

CONCRETE ART IN BRAZIL – THE MATERIAL OF FORM: INDUSTRIALISM AND THE LATIN AMERICAN AVANT-GARDE

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▷ Abstract

This paper deals with a description of the research on the materials and technology of construction of paradigmatic works of art of the concretism period in Brazil, belonging to the following collections: Pinacoteca of the State of São Paulo; Museum of Modern Art – MAM – Rio de Janeiro; Collection Tuiuiú (owned by private banker Luis Antonio de Almeida Braga) – Rio de Janeiro; and the Pampulha Art Museum, in Belo Horizonte – Minas Gerais. The objects were studied by the Laboratory of Conservation Science (LACICOR) under a methodological approach based on the principles of Technical Art History, as part of the Getty Trust Project Pacific Standard Times – Los Angeles/Latin America – Getty PST LA/LA.

▷ Keywords

Technical Art History, Brazilian Concrete Art, LACICOR

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▷ Introduction

The project *Concrete Art in Brazil – The Material of Form: Industrialism and the Latin American Avant-Garde* was developed by the Laboratory of Conservation Science (LACICOR), in collaboration with The Getty Conservation Institute and the Universidad San Martín, in Buenos Aires, Argentina. The selected works under study belong to the Pinacoteca of the State of São Paulo; Museum of Modern Art – MAM – Rio de Janeiro; Collection Tuiuiú (owned by private banker Luis Antonio de Almeida Braga) – Rio de Janeiro; and the Pampulha Art Museum, in Belo Horizonte – Minas Gerais – they were studied under a methodological approach based on the principles of Technical Art History, as part of the Getty Trust Project Pacific Standard Times – Los Angeles/Latin America – Getty PST LA/LA. The working methodological approach combines knowledge and traditional tools already used in the Art Historical research, with scientific methods of analysis of materials and scientific imaging documentation techniques. The results were evaluated and treated under an interdisciplinary perspective, which allowed an understanding of the historical, political, social and economic context of the creative period between the years 1940-60's in Brazil. This work was performed around the historical, political, social, and economic perspectives, which will allow an original perception of the art production in Brazil at this specific period, centered in the relations between matter and appearance, as well as involving the permanence in time of the works of art and the appropriate forms of access, exhibition and conservation-restoration processes.

The benefits achieved are diverse, from the training and qualification of personnel for the study and preservation of modern and contemporary art, as well as in the consolidation of national and international collaboration between academic and professional groups in conservation science, museum studies, preservation and curatorship, mainly from Brazil and Argentina. The Project is part of a major initiative led by the Scientific Program of the Getty Conservation Institute, entitled *The Material of Form: Industrialism and the Latin American Avant-Garde*, which comprises the study of works of the Collection Patricia Phelps de Cisneros, including works by Brazilian artists. Another component of the major leading GCI project is the one headed by the team at the Universidad San Martín, in Buenos Aires, Argentina, which regards research on the Concretism in Argentina, based on the same methodolog-

ical approach as the one we are using in Brazil and the United States. The results of the present research project will then be part of a universe of data which will be directly connected between the three projects (Los Angeles, Buenos Aires and Belo Horizonte), amalgamated by the leading project performed at the GCI. The project started on June 2015, and the meeting *Concrete art and constructive routes: theory, criticism and technical art history* held in Belo Horizonte on June 2018 in partnership with ABCA (Brazilian Association of Art Critics) aims to expose the project and its achievements.

▷ **Major goals and objectives**

Considering the expanded goals of the project, in what concerns Concrete Art produced in Brazil in the 1950s and 60s, this project attempted to determine, through the analysis of specific works of art: the experimentation of industrial materials and processes by artists in the attempt to reach distinct visual characteristics in diverse surfaces, considering, in some cases, the use of different materials within the same artwork; the availability of new materials and the adaptation of materials and industrial production technique - such as car paint formulations, the use of sprinklers and supports from the field of construction in the decades following the second world war in different countries and its impact in the artistic practices; the use of materials and industrial techniques as artistic strategies to highlight the rupture with the forms of the then traditional art; the comparison of the materials and techniques used by artists within the Brazilian Concrete Art movement, as well as those from other Latin American countries, with a focus in Argentina; the reception of the European avant-gardes through the reproductions and specialized criticism. Regarding these objectives, we organized the team and selected the works to perform the research.

