

MODELING MOTION: BRAZILIAN ART AGAINST STASIS

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Motion, like air, often remains unnoticed until one attempts to exist without it. It is so fundamental to not only human existence, but existence as such, that we struggle to understand its most basic implications. But there are those who have tried. Three artists, all working in the same location at roughly the same time, engaged in artistic dialogue with movement, each in his or her own unique way. The three Brazilians of whom I write—Lygia Clark, Lygia Pape, and architect Oscar Niemeyer—created according to his or her own appraisal of movement, considering formal and philosophical principles equally in the conception and execution of an artwork. One case relative to each artist is analyzed through the motives, practice, and implications of movement inherent in their respective artistic productions. The cases are identified by their employment of differing states of movement: stored energy—an object's *potential* for motion (Clark's *Bichos*, c. 1960–64); kinetic energy—an object's actual or *occurring* motion (Pape's *Neoconcrete Ballets*, 1958–59); and what I call suggested energy—that is, the *evocation* of motion (Niemeyer's architectural curves). In establishing new readings for each relative state of energy, the cases will be addressed solely with regard to the artists' employment of movement, a phenomenon that was embraced as a vehicle for the rejection of stasis and its many implications within the arts.

I begin with a brief scientific explanation of movement, as the study of motion lies first and foremost within the realm of physics.¹ One can summarize the science of movement in seemingly oppositional ways, though each path leads to the same definition. First, motion may be described as a disruption, a consequence of chaos, never entirely understood, predicted, or controlled. Perhaps the greatest challenge to the field of quantum mechanics is the uncertainty principle—the impossibility of knowing a particle's velocity and direction at the same time as its position—thus rendering complete control of motion futile. Since motion requires the dominance of one opposing force over another, immobility can be appreciated as a sort of physical bliss that requires the perfect balance of all acting forces. Stasis, as in a mature Mondrian painting, could thus represent harmony, economy, and control; there is no over-powering energy, and there is no chaos.

Motion may also, however, be explained as the most elemental and truly universal form of liberation. It is the release of an object from the grasp of one force through the application of another greater and opposing force. Conversely, an object in stagnation is in literal captivity, caught in the vice of physical laws. The only way to break the bind is through the transference of motion-energy from one object to another, thereby putting an end to an object's otherwise eternal arrest. Despite the two variations of theme, there is only one "true" definition, and perhaps Sir Isaac Newton put it best: *A body in motion stays in motion, a body at rest stays at rest.*

The Brazilian artists in question were primarily concerned with the latter conception of the phenomenon. Movement for these artists served as a vehicle for various modes of liberation, a catalyst posed in contrast to artistic and phenomenological stasis. Each of the three artists entered into artistic production through an investigation of static forms which, over time, led to the development of comparatively more dynamic and phenomenological artistic output. Niemeyer, Clark, and Pape undertook such explorations in great part as a response to specific European artists working or exhibiting in Brazil. Two such visitors had particular resonance in the country's twentieth-century artistic production: Swiss-French architect Le Corbusier, with his stable right-angles and functionalist drive in the 1930s, and Swiss artist Max Bill, with his hyper-calculated Concretist piece *Tripartite Unity* (1947–48), a work awarded the Grand Prize in sculpture at the inaugural *São Paulo Biennial* in 1951.

Le Corbusier first traveled to the Americas in 1929, though his ideas preceded him with his widely distributed text *Towards a New Architecture* (1923).² Here the author calls for modern, rational, technological—in short, "engineered"—forms already found in industrial products and certain examples throughout history. Automobiles, pipes, glass vases, airplanes, and, despite his warnings against the trappings of the past, the Parthenon and the works of ancient Rome, were all explained as bearing the underlying connection of a formal geometric clarity. Viewing the "house as a machine for living in,"³ Le Corbusier extended these principles of exaction to the private dwelling space and eventually large public structures.

Le Corbusier had a direct influence in the Americas as well. Serving as an advisor for city planning and building projects, he traveled on multiple

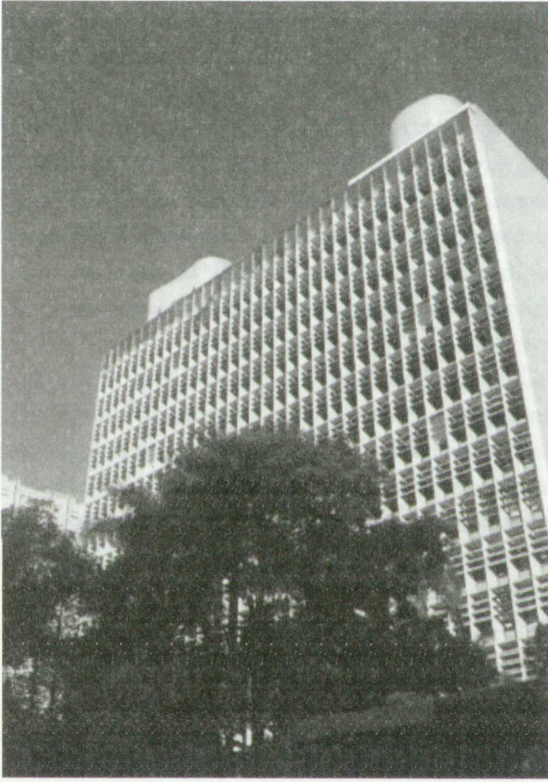


FIGURE 1. Lúcio Costa, Carlos Leão, Jorge Moreira, Oscar Niemeyer, Affonso Reidy, Ernani Vasconcelos, and Le Corbusier (consultant), *Ministry of Education and Health* building (now titled *Gustavo Capanema Palace*), Rio de Janeiro, Brazil, 1936-43. Courtesy of Gustavo Capanema Palace on Freebase.

