rohe house' to illustrate design solutions. Maxwell Fry's own collaboration with Walter Gropius and his involvement with CIAM, the international network of modernist architects led by le Corbusier, brought the influence of the international avant-garde to bear on colonial practice and theory.

There had been many projects in the earlier phases of European modernist architecture where the wall was theorised and articulated anew. To begin with, theoretical texts approach the treatment of the wall variously — and simultaneously — as an articulation of tectonics, as a tensile surface in contrast to the posts of the structure, or as a mechanical element analogous to skin or clothing. In many built and projected examples the architects had *dematerialised* the built boundary. An early model for this was Mies van der Rohe's Turgendhat house (1930) with its window wall that drops into the floor, his Barcelona pavilion and glass skyscraper projects. Le Corbusier's '5 points' of modern architecture, described in his essay of 1926 included *freeing up the facade* from its structural role in order to allow the internal functions to be opened up or concealed from

the exterior without affecting the building's stability. The *mechanisation* of the wall plane had been explored in Gerrit Rietveld's Schröder-Schräder house (1924) and Pierre Chareau's Maison de Verre.

These boundary treatments were techniques of the western metropolis, applied in the colonial context. The tropics were in some ways an ideal laboratory for experimentation. In order to direct this distant aesthetic experiment, institutional structures had to be created. The discussion of the Conference on Tropical Architecture (Foyle, 1954, p. 111) and the text of Fry and Drew (1956, p. 19), for instance, admit the possibility that the architect who is at the time a colonial functionary will shortly be replaced by a local person. This should be someone trained in the metropolis, but according to a modified curriculum, or a graduate of proposed tropical schools of architecture. The establishment of the course on tropical architecture at the Architectural Association in 1954, and the new schools in Ghana and Nigeria in the late 1950s[2] amongst other 'tropical' locations were seen as fulfilling this mission. The ongoing assessment of these schools by British and later, Commonwealth accreditation bodies secured the metropolitan control over the content and norms of their courses.

Further institutional involvement was constructed by the dissemination of information such as *Colonial Building Notes* by the Building Research Establishment at Garston (King, 1990) and the establishment of building research stations in colonial locations including Australia, Ghana, India and South Africa (Fry and Drew, 1956) to provide practitioners with technical support. Networks of information crossed the colonial world while fixing its centre in metropolitan sites.

Ambivalence

The first two readings have been respectively *on* the boundary — in terms of its function — and *about* it, as a site of exchange. This last one looks right *into* it. Rather than seeing the boundary as simply the divide between 'inside' and 'outside', it might be interpreted as a *place* where the tensions arising from their conjunction produce new symbolic and enacted meanings.

In this respect Heynen and Loeckx's (1998) description of *ambivalence* as a characteristic of the architecture of colonial situations is valuable. This ambivalence operates at both a monumental and everyday level. Heynen and Loeckx point out that the boundary of colonial architecture is fundamentally ambivalent:

> an invented hybrid exterior acts as mediator between a prestigious western presence in the interior and an absent, native environment, considered not worth showing. (1998, p. 103)

I would like to demonstrate how this ambivalence can work in several modes: in its material dimension, in its capacity to signify and be mis-read, and in its potential to alter over time. Because of this ambivalence, there arise opportunities for the intentions of climatic discourse to be subverted, and for the boundary to become a *place* of creative resistance.

The material composition of the built boundary of tropical architecture, as exemplified in the *brise-soleil*, is both built fabric and open spaces. The wall has a woven rather than monolithic quality. In this respect it fits into the theoretical paradigm first outlined by the Austrian architect, Gottfried Semper and realised in various manners by European modernists. In his essay on 'the Four Elements of Architecture' (1851), Semper reflected on the exotic artefacts including African grass cloth and Asian huts that he had seen at the Great Exhibition. Using an evolutionary schema to describe the development of human habitation, he suggested that the root of the wall was in woven mats and carpets. He argued that the weaving of branches to form an enclosure led to its substitution with woven wickerwork and hanging carpets, which were used even when masonry structures surrounded the space. Intrinsic to this casting of the enclosure are two qualities: the enclosure is non-loadbearing, possibly separated from the structural enclosure, and through this, the enclosure has the capacity to ornamentally recall its history as a woven screen.

Semper's conception of wall is applied in the treatment of the boundary in modern tropical architecture. The *brise-soleil* or louvre elements are generally attached to a structural frame, and composed as an elevation expressing a hierarchy of elements and an underlying geometry. This geometry is usually regular and classical, being based on Renaissance principles of harmony and proportion, and in this respect it signifies the presence of a western model and order. But it is simultaneously, and sometimes overtly, composed in reference to an indigenous artefact. For example, at the Opuku Ware school in Kumasi, Fry and Drew used the Ashante stool as it is represented in traditional Adrinka symbols on cloths and gold weights as the pattern for breeze blocks that line the school hall.

The alternating open and closed structure of the boundary also presents a physical dimension of ambivalence. In many cases where the built elements are not arranged simply as a flat mesh but as horizontal or box-like panels, often suspended away from a secondary internal glazed skin, the boundary becomes thickened out to become a place in its own right. This sort of element forms a powerful aesthetic device in le Corbusier's Shodhan villa in Ahmedabad (1956), in which the box divisions of the *brise-soleil* recall the roof pavilions in traditional buildings.