▷ **Project team**

The project team organization was based on a core group composed of three main researchers based at the Conservation Science Laboratory - LACICOR, in Belo Horizonte. The core coordination group directly oversees the work of the research group composed of a Research Chemist; two Ph.D. student in Arts – Conservation Student; one Master of Arts – Conservation Student; and two Research Assistants. The group in Belo Horizonte has counted on the collaboration of 3 Adjunct Researchers in

Rio de Janeiro. Each partner institution, both in São Paulo (Pinacoteca), Minas (Museum of Art of Pampulha) and Rio de Janeiro (MAM – Rio) has each own their respective conservation, curators, and registrar professionals, and these were and are considered and enrolled in the project, whenever possible and depending on availability, as project research contributors. Their specific knowledge was very useful and substantially important for the final definition of the objects to be studied, as well as in the discussions regarding access, conservation problems and procedures, including also exhibition possibilities for the objects, in terms of the artistic intention regarding surface textures, gloss, etc.

- Prof. Dr. Luiz A C Souza – Project Coordinator and Senior Researcher – Coordinator of LACICOR – Conservation Science Laboratory, School of Fine Arts, Federal University of Minas Gerais.

Responsibilities: general coordination of the project, including administrative and financial coordination within Fundep – Foundation for Development of Research –grant applying institution within UFMG ; Scientific coordination of the analytical team; responsible for promoting the bridging and interchange of information between the Brazilian and Argentinian groups; supervision of the whole project development and implementation; responsible for the final presentation of the results; responsible for the institutional contacts with partner organizations; responsible for raising of extra funding for the research, in close collaboration with the Associate Researchers, and with the support of partner institutions such as the Municipal Cultural Foundation of the City of Belo Horizonte.

- Prof. Dr. Alessandra Rosado – Associate Researcher – Coordinator of Technical Art History

Responsibilities: organization of the field trips; coordination of the analytical team in collaboration with the Project Coordinator; coordination of the methodological approach related to Technical Art History as applied to the objects under study; co-tutoring of the Ph.D. student in Arts, who performs research work on the theme of the project on a specific subject, artist or groups of artists. Responsible for overseeing the implementation of the database which will accumulate the project results, and which is ac-

cessible online to the Brazilian, Argentinian and American teams.

- Prof. Dr. Yacy-Ara Froner Gonçalves – Associate Researcher – Coordinator of Art History and Documentation

Responsibilities: coordination of Art Historical research; coordination of the archival research; co-tutoring of the Masters in Arts student who works on the theme of the project on a specific subject, artist or groups of artists; oversees and works in coordination with the scientific documentation imaging team in order to guarantee the proper documentation of the peculiar characteristics of gloss, texture and surface appearance of the objects under study; coordinate the integration of the data treatment research assistant in order to comply with CIDOC recommendations for databases.

The Laboratory of Scientific Documentatin Imaging – iLAB – coordinated by Dr. Alexandre Leão has also contributed with this research, by carefully performing scientific documentation and imaging, through the use of visible light, infrared light, UV fluorescence photography, as well as X-Radiography. The final selection of objects studied in the project has been decided after consultation and discussions with the project research contributors from the three partner institutions.

▷ **Brazilian Concrete Art in Latin America – Criticism and Art History**

In the context of the post second world war years, the avant-garde milieu in Brazil found in geometric abstraction the fundamental relations for the construction of the Concrete Art movement, without forgetting the social and political engagement or dismissing the precepts of informal abstraction. It will determine a new theoretical approach and critical approach to art. In this Brazilian context, the term Concrete Art, influenced by the critic Mário Pedrosa (1900-1981), found fruitful grounds as an indicative sign of the artistic modernity of Brazil in the second half of the twentieth century. Simultaneously, a new movement - Abstract Expressionism and Minimalism - springing from the experiences of artists such as De Kooning (1904-1997), Pollock (1912-1956) and Rothko (1903-1970), through the support of critic Clement Greenberg

(1909-1994), Harold Rosenberg (1906-1978), and Michael Martin Fried, gain prominence in the US.

The term “Concrete Art” appears in Brazil as the manifestation of the essence of the aesthetic construction of the second half of the twentieth century, based on the principles introduced in the country by the critic Mario Pedrosa (1900-1981). It will report to the profound social changes in contemporary society; and will be founded by institutionalization of Modern Art through the foundation of the Museum of Modern Art of São Paulo - MAM-SP (1946), Museum of Art of São Paulo - MASP (1947) and by the International Biennial (1951), as well as the industrialization and urbanization context within modern centers that influences the artistic media. Through the acceleration of communications, art can renew its message with an inclination towards, as they say, abstract solutions. This shows a great interest of artists for the plenitude of the international experience. As such, the concept of abstraction is key for the understanding of the development of modern and post-modern art in North and Latin America: part of the deep alterations to the conceptual art systems that were built previously around the figurative model done through re-dimensioning of visual operations. It is also deeply related to the sense of urbanity of modernity and the symbolic space that this modernity occupies in this twentieth century society. Ideals of beauty, symbolic language, and narrative bases are substituted by relations that involve sensations of other orders and cognition of a different nature: from geometric abstraction to the expression of gestural abstraction; from the abstraction of the single work of art to the abstraction of the artistic operation; in these bases rests the new models of plastic operations that change the protocols and the artistic canons in the twentieth century.