occasions to Brazil, Uruguay, and Argentina between 1929 and 1936. The Brazilian *Ministry of Education and Health* building (1936-43), though by no means the first example of simplified functionalist architecture in the region, was among the first employments of the architect's theories within developing modernism in the Americas (Figure 1).⁴ The project, begun in 1936, was to showcase much of Brazil's up-and-coming talent in architecture and design, including Lúcio Costa, Oscar Niemeyer, Carlos Leão, Jorge Moreira, Affonso Reidy, and Ernani Vasconcelos, along with the involvement of the painter Cândido Portinari and landscape architect Roberto Burle Marx. It was Le Corbusier, however, who helped carry awareness of the project into the international sphere after his brief involvement with the Brazilian architects.⁵

Le Corbusier was invited to give a series of lectures in June of 1936, after which he was asked to join the *Ministry's* design team. During his four weeks dedicated to the project, Le Corbusier embraced Niemeyer as his "*de facto* interpreter" and charged him with translating his plans and ideas for the rest of the team.⁶ Niemeyer writes on the French-Swiss architect's influence over the project:

At that time we were somewhat removed from the core concerns of his architecture. We had read his exceptional work as if it were Holy Scripture, but, as it turned out, we were still not really in on all the details and secrets. This explained the masterly independence with which he quickly rejected [Lucio Costa's] U-shaped design for the ministry and adopted a different solution with the linear form that characterized most of his designs.⁷

The building design thus adhered to principles set forth by Le Corbusier, whether expressed through his treatise or in person: the innovative *pilotis* lift the massive construction and allow for air ventilation and the flow of pedestrian traffic while imparting a sense of visual weightlessness; the roof and courtyards were originally landscaped by Roberto Burle Marx in accordance with Le Corbusier's call for the visual filling of displaced natural ground; and Cândido Portinari created exterior murals, contributing to the creation of a "total work of art."⁸ Additionally, there was the calculated planning of all structural forms, the careful relationship of each form to the others, and most importantly, the establishment of visual stability and autonomy, wherein the building came to possess its enveloping space and command its own volume. Despite the French-Swiss architect's markedly brief involvement, the *Ministry's* design serves as a near encyclopedic example of Le Corbusier's theories, as seen in the almost extreme compression of form, strict use of ninety-degree angles, seriality, and gridded compartmentalization of frontalized planes.⁹ In applying these principles to the structure's design, the Brazilian team achieved the harmonious effect of stable forms resistant to any suggestion of representation, instability, or the sensual. The final product was a massive architectural block standing in monumentalized stasis.

The capabilities of reinforced concrete and new construction methods permitted such advances in architectural form, many of which were widely employed throughout Brazil immediately following the reception of Le Corbusier's philosophies.¹⁰ Yet, these same post-industrial techniques and materials also afforded Niemeyer the opportunity to quickly develop his own style, one that immediately deviated from the foreign architect's aesthetic rigidity.¹¹ In 1940, while the *Ministry* was still mid-process, Niemeyer was selected to be the principle architect for a lavish building project proposed by Juscelino Kubitschek, then Governor of Minas Gerais and later President of Brazil (1956–61). The development, called the "Pampulha complex," was to serve as an extravagant suburban resort for Brazil's wealthy middle and upper classes.

Niemeyer's progression away from Le Corbusier's formal stasis is notable in their differing manners of employing reinforced concrete. While Le Corbusier used the material to create massive gridded blocks reflective of calculation, control, and immobility, Niemeyer embraced the strengthened concrete in his creation of organic curves. Through his emulation of nature and the sensual, Niemeyer's evocation of motion was not merely a turn away from, but an immediate and outright rejection of, European ideals of aesthetic stasis and autonomy. The Pampulha restaurant designed by Niemeyer is a key example. *Baile*—the allusive name of the restaurant-turned-nightclub—consists of an open arcade sheltered by a concrete covering that gently winds along the lakefront. As the elevated concrete undulates with the ripples of the shoreline, it approaches an ovoid enclosure, connecting with it much like a stream convenes with a motionless pond. This visualization is quite literal, as the semi-enclosed structure at the end of the wavy covering was designed to house a lily-pool.¹² Despite his involvement with the comparatively rational Le Corbusier, Costa, and the construction of the *Ministry* building, Niemeyer's architectural ideals were, above all, inspired by the sensual. In an oft-quoted passage, the architect writes:

I am not attracted to straight angles or to the straight line, hard and inflexible, created by man. I am attracted to free-flowing, sensual curves. The curves that I find in the mountains of my country, in the sinuousness of its rivers, in the waves of the ocean, and on the body of the beloved woman. Curves make up the entire Universe, the curved Universe of Einstein.¹³

Though begun only four years after the *Ministry*, Niemeyer's faithfulness in Pampulha, not only to the evocation of motion, but to a literal representation of nature, is a far cry from Le Corbusier's advocacy for hard linearity, a consequence of increasingly popular anti-naturalism in Europe. It was, after all, through right-angles that Le Corbusier eradicated illusionism and instability in the creation of compositional and spatial autonomy.

The French-Swiss architect's "loyalty to the right angle...which he tended to regard as his private domain" essentially developed into architecturalized grid forms, a leading stylistic feature of Bauhaus and functionalist-inspired architecture in the Americas.¹⁴ While Niemeyer's curvilinear evocations rejected such aesthetic immobility, the architect's challenge to stasis was not solely concerned with visuality and formalism. For many European artists working in the wake of the Great War, a gridded, mechanical aesthetic served to rid art of the individual, of the human hand, and, ultimately, of any trace of the body or its physical interaction with art. Individuality had no place in a rational, intellectual, aesthetically pristine artwork, the logical product of an equally pure and utopian post-War era. Neither the human corpus, nor sensation, nor intuition bore a function within the formation of a new Socialist society; the body had become a literal "embodiment" of the individual and individuality. Work was to contribute to a mechanized utopia and united socio-political body, one founded on functionalism and stark rationalism.¹⁵ Art became a denial of the flesh.