In these respects the ambivalence of the boundary is largely symbolic and narrates the absorptions of indigenous, or at least non-western elements into a western aesthetic. But the same physical structure also allows for creative appropriations from the 'outside', in moments in which the apparently subordinate identity of the context is reversed. Two examples show that these appropriations might be either everyday or aesthetic acts.

The first case is the current condition of the university residence in Ibadan designed by Fry and Drew in 1953–59 (Fig. 1). In the original design the boundary of the building was formed by two parallel skins, separated by a gap of about one and a half meters. The outer skin, formed of blocks in a lattice position, provided a degree of shade onto the inner glazed facade while allowing the breeze to pass through the blocks. The gap between was designed to allow the heat stored in the material of the outer skin to be dissipated by
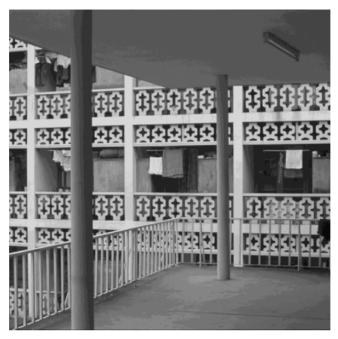
Fig. 1: Tedder Hall, University of Ibadan, Nigeria in 2002 (Hannah le Roux)

lateral breezes. The current use of this space is not as the architects envisaged but nonetheless entirely functional and even appropriate to Semper's fabric analogy. Students have appropriated the gap to hang panels of hessian and plastic, which they use to shelter the spaces.[3] They have reclaimed agency in modifying their own climate and expanded their living spaces into the gap.

The second example lies in an image (Fig. 2) of one of the first West African architects to practiced in the period directly following the era of tropical architecture. On the eve of independence, Oluwole Olumuyiwa, the first graduate in architecture to return to Nigeria set up his own practice. One of his largest projects was Crusader House (1960), a seven storey high commercial building on Martins Street in the heart of Lagos. The building, which faces onto the market, was the site for a portrait of the architect commissioned around the time of the building's completion and published in Kultermann's survey of modern architecture in West Africa (1969).

In the image Olumuyiwa is standing on the ledge of the building. The windows are full height and pivot open; in such a position they permit access to the ledge that functions as a balcony, sunshade and access gallery. The building is completely modern in its height, function and formal language; the facade is tiled in pastel mosaics, rigidly rectilinear in its divisions. The image is taken from within the building. It frames the architect through the windows, and in the background shows a market and the Shitta mosque, all built in Lagos's precolonial Brazilian style.

The image is somewhat in contrast to those in the media of modern West African architecture. The inclusion of human subjects, and the context beyond

Fig. 2: Oluwole Olumuyiwa in Crusader House, circa 1960 (Olumuyiwa office archives, Nigeria)

the building is unusual. But most of all the choices of the architect in his dress and position are a telling narrative. Olumuyiwa is dressed in traditional robes, and stares away from the camera on the interior into the city. Without the possibility of knowing his thoughts, we can read from the architect's act of designing, constructing and inhabiting a liminal space like this ledge an intense desire for a space that is both modern and open to its context, that mediates between identities.

While neither of these examples provides a contestation to the structures of power that stand behind built boundaries everywhere in colonial space, they do point out the impossibility of theorising a complete and immutable relationship between architecture and race. In their capacity to be reused, re-imagined, and repossessed, buildings are never completely in the hands of power. Despite their physicality they perform like the metaphoric boundary outlined by Bhabha (1994) that delineates the domains of sites and subjects in the post-colonial context. This boundary, while ideologically suffused and apparently holding apart great differences, can itself become a place for emergent identities.

Conclusion

For architects practising in non-western locations, or for those bringing their own post-colonial memories and histories to architecture, critical readings can help to understand the discourse of modern architecture as a heritage that is

both binding and rich with possibility for reinterpretation. With its powerful colonial and avant-garde provenances, it is not surprising that the discourse of climate responsiveness has remained an important one within architectural practice and its representations, particularly in the post-colonial world. Its status is acknowledged by the term's appearance in the curricula of architecture schools, reviews of architectural work, and professional self-representations.

Tzonis and Lefaivre (2001), whose writings on space are otherwise sensitive to discourses of power and exclusion, see tropical architecture as a way for a critical, third world design aesthetic to emerge. Their focus on South American modernism, in which climatic technique was used to develop a nationalist identity for modern architecture, does indeed suggest that this approach has relevance. In the post-colonies of Africa, however, a more ambivalent relationship with the movement is inevitable, given tropical architecture's enmeshment with colonialism. In any case, it may be difficult to imagine practice in a post-colonial context without the climatic devices of tropical architecture. Nonetheless, through the critical reading of precedents it might be possible to make apparent some of the assumptions and repressions that are sublimated by the languages of *brise-soleils*, louvres, breeze blocks and moving screens. By deconstructing and appropriating both the forms and the agency that they historically subvert, alternate discourses might be fruitfully theorised.

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Notes

1. Interview with John Godwin and Gillian Hopwood, Pretoria, 3 October 2001.
2. The first university courses in architecture had been established in Ghana, at Kumasi, in 1957 and Nigeria at Zaria, which became a university in 1962.
3. Rooms, originally designed by Fry and Drew for two or four students, are today used by up to six students due to the scarcity of accommodation on and near campus. It is in response to this crisis that students have become very active in rearranging their spaces daily to maximize their usefulness. The appropriation of balconies allows cupboards to be moved outside to allow more beds or mattresses to fit into the bedroom area. Tour of Tedder Hall and interview with Dr A.K.Olaifa, University of Ibadan, 12 August 2002.

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