In this context of a new synergism of ideas, institutional orientation and experimentations grounded in the ideals of abstraction, the first public milestone of the Concrete Art movement in Brazil was the presentation of the *Ruptura Manifesto* at an exhibition at MAM São Paulo in 1952, just one year after the first São Paulo Biennial. The group, based in São Paulo, composed by Waldemar Cordeiro (1925-1973), Luis Sacilotto (1924-2003), Lothar Charoux (1912-1987), Anatol Wladyslaw (1913-2004), Kazmer Féjer (1923-1989), Leopold Haar(1910-1954) and Geraldo de Barros (1923-1998), among others, claims for a Brazilian art based on the principles of international geometric abstraction, also grounded in

the critical thinking of Pedrosa.

Mário Pedrosa, as part of his role as critic, professor, and curator, influenced the formation of another group interested in geometric abstraction located in Rio de Janeiro, the group *Frente*, built around the figure of artist and professor Ivan Serpa (1923-1973). The first show of the group took place in the Brazil-US Institute (ICBEU-RJ), in 1954, and was curated by Ferreira Gullar (1930-2016). The show, made up of students and former students of Serpa from his free courses at the Museum of Modern Art in Rio de Janeiro (MAM-RJ), included Aluísio Carvão (1920-2001), Carlos Val (1937-), Décio Vieira (1922-1988), João José da Silva Costa (1931-), Lygia Clark (1920-1988) and Lygia Pape (1927-2004). Influenced by Serpa, the group rejected the figurative modernist Brazilian painting with nationalistic inclinations, and grounded their work in the premises of the Gestalt and its sensorial ideals.

The second group show was in 1955 at MAM-RJ and expanded its focus with the inclusion of Franz Weissmann (1911-2005), Hélio Oiticica (1937-1980), Rubem Ludolf (1932-2010), Abraham Palatinik and Elisa Martins da Silveira (1912-2001). The following year, takes place at MAM São Paulo the *I National Exhibition of Concrete Art*, when the Concrete Poetry Manifesto is also launched. At this time, the divergences between the concrete groups *Frente* (RJ) and *Ruptura* (SP) come to the fore. In the Brazilian art field, the conflict between geometric and informal abstraction was reproduced: rational rigor versus lyricism, reason against sensation.

It is important to note, that despite the concrete artistic productions and its multiple expressive languages, some artists still used traditional materials, like oil medium paints, for example. In this sense, beyond the historical principles that manage problems like the dissolution of archives, the fragmentation of institutional collections as well as those of particular critics, historians and artists, and the loss of documents - photographs, catalogs, and posters - from the exhibitions of several groups founded, ended, and reconstituted along the 1950s and 60s, there is also an ample field of Technical Art History to be explored, when considering the lack of studies focusing on the building materials and techniques of artworks made through industrial technology.

This project aims at exploring how artists' interests in industrialization was revealed in their technical, aesthetical and symbolical artistic strategies, with direct impacts to the Visual Arts in Brazil and other Latin American countries. It is important to point that many artists began

to experiment new supports and industrial materials in this context. How does it define our seeing? What are the aesthetical and conceptual impacts of their degradation? How do color or formal alterations may change the way we understand these objects? These questions can only be taken seriously through a deep knowledge of the conceptual, historical and material decisions which define the Visual Arts of this period.

▷ **Selected works**

The artworks selected for analysis correspond to an artistic production from the Concrete Art Brazilian movement from the 1950s and 60s, exemplary of the constructive and abstract streams in Brazil and abroad, regarding the previous studies exposed above. To understand this production, phenomenology is key in its recognition of the artistic process and the fruition of the image, marked by the perceptive apprehension of the work, which are induced by lines, colors, structure, and depth. These movements and their new aesthetic ideals are grounded in deep changes in the art paradigm, whose figurative model is re-dimensioned based on a new visual operation. Beauty ideals, symbolic language, and narrative bases are substituted by new relations involving models of another order, and as such, other methodologies for analysis: from geometric abstraction to the expressive gestural abstraction, from the abstraction of the singular work to the abstraction of the artistic operation, a new paradigm manages the plastic operations and our aesthetic understanding of them. The primary basis of this change of this artistic *poesis* comes from the search for autonomy in the process of structuring the image and the search for new visual parameters. The processes of geometrizing come from these structuring and provides ground for new models. The model of pure abstraction resides, therefore, in the total elimination of representation—there is no attempt at depicting anything that we recognize as figurative. Art claims the bases of pure composition, of the creative process as such, of artistic form that exists without model, landscape, scene or fictional narrative, whether religious or historical.