From the beginning of his independent career, Niemeyer steadfastly disregarded "the right-angle and rationalist architecture designed with a ruler and square."¹⁶ The Pampulha complex afforded him an early opportunity to employ such ideals, which would persist throughout his career. He writes:

The project was an opportunity to challenge the monotony of contemporary architecture, the wave of misinterpreted functionalism that hindered it, and the dogmas of form and function that had emerged, counteracting the plastic freedom that reinforced concrete introduced. I was attracted by the curve—the liberated, sensual curve suggested by the possibilities of new technology yet so often recalled in venerable old baroque churches.¹⁷

Niemeyer's aesthetic sensuality questioned the platitude of modernist architecture's Cartesian separation of mind and flesh. For Descartes, as with many post-World War I artists, the senses could not be trusted, lest they lead to intellectual, spiritual, or indeed global catastrophe. Truth must lie within the mind and without the body. Accordingly, the *Ministry* building's façade is a tight, rational grid that reflects the Cartesian coordinate system—the very tool that has enabled Man to mathematize the physically real. Moreover, as in mathematics, the Cartesian grid revolutionized modern art as a tool for the autonomy of an artwork, enabled in great part through its tendency to eradicate representation.

Mondrian's strict employment of the grid, for example, served in great part to announce what Rosalind Krauss calls "modern art's will to silence."¹⁸ She argues that the grid restructures artworks in order to oppose "...literature, narrative, or discourse..." as a work becomes "...flattened, geometricized, ordered."¹⁹ Similarly, and though not directly considered by Krauss, I argue that the grid is also markedly "still." Krauss's "will to silence" could thus be equally considered "will to stasis." The visual stability of a work comprised solely of ninety-degree angles denies narrative not only through a lack of figuration, but also through the removal of temporal *evocation*.²⁰ It was, after all, Theo van Doesburg's re-introduction of the diagonal line into painting that marked the "break-up" between he and Mondrian, as the latter felt that it reinserted not only spatial recession, but also rhythm and temporality into painting—essential markers of representation that they originally sought to eradicate.

Niemeyer's "liberated, sensual curve..." his anti-grid, challenged this increasingly rational aesthetic philosophy. While such a rejection is present in his Pampulha project, the architecture and design of Brasília (1956–60), the Niterói Contemporary Art Museum (1996), and numerous other projects, Niemeyer's interior of the *São Paulo Biennial* pavilion (now called the *Pavilhão Ciccillo Matarazzo*) is perhaps the most characteristic of the architect's employment of motion (Figure 2). The pavilion was designed by a team led by Oscar Niemeyer and Hélio Uchôa, and has housed the Biennial since its fourth installment in 1957. The massive three-story structure offers a 36,000-square meter exhibition area permeated by Niemeyer's sensually winding ramps that seem to coil and flow throughout the space.

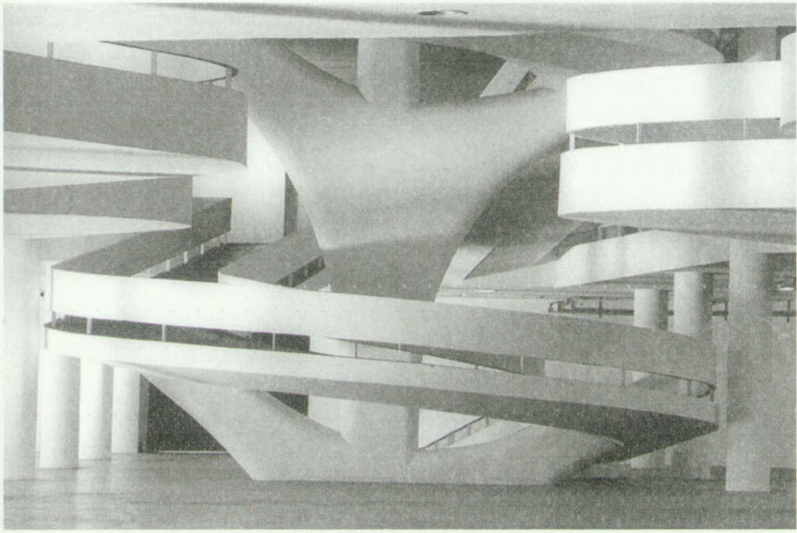


FIGURE 2. Oscar Niemeyer, São Paulo Biennial pavilion (Pavilhão Ciccillo Matarazzo), interior view, Parque do Ibirapuera, 1957. Courtesy of André Batista.

The weaving walkways are physical manifestations of the architect's "Poem of the Curve."²¹ Having developed the comparatively gentle undulations of his Pampulha works into fully wound curls, the architect presents some of his most progressive re-insertions of time and movement into architecture. The motion suggested by the corkscrew platforms is dramatically increased through their positional relationships, as the apparent inter-locking of different levels recalls the constant circular motion of rotating gears. One can imagine such screw-like ramps slowly boring into the ground, mimicking the disorienting red stripes of a rotating barber's pole.

Now far from his work on the *Ministry*, Niemeyer's evocation of motion, much like actual moving particles, energizes the perceived space and surrounding forms. His buildings may be physically static, but they share the same visual dynamism of those "waves of the ocean" that inspired his designs. Further, using the organic and phenomenological as both philosophical and formal models, the architect reunited mind and body otherwise divided by Cartesian disassociation. Niemeyer's curves demand an experiential understanding of his work and stand in opposition to purely visual or cognitive readings.

