

Internal versus External Space Relations in Oscar Niemeyer's Architecture

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Keywords

internal space x external space; Oscar Niemeyer

Abstract

Oscar Niemeyer's buildings from the 1940's to the 1960's are almost unanimously praised. Some recent projects are very controversial, to say the least. Why so? Relations between internal and external space in Niemeyer's architecture are examined, by referring to the fundamental syntactic notions of accessibility and visibility – how we can move between inside and outside and how we can see between these instances. In Niemeyer's works, relations between these domains vary radically along the intervals of closure/openness and opacity/transparency. Attention here thus concentrates in the buildings' skin. Towards one pole, there are radical examples of transparency and openness in which a simple "shade" – a horizontal slab totally open to the surroundings – is the project's key element. In other instances, the architect's preoccupation with integration with nature or with the urban setting around leads him to create a new structural type: a building cut through transversally by a transparency is found in many transformations, from Pampulha (Belo Horizonte, 1940), through his own house (Rio, 1953), to the Itamaraty Palace (Brasília, 1962). Even when programs demand solemnity, traditionally equated with greater separation between inside and outside, the architect tempers the morphological distance by creatively re-interpreting devices historically employed to do so: surrounding pools and gardens, flyovers, a slightly elevated piano nobile reachable by delicate ramps, an entrance tunnel etc. (e.g. Brasília's Palaces and Cathedral). Also, façades are made of transparent glass, another way to soften formality. On the other pole of the spectrum, volumes of pure geometrical forms (cupolas, cylinders) may be quite opaque and closed, punctured by economical apertures. Some chronology can be identified in this variation. In his "classical" architecture (1940's to 1960's) spatial integration with the surroundings through openness and transparency conveys urbanity. In later years, formality takes hold: closed and opaque volumes in convex forms, often circular in plan, neither define clearly the space of their vicinity, nor favour relations between inside and outside – their façades may include glass, but they are dark or reflective surfaces, not transparent (e.g. Latin America Memorial, São Paulo, 1986, Republic's Cultural Complex, Brasília, 2006). Usual criticism of the latter concentrates on bioclimatic aspects (they rely obligatorily on artificial conditioning) and volumetry (buildings area over-sized as compared to preexisting neighbours). This misses the point: the essential problem is spatial, not bioclimatic or volumetric (although performance in the latter aspects is also bad). The problem is the absence of clear spatial definition of the open spaces by the volumes and the almost elimination of relations of visibility and accessibility between inside and outside – here lies essentially the uneasiness one feels in such places.

Fable of an architect

Architecture like building doors
to open; or like framing the open;
building not to maroon or bind
nor building secrets to conceal;
building doors open... onto doors;
houses naught but doors and roof.

The architect reveals for man
(open homes might heal the world)
doors-through-which, not doors against;
by which to unleash reason, light and air.

2.

Till from fear of the untold free
he spurned living in the open clear.
Where spans would open, he walled up
dark to shut; where glass, concrete sheer;
till man re-pent: in chapel-womb,
pampers of the nave, foetus once again.
(Melo Neto 1968) ¹

1. Foreword

This text examines relations between internal and external space in Oscar Niemeyer's architecture. How does his architecture treat these relations? Can one identify a dominant mode? Have transformations taken place with the passage of time? What implications ensue from this aspect of his work?

Notions of internal and external space are the bedrock of elementary architectural design: delimiting a portion of space from within the general space of Nature by introducing a "filter" – the envelope consisting of floor, walls, roof and a variety of other components (e.g. Niemeyer's curved concrete surfaces). The envelope filters attributes of natural space, creating transformed space to suit both practical purposes (architecture thus acquiring material use value as a good) and expressive ends (architecture as ideal use value, as a sign) (Puls 2006, 27-28).

Architecture as an artefact comprises the following components: 1) the spatial envelope or "skin" which, by its closings off and openings, opacities and transparencies defines 2) internal space, whose attributes are determined by the nature of the skin (light, sounds, temperature, smells, diverse possibilities of movement and visibility), distinguished from 3) the external space to which internal space relates according to the attributes of the skin (any orifices or transparencies). ²

Various solutions articulate internal and external space by means of the skin. They can, though, be reduced to a parsimonious syntax consisting of two main analytical categories: 1) closing / opening to the movement of people, and 2) opacity / transparency to view. The first category (closing / opening) relates to the physical relation between places, to the possibility of moving more or less directly between inside and outside. The second category (opacity / transparency) relates to visual perception of inside and outside, to the possibility of being aware of what is on the other side of a plane or barrier, to the faculty of seeing through the skin.