While such considerations may have been unique within western modernism in his early career, the architect's dynamism anticipated similar developments in the plastic arts, many arising in response to writings on phenomenology by Maurice Merleau-Ponty in the 1940s. Art historian Frank Popper notes the French philosopher's argument for:

[the] primacy of vision over the constructions of the mind in so far as painterly representation is concerned....My movement is not a decision of the mind, an absolute doing, which decrees, from the depths of the subjective retreat, some change in position that is miraculously carried out in extension. It is the natural consequence and the maturing of a vision.²²

Popper again quotes Merleau-Ponty in the latter's discussion of the aesthetics of movement, resulting in an explanation steeped in phenomenology: "Painting does not see the externals of movement—but its secret codes." These "secret codes" of motion were to be emphasized within the plastic arts of Brazil starting in the mid-1950s, thereby introducing physical experience into artistic and discursive practices surrounding the nation's cultural production.

Merleau-Ponty's *Phenomenology of Perception* (1945) refutes the Cartesian severance of mind and body through his rejection of Descartes' devaluation of the corporeal. Merleau-Ponty additionally argues that the phenomenological is not in opposition to intellect, but rather, works in tandem with it for a poly-sensorial engagement with the concrete. Much as Niemeyer embraces the liberating qualities of the "sensual curve," the French philosopher writes on the liberating potential of sensorial engagement, of an anti-static existence, arguing that we experience both the material and cerebral, first and foremost, phenomenologically.²⁴ In Merleau-Ponty's *Structure of Behavior* (1942), the author suggests that sensorial engagement may serve as a catalyst for self-discovery by embracing the body as an agent for both personal and communal experience. His message was particularly poignant to a nation that was undergoing rapid industrialization and experiencing phenomenological numbness as a result. His texts therefore increasingly took hold with Brazilian artists and intellectuals shortly after the influence of European models—the grid, autonomy, stability—began to

wane. Though, in their own times, both stasis and motion served as artistic decrees in the nation, the two artistic philosophies were contradictory and incompatible, one inevitably giving way to the other.

Swiss Artist Max Bill, much like Le Corbusier before him, brought to Brazil ideals of cold, rational, and geometrically precise forms created through rationality and rigorous intellect. His *Tripartite Unity* achieved immediate acclaim in the region while on display in the first São Paulo Biennial in 1951. The work consists of three Möbius bands that meld into each other, carving space into separate, yet interwoven, units. While the work evokes all of the sensual motion of Niemeyer's curves, it is instead premised on calculative dehumanization, which is then employed in the band's aesthetic autonomy and sculpting of concrete space. As the metallic ribbon twists and turns, its single frontal plane boasts its mathematical grounding, calling for and anticipating an increasingly scientific, industrial age.

Brazil experienced rapid modernization in the early 1950s, greatly accelerated in 1955 by President Kubitschek's building of the hyper-modern Brasília. Bill's timely promotion of such technological and anti-regional discourse, therefore, offered artists a potential language through which to contribute to the nation's development, helping launch the Brazilian Concrete art circles, *Grupo Ruptura* (1952) out of São Paulo and the *Grupo Frente* (1953) out of Rio de Janeiro. Jacqueline Barnitz summarizes one critic's view on why such ideals likely took hold:

According to [Ronaldo] Brito, Concrete art, by opposing "intuitive informalism," could claim exact scientific, mathematical precision that competed with other disciplines, such as architecture, design, and science, to create an autonomous art that could stand on its own. It attempted "to transform the social environment and to surmount underdevelopment" by attacking the "archaisms" of the traditional Brazilian power structures, and by extension, the academy²⁵

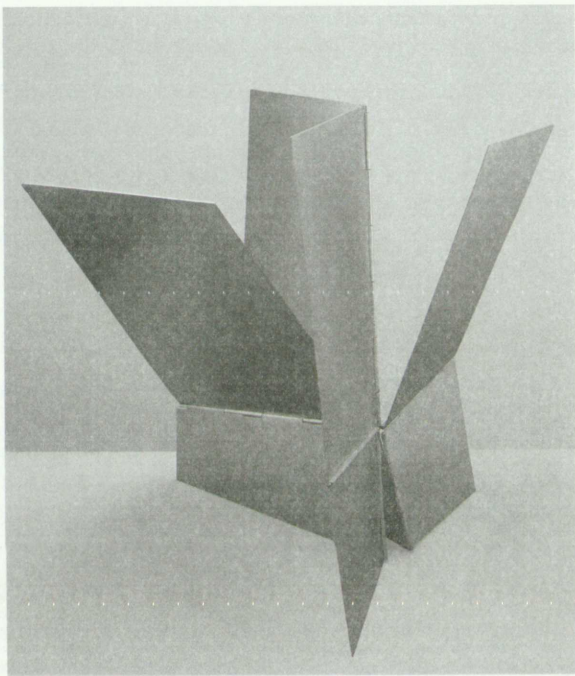
Bill's promotion of control and creative detachment resonated with the São Paulo Concretists, as the artists viewed freeness of form, lack of calculation, and unpredictability—all inherent qualities of motion—as characteristics

to be combated. Bill's principles did not, however, register with the increasingly phenomenological artists from Rio. The São Paulo group was markedly more dogmatic and calculated than the comparatively sensual *Grupo Frente*, eventually fueling an artistic backlash on behalf of the latter. Taking much from Merleau-Ponty, and akin to Nieymeyer, the Rio artists embraced phenomenology as a direct challenge to hyper-stability, doing so under their new identification as Neoconcretists in 1959. Yet it was the Swiss artist's promotion of a work's autonomy, as well as the implications of movement inherent in the Möbius strip, that helped inspire their move away from starkly intellectual Concretism.

The development of *Frente* artists Lygia Clark and, to a point, Lygia Pape, parallels the Rio artists' development of Neoconcretism. Through the early-to-mid 1950s, the Rio and São Paulo artists experienced growing tension over conflicting ideals. In 1956 and 1957 the two groups exhibited together for the first time in the National Concrete Art exhibitions in São Paulo and Rio, displaying first-hand the incompatibilities between them. The official break was made public immediately following the Rio exhibition, which helped launch wide debates addressing "calculation versus creative freedom."²⁶ As Ferreira Gullar writes in the *Neo-Concrete Manifesto*, the split had notable "reference to their *power of expression* rather than to the *theories* on which they based their art [original italics]."²⁷ The Rio group moved away from the "dangerously acute rationalism" of the *Grupo Ruptura* and embraced the transition as paramount for the establishment of Neoconcretism, a circle founded upon the premise that art "could only be understood phenomenologically."

As with Nieymeyer, the Neoconcretists first began by adopting foreign philosophies. Further, each embraced and reapplied the newly familiar tools—reinforced concrete for the former and the Möbius Strip for the latter—to challenge the formal and philosophical ideals of those very same parties that introduced the new means. This progression can be detected through the formal evolution of Lygia Clark's *Modulada* paintings (*Modular*, 1957), *Ovo Linear* (*Linear Egg*, 1958), and *Casulo* (*Cocoon*, 1959). The first embraced Bill's ideals in a similar manner to the São Paulo artists, as these works were designed through the employment of geometry, challenging the viewer's faith in both perception and the objects thereof. The plane, modulated by geometric shapes, is subject to depth variations as the forms

FIGURE 3. Lygia Clark, *Bicho-Monumento a todas as situações*, 1962, aluminum, dimensions variable: approx. 41 cm x 66 cm x 54 cm (16.13 in x 26 in x 21.25 in), Colección Patricia Phelps de Cisneros. Courtesy of Cultural Association "The World of Lygia Clark."



alternate in their definition of space as advancing or receding. Though the works are static and two-dimensional, the ambiguous spatial definition suggests depth and movement through counterpointed visual oscillations, serving as one of Clark's earliest challenges to temporal and pictorial stasis. Clark's artistic evolution continues in *Ovo* (Egg, 1958). The enveloping white band marking the perimeter of the black circle disappears into the white gallery wall, itself a modernist trope, and creates perceptual tension between flatness and depth, front and back, reality and aesthetic mimicry. The conflict is increased through the breaking of the band, allowing the black mass to seemingly burst out of the confines of the white edge. Blackness is presented in a frozen state of rupture, seized just before it would have otherwise spilled onto the wall and into the physical and temporal realm.

Clark's planes were finally "liberated" from the strictly two-dimensional with her *Contra-Relevo* and *Casulo* series in 1959. In one of the artist's more advanced examples from this era, *Casulo* (Cocoon) takes the previous *Ovo*'s rupture more literally and seems to break away from the wall, unfolding both frame and plane into the three-dimensional realm. As with all of her

paintings until this time, the piece is physically static. Yet the work seems to reach out and move, through both time and space, destroying the confines of the grid, and extending its little triangular hand for an introduction with the phenomenological. As the influence of both Max Bill and Merleau-Ponty increasingly took hold, it was but a small step from the unfolded planarity of *Casulo* to one of the artist's most praised and influential series, the *Bichos*.

Lygia Clark's *Bichos* (1960–64) were begun in 1960 immediately following the artist's extension of painting into real space (Figure 3).²⁸ The works are composed of paned industrial sheet metal, hinged in a manner that allows each piece to be manipulated into various compositions. Questioning the psychological, cultural, and socio-political relevancy of passive sculpture, the *Bichos* were intended to be maneuvered by viewers, thereby serving as vehicles for a phenomenological engagement with art, one's own body, and, indeed, existence itself. The sensorial encounters were to be distinctly relational, bringing awareness to one's experience with the work as it developed over an indeterminate period of time. Clark writes, "The first movement (yours) does not belong to the bicho. The inter-linking of the spectator's action and the bicho's immediate answer is what forms this new relationship, made possible precisely because the bicho moves—i.e., has a life of its own."²⁹ There has been a veritable explosion of scholarship on Clark in the last decade, particularly with regard to her *Bichos*, later "therapeutic" pieces, and the overall relationship of the artist's *oeuvre* with the body. An analysis of her works' art historical positioning and connection to the body will therefore only exist in allusion within this paper. Emphasis is instead placed upon the *Bichos*' incorporation of unfolding time and movement, both necessary constituents for the existence of the artwork-as-phenomenon.

Much scholarship on Clark addresses the incorporation of phenomenology into her work. Rarely, however, does one underscore physical motion as a requirement for the phenomenological to even become possible. Taking for granted the necessity of viewer participation in the manipulation of a *Bicho*, as well as the subsequent body-*Bicho* relationship, I argue that the works themselves, as autonomous material entities, are examples of stored energy. Clark's original *Bichos* are no longer exhibited as sculptures to be manipulated by the audience because of preservation concerns. Movement within her works is therefore only *potential*. As such, Clark's *Bichos* are exhibited as models of *stored* energy. When the work sits in stasis, the viewer

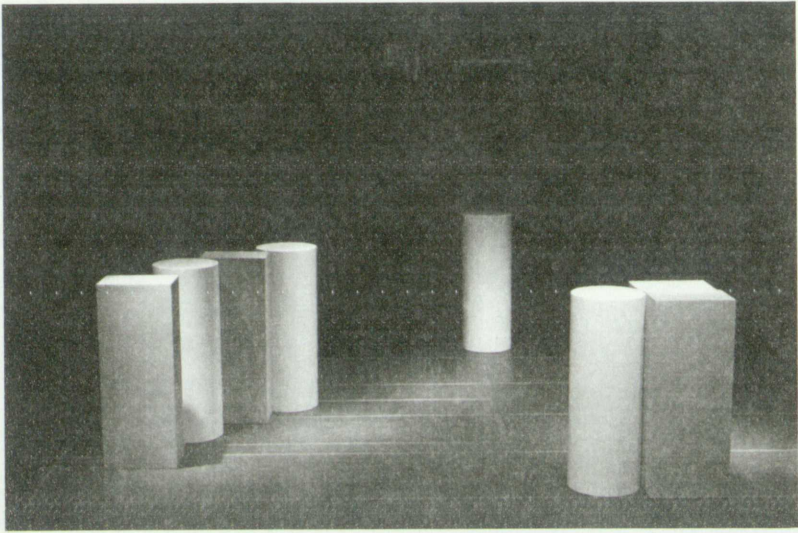


FIGURE 4. Lygia Pape, *Neoconcrete Ballet I*, 1958/2000/2012 (here re-performed at the SESC Bom Retiro, 2012), Paula Pape (General Director), Né Barros (Dance Director), Pedro Fortes (Photography). Courtesy of Projecto Lygia Pape.