Let us return to the questions posed at the outset. Does Oscar Niemeyer's architecture consistently explore a particular range of variation on the closing/opening and opacity/transparency scales? Are perceptible variations related to a particular phase of his work, to architectural themes, to the built up or natural surroundings or to any other aspects? How do the architect's choices affect people vis-à-vis the various performance aspects of his architecture? In answering these questions I shall not adopt a broad-sweeping or especially chronological approach to Niemeyer's vast oeuvre. Instead, I shall tackle the issues that seem most pertinent to me, concentrating on the work I am acquainted with in loco.

2. Squares and plazas

The first major design project in which Oscar Niemeyer took part as a budding architect was that of the former Ministry of Education & Public Health in Rio de Janeiro, subsequently renamed the Gustavo Capanema Palace. The extent of his contribution can be surmised from the many (accepted) suggestions he submitted for the work in progress. He moved the taller block, previously set flush with one end of the terrain, to a more central position. By doing so, he averts

the formation of a street front that merely repeats the scale of all the others in the surrounding area. He likewise raised the height of the still pillars or pilotis from 4 to 10 metres in the same block, thus creating a stimulating spatial device: two sub-plazas are obtained from the positioning and proportions of the tall block yet remain united as a single unit by the generous vistas afforded by the raised section sustained by the pilotis (Fig. 1). Closed space at ground level is kept to a minimum there being virtually no blank walls. The remainder are covered with wall tiles. The main and secondary entrances are clearly visible, opening generously onto the areas under the pilotis and inviting passers-by to come in.



Figure 1
Gustavo Capanema Palace, Rio

The way Niemeyer defines open space by the constructed mass of the buildings reappears in his preliminary study for the United Nations (1947), especially if his proposal is contrasted with that submitted by Le Corbusier: "I confess I did not like Le Corbusier's project. (...) the great Assembly and Councils block in the centre of the terrain divided it in two (Fig. 2). In my project, I maintained the indispensable United Nations block but separated the Councils from the great Assembly, placing the former in a long low block by the river and the Assembly at the other extreme of the plot. I had created the United Nations Plaza" (Niemeyer 2005, 161-162). This episode illustrates two distinct composition strategies: Niemeyer gives pride of place to spaces formed by buildings, Le Corbusier to volumes positioned on the ground. Both, of course, contain spaces and volumes. But whereas for Niemeyer the volumetrics are governed by the desired spatial configuration, for Le Corbusier the spaces derive from the volumetric interplay he has conceived. For Niemeyer, empty space is the figure, the buildings the backdrop; for Le Corbusier, the reverse holds: the solids are the figures, the empty spaces in the surroundings serving as a backdrop. In this urban project, Niemeyer is more of an architect, dealing primarily with the raw material par excellence of architecture – space. Le Corbusier, on the other hand, is more of a sculptor: his prime concern is with the raw material par excellence of sculpture – volume. ³

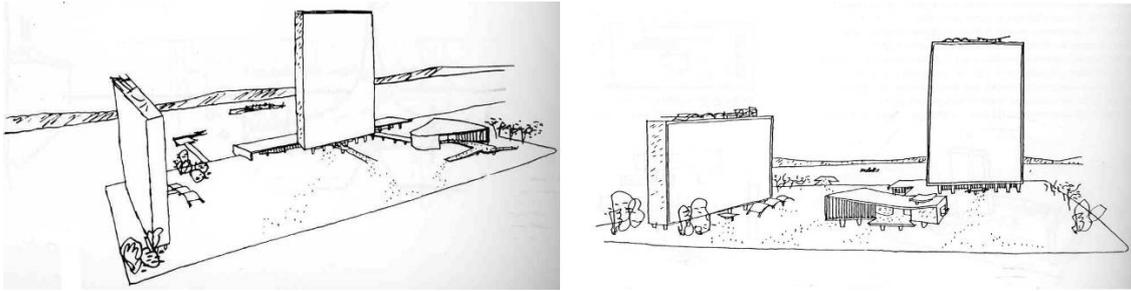


Figure 2

Preliminary studies by Oscar Niemeyer (left) and Le Corbusier (right) for the United Nations Headquarters, New York.

The two compositional strategies display opposite attitudes to urban space. Niemeyer is not simply “more of an architect” when he stands up for his plaza; he is also less “modern” than Le Corbusier in his treatment of public spaces. In this respect, being modern means thinking mainly in terms of “full” as opposed to “empty” spaces. It means disregarding the spaces between buildings onto which doors and windows relating it to the interior spaces of the buildings do not usually open. It means treating public space as residual or for passing through, not as intentionally designed or meant for staying put in. The anti-urban, anti-citizen desertification of modern public spaces has sociological roots (Sennett 1977) but also provenly derives from the configurational features of the places themselves. In his later work, Niemeyer sadly turns more “modern”, as we shall see.

3. Natural vs. built up

Relations between internal and external space raise the issue of natural vs. built up elements. At one end of the spectrum, architecture mimics nature either by employing materials in their original form (the obvious way) or by incorporating accidents in the relief, rocky outcrops, water, local vegetation, the lie of a riverbank, the sweep of a lakeside or seaside shoreline, patterns in the landscape etc. into the design of the project (a subtler solution). Such a strategy allows nature to penetrate the artefact and blurs the dividing line between closed and open, interior and exterior, covered and open-air, naturally preexisting and artificially contrived by man. We have entered the world of Dionysius, of which the works of Frank Lloyd Wright and Antonio Gaudi are paragons. At the other end of the spectrum, architecture stands as an artefact rather than emulating the preexisting natural site. Materials derive from manufactured or industrial processing, regular shapes denote mental elaboration. The artefact is autonomous and could as well be situated there or (virtually) anywhere else. It confronts the landscape, standing in stark contrast to it, not imitating it. Le Corbusier’s Ville Savoye, a light cobblestone suspended on stilts, illustrates this Apollonian strategy.

Niemeyer stands firmly at the former end of the spectrum. He and many other analysts cite the Pampulha project in Belo Horizonte (1940) as a turning point both in (Brazilian and world) modern architecture and in his own work (“my architecture begins at Pampulha”). The curving lakeside defines the location of the buildings: they are on virtual peninsulas advancing on the surface of the lake, thus maximising vistas of the surrounding landscape. The main façade of the St. Francis of Assisi Church is completely transparent (partly offset by brises-soleil) and faces straight onto the lake, the waterscape being one with the interior of the nave (Fig. 3). Tradition is subverted: the abutment by the main façade is higher, dropping down towards the high altar. There it rises again: the dome in the nave is interrupted, the high altar stands under another slightly higher dome out of synch with the former at that point, allowing light to be cast on the high altar and on the Portinari panel at the back, its source not being directly visible to the congregation (Fig. 27). The transparency of the main west façade and the greater height of the nave at the entrance to the church give nature (the view of the lake) precedence over transcendence (the lower space of the high altar and the Saint Francis panel behind it).