stands as an embodiment of potential motion existing parallel to the work and, until activated, the *Bichos* remain Sir. Newton's "objects at rest." Yet energy potential is not only stored within the objects as such, as in a loaded spring, but also within viewers as potential energy-agents. We, the audience, are required by the artist to activate the artwork and are thereby implicated, in a sense, as phenomenological "battery-packs." Once the viewer's potential energy is released and translated into the object's movement, however, the activated *Bicho* becomes a literal extension of the participant, a "rectangle in pieces [that] has been swallowed up by us and absorbed into ourselves."³⁰ It is only through the co-existence and a physical relationship between participant and *Bicho* that both parties can transform potential into kinetic energy.

While it may seem obvious that the release and transference of one's energy is required for the activation of a *Bicho*, thinking in these terms offers a new reading whenever Lygia Clark's works are exhibited alongside "Please Do Not Touch" signs. In such cases the artist's sculptures serve only as promises of action, offering in vain to liberate the viewer's energy otherwise locked in a state of passive museum-going stasis. What Clark may not have anticipated is that the tension intrinsic to stored energy seems to subside

within viewers over time, much like a spring loaded for too long, or a Slinky stretched beyond capacity. Audience members become increasingly comfortable with stasis and passive contemplation, increasingly numb to feelings of withdrawal from the phenomenological, and eventually lose any inherent drive to realize their potential for action. A body at rest does indeed stay at rest.

It is the physical transference of motion into realized kinetic energy that Lygia Pape employed in her *Neo-Concrete Ballets* of 1958 and 1959, marking the culmination of Pape's artistic and poetic efforts in her earliest Concretist explorations of form (Figure 4). In speaking about the transition into Neoconcretism, Pape states that among the group's primary concerns was to address artistic production with "the attitude from the outside in," as well as "the action from the inside out."³¹ The comment reveals the artist's considerations throughout the *Tecelares* (*Weavings*), a series consisting of single-print woodcuts produced between 1955 and 1959, as each work was a developed embodiment of both the "attitude" and "action" proposed by Pape.

The internal "action" is present in the works' materiality and its effect on, and bond with, perceived compositional relationships. Stripped of any reference to the expressive, the woodcuts present a tense disunion inherent in the calculated forms' "violation" of the natural wood. This is underscored in many of her pieces, which recall the geometric modulation of Lygia Clark's work. Yet where Clark somewhat denaturalizes her pieces by painting in stark fields of black and white, Pape opts to emphasize wood's organic grain, thereby presenting the material's natural negation of calculated geometric forms. Such functioning of artistic materials "from the inside out" marks Pape's earliest repudiation of stasis and dictated control.

The external "attitude" is present in Lygia Pape's questioning of foreground and background, and of the nature and validity of such relational readings. The artist's comment on her *Tecelares* summarizes her understanding of such uncertainties:

[My work] referred specifically to spatial investigation: space being warped; yarn weaving space; the principle of ambiguity, no privileged position for a base or bottom (a work could be

inverted without being stripped of all its characteristics), surface pared down to black as colour, and the wood's pores acting as vibration to the point of reaching total white: both black and white were always *form* (original italics) and never figure and ground, since both had a position of *two-dimensionality* and *topological* aspects. The moment I arrived at total white, I reached the end of my investigations. To me, it was as if two surfaces—spaces—were overlaid....³²

Though her discussion was specific to the development of Neoconcretism, and has here been expressed in relation to her *Tecelares*, the artist's words bear equal significance when applied to her *Neo-Concrete Ballets*. Developed together with poet Reynaldo Jardim, the dances incorporate the aforementioned philosophies of Merleau-Ponty for a re-unification of mind and body, thereby contributing to discourses about art/dance/color/music relationships that were to develop within Neoconcretism. The first *Ballet* included dancers housed within four red rectangles and four white cylinders, all of which moved rectilinearly under white, red, and blue beams of light. The choreography followed Jardim's nonsense vocable poem entitled *alvo-ólho*, which consisted of two words, "alvo" (target) and "ólho" (eye).

Both Pape and Clark pursued the "liberation" of art from the canvas through their respective challenges to "privileged positions." Pape, however, was comparatively more invested in "a refusal to classify the fine arts according to the form used," much in line with Ferreira Gullar's *Theory of the Non-Object* (1959).³³ With her own "non-objectivity," Pape investigated phenomenology and movement through her exploration of "action from the inside out." The geometric containers rid dancers of identity and their usual relationships with the experiential, "hiding the body to reveal it."³⁴ Artists then become reliant on what Pape calls "plurisensoriality," that is, the heightened awareness and use of multiple senses simultaneously. Dancers develop an increasing awareness of their movement as a catalyst for other relationships that they themselves cannot perceive—the actual dance.