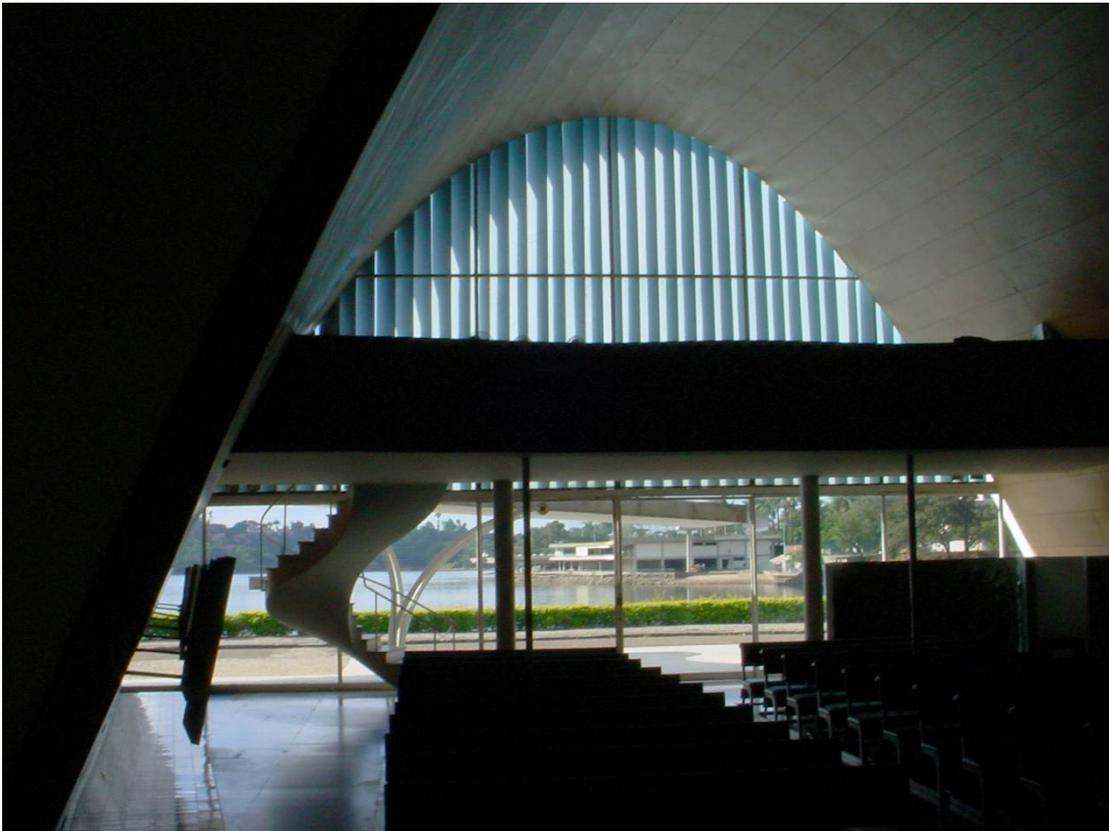


Figure 3

Saint Francis Church, Pampulha, Belo Horizonte

The Ballroom is more emblematic vis-à-vis its natural surroundings (Fig. 3). It inaugurates a strategy further developed in Ibirapuera Park and the Canoas Road House. Two aspects encapsulate the incorporation of the landscape: adapting the architectural attributes to the site (the building accompanies the contours of the island while the transparency maximises perception of the surroundings) and the creation of an artifice that subtly sets off what is built from what is natural: the marquee, establishing concomitantly covered and open space. Clearly these attributes (covered and open) are no novelty in architecture: arcades, loggias, porticoes and verandas all possess them. Nonetheless, they are not so much autonomous architectural features. Rather, they are parts of buildings or sets of buildings, like the Palladio loggias, traditional Brazilian verandas or the beautiful medieval arcades in the streets of Bologna or Chester. They are elements of the syntax of the types to which they belong serving as transition areas between interior and exterior without having any identity of their own, and so do not rank on a par with other architectural components. Niemeyer's marquees are quite distinct because they are subtle filters: they mark the place by means of a skin whose purpose is confined to generating shade. They are thus less than the open "houses naught but doors and roof" in the Cabral de Melo Neto poem of the epigraph: they are naught but roof. The Ballroom marquee is a space defined exclusively by a horizontal plane, a sliver-thin cover-slab delicately supported by spaced out columns. It is a delicate gesture conjuring shade, a place to stand and admire the lake – and that is its charm. A new kind of architectural type, then.

This type is taken a step further in the Ibirapuera Park, São Paulo (1951) where Niemeyer chose to spread the buildings out, so that an ellipsis measuring 700m at the broadest point and 300m at the narrowest might be drawn between them. So as to impart a sense of unity to the set of buildings he created, a huge 27,000m² marquee joins them together (Fig. 5). The large dimensions are perceived bit by bit: the sinuous shape and the exuberant vegetation through which the marquee winds reveal them gradually as one walks along under it. The distance between the buildings, the winding marquee and the vegetation also mean that the buildings are

hidden being progressively revealed, thus producing a marvellous architectural promenade. Niemeyer creates an even bolder and more singular space that is solely cover (“naught but roof”) than in the Ballroom, one more expressive than functional. Functionalist orthodoxy – which he has always repudiated – would quibble that he has kept complementary activities too far apart. In doing so, however, he has continued a design strategy inaugurated by the Gustavo Capanema Palace project, reworked at the Ballroom, and radically expanded here of incorporating open space and natural elements into the configuration of the project. In the Ibirapuera Park, Niemeyer hones the hallmarks of his compositional strategy: the dialogue between pure and free forms, the incorporation of nature into the design, the expressive exploration of covered yet open spaces – all traits of an essentially Dionysian architect.



Figure 4
Ball Room marquee, Pampulha, Belo Horizonte

The architect's house on the Canoas Road, Rio de Janeiro (1953) recovers themes he had experimented with at Pampulha and the Ibirapuera Park (Fig. 6). The floor reached by descending the winding path from the gate at the Canoas house is a variation on the Ballroom. It replicates the contribution of the natural surroundings to the blueprint's essential attributes: the flat rooftop with its sinuous geometry, the central transparency lodged between two opaque elements. The cover-slab of the Canoas House encompasses the living-room at the east end, areas set aside for meals and services (lavabo and kitchen), and access to the lower floor at the west end, as well as a spacious hallway in the middle bounded to north and south by no more than a floor-to-ceiling glass frame. The design riles with orthodox functionalists because the hall is bigger than the living-room, and the external covered area provided by the winding cover-slab is larger than the internal floor-space for the storey. There is a subtle yet unmistakable super-investment in architecture as a sign rather than as a good. As you arrive at the house, you can see through the house the landscape sloping down to the sea that stretches to the horizon. Once you have walked through the glass skin, you barely realise you are standing “inside” such the intensity of Niemeyer's incorporation of the woodland, the steep slope and the distant horizon into the interior of the house. The leaf wall of the forest in which the house nestles, visible through the glass framework helps define the space of the hallway. Incorporating natural rock into the composition – with

outcrops emerging in the pool, protruding onto the verandah, cutting through the glass framework and penetrating into the hallway, descending the flight of stairs to the lower floor – is a striking feature that, together with its other attributes, makes the Canoas Road house the pinnacle of Niemeyer's Dionysian architectural strategy.



Figure 5
Ibirapuera Park marquee, São Paulo



Figure 6
Canoas House, Rio de Janeiro

Disparate as they may seem, the same strategy is at work in the Museum of Contemporary Art, Niterói (1991) – the repartee with the landscape is unchanged albeit renewed. The regular chalice-shape of the building replicates but inverts the curves of the promontory where it is located and of the mountains on the horizon: narrow at the base and opening out toward the sky. Whereas the Canoas house is engulfed by the vegetation and the lie of the land, given its reduced central support, the Museum stands separate from the site, preserving it by hardly touching it. Chalice shape, elevated access, central support strut, ramps that look retractable and recall jet bridges all highlight the building's apparent separateness from the rock. Despite all this, it is not "modern" and could not "be located anywhere else". It is an architectural commentary on that spot in the landscape, making the promontory more pronounced than other features of the shoreline.

4. Attributes of the skin

Same Minas lass in Brasilia
On hard cement, of mortar and steel
Brasilia was grafted, nurturing
the nearly carnal porousness of brickwork
drawn from Brazil's farmhouses of yore.
With these (manor house) palaces
her presence is at one,
her body boasting the receptive
perviousness of a Minas porch.

Unmeadowed vistas here
will lap like eddies at a porch,
stretching out the span of human time,
encumbered, whenless time.
She bears with her the calm
this city's men will learn, honed still
in its timely idle Minas time
where ample porches bask.
(Melo Neto 1968)

Exceptional buildings, irrespective of time and place, display devices for separating internal space from the public domain: motes and drawbridges in medieval castles; temples atop pyramids in Pre-Columbian America; steps leading up to the main entrances of plantation estate manor houses in the Brazilian northeast and their coffee-cycle counterparts in the southeast; and so on. The buildings in downtown Brasilia are utterly modern and exceptional, and so it is hardly surprising that they all over-elaborate the transition between interior and exterior. It fell to Niemeyer to give concrete expression in stunning form to this concomitantly age-old yet contemporary trait.

The Alvorada [Dawn] Palace (1957) (Fig. 7), the official residence of the Brazilian President, has the air of a stately home. A vast lawn – on which the palace seems to alight – separates the access road from the building itself. An elongated manor house, it evokes "Brazil's farmhouses of yore" with the chapel to one side. The main floor, raised one and a half metres above ground level, is visible on all sides, supported to east and west by the justly famous colonnade that makes the building seem to hover above the ground. Here is a new brand of the ceremonial. Not only the piano nobile rises above ground level; the entire construction is detached from it. You approach the entrance from the pavement facing the main façade, proceeding along a walkway across a reflecting pool still at ground level (a transgression of the code introducing a subtle touch of informality). You cross the colonnade in the section where it is interrupted to mark the entrance, passing under the portico-veranda through a door leading into the hall, still at the same level. The optical illusion produced by the mirror behind the ramp leading from the hall to the main floor makes the space look more open to the exterior than it actually is. In front of you, the transparency of the east façade is confounded with the reflection of the west façade behind you through which you have entered the building, while the garden on the east side melds with the west-side garden reflected in the mirror. Moving up the ramp, you reach the palace's ceremonial storey. The spatial

sequence is one of the most breath-taking the architect has created, vying for pride of place with another, more solemn one, the entrance to the Itamaraty Palace, as we shall see. Niemeyer does not eschew the monumental. Rather, he tempers it by admixing attributes of a more informal kind.