Audience members also become aware of the dancers as "battery packs" of stored energy potential; they are literally inserted into the forms for the sole purpose of transferring energy in the creation of motion. It is through the "mechanization" of bodily movement that the dance is realized, enabling

the audience and dancers alike to consider "the action from the inside out." Yet visual phenomena created by the movements are equally important, as they allow for a questioning of "attitudes from the outside in." Unlike either the continual Dionysian flow of energy that Hélio Oiticica released with his *Parangolés*, activating a "pure drive" unable to be controlled or choreographed, or Clark's *Bichos*, which are in fact only promises of movement potential, Lygia Pape employs the body as an agent of kinetic energy, which is then subject to control and organization. To further the rigid choreography of the *Ballet*, the artist restricts movement to lines and points on a grid system. Pape exploits Krauss' proposed "will to silence" inherent in the grid thereby denying any curvilinear movement and potential external reference. The artist aims to silence all intellectual and emotional "noise" otherwise generated through expression, representation, and narrative, freeing the viewer to concentrate solely on the motions and resulting visual relationships. The geometrization of the dancers and mechanization of their movements serve to deepen this focus. As Pape states, "There are no dancers. There is only the dance."³⁵

For such a tightly focused questioning of specific relational concerns, time as a medium had to be reduced within the "plurisensorial" experience. Contrary to Clark's *Bichos*, wherein time was an important catalyst through which sensorial relationships could develop, or Niemeyer's evocation of movement through time, Pape viewed temporality as a mere pre-requisite for motion and its organization. Robert Morris writes of his own work, though his words apply equally to the *Ballet*: "Time was not an element of usage, but a necessary condition; less a focus than a context."³⁶ Reynaldo Jardim describes the project as being "of the time in which the space of the stage delimited two forms (A and B), proportional to each other and proportional to the time and space of the stage, [was] rendered and started seeking integration in the element from which they were extracted."³⁷

For the *Ballet*, as with the *Tecelares*, Pape was interested in the visual dialogue between "extraction" and "insertion" of forms in space, as well as the visual dialogue between their energies. As in her spatial explorations with the white and black, paint and wood of her *Tecelares*, the first *Ballet* created tension through an ambiguous treatment, if not outright rejection, of traditional relationships between ground and figure. As the red rectangles became bathed in red light, they would disappear into the "background" of

the dance, thereby allowing the white spheres to come forward visually as frontal figures. As movement and the lighting's color and intensity changed, the situation was reversed and a casting of white light brought the red shapes forward visually. Though written with regard to the Tecelares, Pape's thoughts resonate strongly with the visual effects of the dance: "both black and white were always form and never figure and ground, since both had a position of two-dimensionality and topological aspects."³⁸ Only at the end of the dance, with Pape's introduction of blue light, were the forms treated equally, thereby marking the completion of the work.³⁹

Each of the artists here discussed both embraced and negated influential foreign models of stasis. The artists adopted select lessons of inherently static elements—i.e. the silence of the grid—but did so only to position such tools against themselves. The three Brazilians thus found their artistic voices through their respective challenges to stasis by using the very tools of stasis to achieve his and her own unique employments of motion. Oscar Niemeyer adopted Le Corbusier's lessons on right angles and reinforced concrete, rejecting the former through the capabilities of the latter. Responding similarly to the detached calculation of the São Paulo Concrete artists, Lygia Clark embraced Max Bill's endless plane of the Möbius strip. Her art was then moved out of the static two-dimensional through her creation of works which served as embodiments of stored energy. By promising kinetic release to would-be participants, Clark treats viewers as equal bearers of potential energy and implicates them as parallel agents of action. Nonetheless, until viewer and artwork exchange transformative energies inherent within each, they remain mere carriers.

Finally, Lygia Pape developed the geometricized plane as a mechanism for channeling movement as a malleable force. Perhaps even more than the other two artists, her *Ballets* reunite the Cartesian separation of mind and body, and serve as vehicles for multi-sensorial engagement with and within the physical realm. For Pape, dancers in the *Ballets* are to experience de-personalization and exist merely as agents of mechanized motion. The audience is enabled and invited to see that the produced motion, as well as subsequent visual relationships, serves as a vehicle for questioning perception. Foreground and background appear as dubious constructions that refute any stable definition and, through movement and shifting relationships, call into question countless other dichotomies. While

Niemeyer, Clark, and Pape each stress the importance, if not necessity, of motion and phenomenology in the creation and reception of art, they—perhaps most importantly—allude to passivity and stasis within the choices and lives of viewers themselves. Like physical particles, artistic, social, and political bodies at rest stay at rest, forever unmoved. For these artists, we the public must understand and realize our agency as battery packs for social motion, transcribe their artistic lessons into greater actions, and propel our energies against an otherwise static world.

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NOTES:

¹ Such studies began in great part with the establishment of Sir Isaac Newton's laws of motion. His three laws, first published in his *Mathematical Principles of Natural Philosophy* (1687), are summarized as follows. First law: The velocity of a body remains constant unless the body is acted upon by an external force. Second law: The resultant force on an object is equal to the time rate of change of its linear momentum. Third law: For every action, there is an equal and opposite reaction.

² The architectural treatise consists of seven primary essays, six of which were published previously in *L'Esprit Nouveau* (c. 1918–1925), the Purist journal he co-founded with Amédée Ozenfant.

³ Richard J. Williams, *Brazil: Modern Architectures in History* (London: Reaktion Books, 2009), 11.

⁴ This structure is now known as the *Gustavo Capanema Palace*.

⁵ *Ibid.*, 10.

⁶ *Ibid.*, 11.

⁷ Oscar Niemeyer, *The Curves of Time: The Memoirs of Oscar Niemeyer* (New York: Phaidon, 2010), 60.

⁸ The original exterior *pilotis*, as designed by Le Corbusier, were four meters tall. Those that were isolated and seen only from the interior were ten meters tall. Niemeyer, however,

made later modifications so as to "open" the space (Image 2). He writes, "In removing the glass walls from the ground floor, exposing it to the plaza on all sides, I had given these interior columns fresh allure and more prominence. They were now free-floating and monumental....I felt that the modifications to Le Corbusier's design had given the building a more free-flowing style; the columns had undeniably gained integrity, as people moved around them highlighting their scale and splendor." Niemeyer, *Curves of Time*, 67.