Figure 7

Alvorada Palace, Brasília. Main entrance

At the Brasilia Cathedral (1959 onwards, Fig. 8) Niemeyer likewise employs a monumental device but inverts it: instead of raising the main spaces of the building above the surround, he lowers them. The variation on the theme topologically preserves the essence: highly wrought separation between interior and exterior. The access to the nave is impressive for its light-dark-light sequence leading from the brilliant wide-open space of the Central Plateau down a ramp through a dark tunnel that opens out into the luminous nave with light streaming in through the stained-glass roof.

Inside the cathedral, the architect once again reaffirms and flouts traditional codes. He reaffirms them by making access to the interior indirect, almost invisible – a mere slit in the ground. He flouts them by creating an unimaginably bright, transparent interior. The Brasilia Cathedral evokes (13th-century) Saint-Chapelle in Paris, the pinnacle of gothic levity: minimal structural components and maximum use of stained-glass windows in composition of the envelope. Another putative evocation is by way of contrast: Niemeyer's cathedral is a kind of inverted Roman Pantheon. The latter is a round building that is utterly opaque save for a small opening at the top that allows a beam of light to penetrate the interior. The Brasilia Cathedral also has a circular design, the envelope being defined by the sixteen very delicate structural petals framing the glass panels. The only opaque element is the small cap at the crown. I have personally witnessed the perplexity of the faithful as they stand drenched in the brilliant light. Is this a hedonist temple?

At the Itamaraty Palace (1962) Niemeyer redevelops ideas previously explored: arches, reflecting pool, transparent glass façades, access walkways across the water. The building nevertheless boasts a number of singular features: it has a square design; the façades are identical; the ground floor is flush with its surroundings; the body of the building is a glass box standing free from its cover, topped by a terrace garden and set back from the four arched façades; a reflecting pool encircles the palace on all sides. The entrance sequence and the succession of spaces in the great hall are as follows: once you have crossed the walkway over the reflecting pool, you pass under the arches of the façade standing the full height of the (three-storey) building, crossing the glass skin of the

primary façade into the hall. A section with single abutment below the mezzanine, a 30-metre transversal open span, then a double abutment under the stunning curved cutback of the mezzanine reached by a delicate broad spiral staircase with supports only at top and bottom, a feature lending a singularly monumental effect to the entire hallway. Another section with single abutment under the mezzanine leads to the Burle Marx gardens at the rear, still inside the building on little islands in the water surround that penetrates the interior of the palace at this point on the ground floor. The garden also has a double abutment beyond the rear of the mezzanine and extends to the arched south-facing façade with its triple abutment. The garden at the rear opens the great hall entirely to the outside without even the glass skin of the primary façade, the architect taking full advantage of the Central Plateau's mild climate. The stimuli to the senses propitiated by the elements par excellence of architecture are exceptional in this spatial sequence in the palace: mutant attributes of light and shade; the geometry and topology of the empty spaces (respectively, dimensions, proportions, shape and separations, proximities, involvements); varying sounds, temperature, humidity, aromas.



Figure 8
Brasília Cathedral, Brasília

The incorporation of open spaces into the composition continues with the terrace garden (third floor), on the storey that houses the banqueting hall and other functions. This floor is mainly open to the Ministries Esplanade and has a splendid view of the Three Powers Plaza. In one section the terrace opens upwards through a pergola casting a pool of now zenithal light. This other source of light enriches the space, displaying to greater advantage the beautiful gardens, designed by Burle Marx.

The National Congress building (1958, Fig. 9), the architect's favourite design, treats visibility and accessibility issues on an unprecedented scale and in a unique manner – one possibly never surpassed. Niemeyer positions the building perpendicular to the Monumental Axis, enhancing its presence in the visual cone of the Ministries Esplanade. The solution provides the apex of perspective yet minimises the visual blocking off of the Plaza behind it and the natural landscape beyond. This artifice produces a horizontal platform-block occupying the entire width of the central lawns in the Esplanade; 100-metre-tall twin towers, placed sideways on to the Esplanade; two bowl-shaped volumes positioned on either side of the platform-block, their positions inverted in relation to each other. To obtain the desired transparency, the architect designed the complicated

landscaping of the terrain. From a distance in the Esplanade, the bowl-shaped volumes seem perched lightly on the ground. The empty spaces between them and the twin towers keep the visual interruption to a minimum. Only when you come closer do you see they are supported by the platform-block. The removal of earth from the area before the façade of the Congress facing the Esplanade has transformed the central lawn into a giant ramp that slopes gently down to the building's main entrance in the platform-block only now revealed. The lateral roadways, however, have been kept at the same level as the roof of the platform-block (these only slope steeply down to the Plaza behind once they have passed the Congress building). You can cross the road to the flat cover-slab of the roof and walk between the bowl shapes admiring the fine views: at sunset, the Esplanade and its lawns are viewed virtually at eye level; at sunrise, the Three Powers Plaza lies about eight metres below.