⁹ It should be noted that, though historians have often portrayed Corbusier as more of a project consultant than leader, Niemeyer writes in his memoirs, "We have always acknowledged the Ministry of Education design as being the work of Le Corbusier." Oscar Niemeyer, *The Curves of Time*, 61.

¹⁰ Jacqueline Barnitz, *Twentieth-Century Art of Latin America* (Austin: University of Texas Press, 2001), 168.

¹¹ Niemeyer's work has also influenced that of Le Corbusier, an impact that is need of greater analysis and historical consideration. As Niemeyer writes, "During one of my trips to Paris, one of Le Corbusier's most discreet assistants made a somewhat sour remark about what was happening to the master's architecture; he felt Le Corbusier was lacking sensibility and passion. It was obvious that my architecture had influenced Le Corbusier's later projects, but this factor is only now being taken into account by critics of his work." Niemeyer, *Curves of Time*, 63.

¹² *Ibid.*, 169 cited in Stamo Papadaki, *Oscar Niemeyer* (New York: Twayne Publishers, 1991).

¹³ Niemeyer, *The Curves of Time*, title page.

¹⁴ Amédée Ozenfant commenting on Le Corbusier; Niemeyer, *The Curves of Time*, 63.

¹⁵ Consider Purism, Russian and German Constructivism, the Bauhaus, and Neo Plasticism.

¹⁶ Niemeyer, *The Curves of Time*, 62.

¹⁷ *Ibid.*

¹⁸ Rosalind Krauss, "Grids," *October* (Vol. 9, Summer, 1979), 50.

¹⁹ *Ibid.*

²⁰ Krauss writes that a gridded work is "what art looks like when it turns its back on nature," (Krauss, "Grids," 50.) and it is this quality that removes any temporal "legibility." She continues to write, "...whereas grids are not only spatial to start with, they are visual structures that explicitly reject a narrative or sequential reading of any kind" (Krauss, "Grids," 55). Though Krauss notes the grid's resistance to narrative, she only explains this function with regard to narrative and representation, yet neither motion nor stasis.

²¹ These words were first written in Niemeyer's "Poem of the Curve," a tongue-in-cheek title for his response to Le Corbusier's body of nineteen paintings produced between 1947 and 1953 as a group titled "The Poem of the Right Angle."

²² Frank Popper, *Origins and Development of Kinetic Art* (Greenwich: New York Graphic Society, 1968), 226–227. Popper's quotes of Maurice Merleau-Ponty taken from the latter's text, *Phenomenology of Perception*, translated from the French by Colin Smith (1945: New York: Routledge Classics, 2002).

²³ Though Merleau-Ponty would have the greatest influence in Brazil in the mid-1950s and 1960s, phenomenology was introduced to the nation in the 1940s by the influential art critic Mario Pedrossa, thereby "preparing" artists and intellectuals for the reception of his writings. See Claire Bishop, *Installation Art* (New York: Routledge, 2005), 60.

²⁴ Merleau-Ponty, *Phenomenology of Perception*.

- ²⁵ Barnitz, *Twentieth-Century Art*, 216. Quoting Brito in Ronaldo Brito, *Neoconcretismo, vertice e ruptura do projeto construtivo brasileiro* (Rio de Janeiro: Edição Funarte, 1985) 100, 106.
- ²⁶ Ferreira Gullar, "Neo-Concrete Manifesto," in *Readings in Latin American Art*, edited by Patrick Frank (New Haven and London: Yale University Press, 2004), 172.
- ²⁷ Ibid.
- ²⁸ *Bichos* is often translated, however roughly, as *Beasts*, though sometimes as *Critters* or *Creatures*, the latter being this author's preference.
- ²⁹ Lygia Clark, "Beasts [Bichos] (1960)," in *Readings in Latin American Modern Art*, edited by Patrick Frank (New Haven and London: Yale University Press, 2004), 176.
- ³⁰ Lygia Clark, "Morte do plano" ["Death of the Plane"] (1960), *October: The Second Decade, 1986–1996*, edited by Rosalind Krauss (Cambridge: MIT Press, 1997), 36.
- ³¹ Herkenhoff, "Lygia Pape: The Art of Passage," in *Lygia Pape: Magnatized Space*, exhibition catalogue (Madrid: Museo Nacional Centro de Arte Reina Sofía, 2011), 26.
- ³² Lygia Clark, "Depoimento" ["Statement"] (1979), in *Lygia Pape: Magnatized Space*, exhibition catalogue (Madrid: Museo Nacional Centro de Arte Reina Sofía, 2011), 91.
- ³³ Paulo Herkenhoff, "Lygia Pape: The Art of Passage," 19. See Ferreira Gullar, *Theory of the Non-Object* (1959), Michael Asbury (trans.), in *Cosmopolitan Modernisms*, edited by Kobena Mercer (London: Institute of International Visual Arts, 2005), 173.
- ³⁴ Marcio Doctors, "Lygia Pape, a radicalidade do real," *Galeria*, vol. 21, 68–75 (São Paulo: Área Editorial Ltd., 1990), 73.
- ³⁵ Ibid.
- ³⁶ Luiz Canillo Osorio, "Lygia Pape: Experimentation and Resistance," in *Lygia Pape: Magnetized Space*, exhibition catalogue (Madrid: Museo Nacional Centro de Arte Reina Sofía, 2011), 104.
- ³⁷ Herkenhoff, "Lygia Pape: The Art of Passage," 38.
- ³⁸ Ibid., 26.
- ³⁹ Specifics of the *Ballet's* lighting were obtained from Herkenhoff, "Lygia Pape: The Art of Passage."