Figure 9

National Congress, Brasília

The east and west façades of the platform-block and the north and south façades of the twin towers are glass-clad – Niemeyer thus makes the complex “look” in all directions. The opaque bowl shapes on the platform-block do not interfere with the predominant sense of transparency: their relatively small volume in relation to the entire complex makes them look more like sculpted adornments springing from the cover-slab on which they are perched than like blind constructions.

The long platform-block standing perpendicular to the Esplanade and the earthworks redefined and improved the layout of the set of monuments in the Ministries Esplanade and the Three Powers Plaza – an interesting interface between the urban design and the architectural blueprints for the Brazilian capital. The width of the Esplanade was increased by about 50% in relation to Lucio Costa’s original conception, making the proportions of the space more harmonious. The longer façade of the platform-block facing the Plaza produced an unforeseen western delimitation of the space, given the importance it assumed. Niemeyer’s plan for the Plaza was practically square (about 300 x 300 metres), bordered to the west by the Congress building, to the east by

the top of the containment wall, to the north and south by the main façades of the Planalto Palace and the Federal Supreme Court. The Planalto Palace and the Federal Supreme Court building are transparent glass boxes encased in shadow cast by colonnades and verandas – transparency and shade predominate. As with the Alvorada Palace, the main floor is raised above ground level, and the colonnades have similar motifs: minimal dimensions in contact with the ground and roof, maximum at the height of the main floor, linked to the ground by sloping ramps – an artifice lending an air of solemnity. Contradictorily, the palaces give directly onto the Plaza, approach to them being unimpeded by any kind of barrier – a surprisingly informal feature that offsets the monumental dimensions of the place. Ah... what a contrast between these transparencies, lapping “like eddies at a porch” (Cabral de Melo Neto) and the Latin America Memorial!...

5. ...foetus once again

Theories about the Latin America Memorial (1986, Fig. 10) abound: it “illustrates [the] endeavour to recreate Latin American culture by means of a dynamic, sculpted aesthetic as free in form as it is unified in concept and composition” (Underwood 2002, 121); the project “will represent an architectural set comparable in magnitude with Brasilia alone” (Darcy Ribeiro, apud Underwood 2002, 133). Niemeyer writes of it: “my concern in designing this Memorial was to make it so different, so free and creative, imbued with such visual unity that it would create, the moment you set foot in it, the surprise a work of art should impart” (Oscar Niemeyer, apud Underwood 2002, 136). You immediately realise this is the architect’s work: the flowing freedom of form and the purity of the slim concrete shells exploring the plasticity of technology are there; the structural audacity of the open spans is unmistakable: 40 metres in the Aula Magna, 60 metres in the Ceremonial Hall, 90 metres in the Library; the ubiquitous white of Brasilia’s buildings. However, many feel there is something wrong with the place, that the comments above do not tell the full story. Why? Diverse reasoning is required to unveil the reasons.



Figure 10
Latin America Memorial, São Paulo

Certainly, “the set may impart the claustrophobic sensation of a police precinct: tall railings, grilles and security doors make it difficult for the visitor to enter the premises” (Underwood 2002, 141).

However, if the railings were hypothetically removed, the problems would persist: they lie in the volumetric solution for the buildings, in their relation to their surroundings, in the configuration of the space in between. The concrete shells of the main façades reach to the ground; transparencies, where they exist, are reserved for side walls. Viewed head on, the buildings are almost entirely opaque, the “Aula Magna” looking like an enormous horizontal silo. Greater or lesser openings in the shells mark the entrances but are insufficient to allay the unpleasant feeling that the blank surfaces define the most important public spaces.



Figure 11
Republic Cultural Complex, Brasília

Glass is present at the entrances, on the side gables of the shell buildings and the façades of the other buildings in the complex (the Brazilian Centre for Latin American Studies, the Creativity Pavilion, the Restaurant, and the Parliament). With a telling detail, though: the glass is... black! The dark surfaces prevent one seeing into the interior. For Underwood, the contrast “between the flat black glass and the white of the curving concrete,” common to all the buildings in the complex, unifies “the freely drawn blueprint and the diversity of form of the pavilions” ensuring the indispensable unity and variety required in the aesthetic domain (Underwood 2002, 136). His reasoning, by ignoring the opacity of the dark glass compounded by the opacity of the great blank white surfaces misses one of the main reasons for the discomfort the place conveys: successful urban spaces in all times have invested in intense relations between interior and exterior, marked by permeability and transparency obtained through doors and windows by which contact with the other and mutual visibility are established. Denying permeability and transparency between internal and external spaces, as the architect does so radically at the Latin America Memorial, means eschewing attributes historically associated with spaces where people gather to fraternise. Opaque buildings and blank spaces are typical of spaces designed for representing and reproducing symbolic systems, used by the people (when they are used) solely at appropriate occasions; they are not suited to everyday secular life. As there is always a degree of good sense in common sense, visitors to the Memorial who describe it as “cold and unwelcoming” have intuitively put their finger on the contradiction between the configuration of the place and the declared objectives of convivial atmosphere, integration and solidarity attained by the activities and routine spectacles of secular daily urban life.

The volumetric solution for the buildings contributes to the poor legibility of the open spaces and to the negative assessment of the whole complex. The convex forms of the Parliament and Restaurant – black glass cylinders – fail to provide properly configured open spaces. It is not a problem of landscaping, either – the inexistence of trees – as some have commented. The squares of many colonial towns in Brazil and of many European ones too that enchant Camillo Sitte have mineral surfaces. They are no less beautiful, stimulating and lively for all that. Opaque forms, cylindrical or otherwise, are also found elsewhere in the architect's oeuvre, as in are the Pantheon of Freedom and Democracy, Brasília (1985), the Araras Theatre, in the town of Araras in São Paulo State (1990) and the capital city's Cultural Complex (begun in 1986 and successively modified). Part of the Cultural Complex was inaugurated in 2006: the Honestino Guimarães National Museum, the Leonel de Moura Brizola National Library and the restaurant. The Honestino Guimarães National Museum is located in a terrain on the south side of the Monumental Axis in Brasília, together with the other buildings comprising the capital's Cultural Complex (Fig. 11). The ensemble is arrayed on a paved esplanade. The Museum is a great concrete dome painted white and set flush with the surface of the surround. It is almost entirely opaque except for occasional openings set at different levels. The restaurant is, again, a black glass cylinder while the Library is a rectangular building whose visual relations to its surroundings are minimised: the long (east and west-facing) façades are almost entirely clad in fine-mesh perforated cement-brick screenwalls or cobogós,⁴ the others being blank (Fig. 92). As with the Latin America Memorial, the arid sensation derives not so much from the absence of vegetation as from the configuration of the buildings on the site, especially the convex forms that fail clearly to define the open spaces, the opacity and the impermeableness to the exterior.

However much one detects the Oscar Niemeyer of the Three Powers Plaza in the designs appraised here, the differences are self-evident. Curiously, the trajectory is the same as that described in the Cabral de Melo Neto poem, in the transition between the two stanzas of the Fable of an architect. Mere coincidence? Perhaps not. Cabral's Fable was certainly not referring to Niemeyer (whereas Same Minas lass in Brasília certainly does). Rather, he reflected in verse on a trend of architecture in the modern age. It is not a question of demonising modern architecture – were that the case, the majority of this essay would not have been written. Instead, it is a matter of observing in it an anti-urban strain, whose attributes include separation, impermeableness and opacity. Niemeyer was relatively impervious to the trend until the 1960s, less so from then on. Debating the reasons for this change of course must be left for another occasion. The emphasis here has been on his works, on the reasons why some affect us positively, others negatively. I trust it has been an objective reflection serving to avoid problems and to recognise, recover, recreate and amplify qualities.⁵

Notes

- 1 João Cabral de Melo Neto (1920-1999) is a renown Brazilian poet.
- 2 The idea is inspired by but is not entirely coincidental with Hillier & Hanson's "elementary cell" (Hillier & Hanson 1984).
- 3 Niemeyer's project was chosen unanimously but was not implemented. Le Corbusier insisted with him that they presented a new project that would be the synthesis of their propositions. They did it, but what was finally implemented has suffered important changes.
- 4 A Brazilian building invention for naturally ventilated screenwalls. The name is a composite of the inventors' initials: Coimbra, Boeckmann & Góis.
[<http://pt.wikipedia.org/wiki/Cobog%C3%B3>]
- 5 This study was carried out with the support of a Research Grant from Conselho Nacional de Desenvolvimento Científico e Tecnológico [Brazilian National Council for Scientific & Technological Development] – CNPQ, Brazil. Text and poems translated from the original in Portuguese by Mark David Ridd.

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