If the abstraction of Kandinsky (1866-1944) creates an art based on lyrical impulses, understood as the infusion of the spirit through the repulse of all positive appearance (organized geometry), the supposed constructivism of Concrete Art, from both groups Ruptura and Frente, full of intellectual vigor, rules and geometry, creates new elements, composed by structural breaks and chromatic illusions. These strategies lead

the spectators to review their sensations, since the perceptive bodies, searching for formal logic it constantly dislocates.

The optical properties of light absorption, filtering, and refraction of surfaces and the tones of the materials used are fundamental for the apprehension of the aesthetics of the artworks. The Concrete and Neoconcrete Brazilian Art movements are examples of the poetic propositions of a generation marked by authorial experimentation of formal and perceptive relations with new materials and techniques, with industrial and automotive, wooden industrial boards, wood laminates, as well as compressed wood, all of them used in building construction rather than as traditional artistic supports.

By understanding that the visual element is the primary device of sensorial perception, it is paramount to evaluate the changes in this matter and, as such, its visual intervention. Surface ruptures in the regularity (or irregularity) of the paint coat, chromatic changes, and the sound and light reflective character of the support are within the preliminary listing of properties to be taken in account when choosing the works studied. In addition, every research team has also worked with physico-chemical analysis of the binders in the composition of the paint chips, as well as their different pigment and additives components of the paint formulation. Observations also go towards some aspects of material deterioration. It is of vital importance to assess to which degree and how our sensorial perception of the artworks are affected and consequently a more developed conceptual access to the artworks.

The selected works for this study belong to the collections of Pinacoteca of the State of São Paulo; Museum of Modern Art – MAM – Rio de Janeiro; Collection Tuiuiú (owned by private banker Luis Antonio de Almeida Braga) – Rio de Janeiro; and the Pampulha Art Museum, in Belo Horizonte – Minas Gerais. These institutions allowed to do the scientific documentation by image and to collect the samples necessary to this research.

MAM-RJ:

- Aluísio Carvão, *Clarovermelho*, 1959;
- Hermelindo Fiaminghi, *Círculos em movimento alternado n. 2*, 1950
- Hermelindo Fiaminghi, *Virtual n.13*, 1957
- Ivan Serpa, *Forma em evolução*, 1952
- Judith Lauand, *A base de Hexágonos*, 1959

- Lygia Clark, *Planos em superfície modulada n.8*, 1959.
- Lygia Pape, *Relevos*, 1955.
- Willys de Castro, *Campos interpostos*, 1960
- Willys de Castro, *Planos interpostos*, 1959

Tuiuiu-RJ:

- Aluísio Carvão, *Estrutura plano espacial 3*, 1958;
- Aluísio Carvão, *Verde/ Lilás*, 1959
- Aluísio Carvão, *VermelhoVermelho*, 1959
- Hélio Oiticica, *Bilateral*, 1959
- Hélio Oiticica, *Transdimensional*, 1959
- Ivan Serpa, *Quadrados com ritmos resultantes*, 1953
- Milton Dacosta, *Encontro 1*, 1961
- Willys de Castro, *Objeto ativo*, 1959
- Lygia Clark, *Casulo*, 1958

Pinacoteca-SP:

- Hermelindo Fiaminghi, *Alternado I*, 1957
- Judith Lauand, *4 grupos de elementos*, 1959
- Judith Lauand, *Desenho*, 1950-1955
- Luiz Sacilotto, *Vibração Ondular*, 1953
- Maurício Nogueira Lima, *Composição n. 2.*, 1952
- Maurício Nogueira Lima, *Desenvolvimento espacial da espiral*, 1954
- Waldemar Cordeiro, *Espaço convexo*, 1954
- Waldemar Cordeiro, *Ideia visível*, 1957
- Willys de Castro, *Pintura 194*, 1957
- Willys de Castro, *Objeto ativo*, 1962

MAP-BH:

- Abelardo Zaluar: *Híbridos I, Híbridos II e Híbridos III* (1969);
- Décio Noviello: *Pintura 3*, 1969
- Lothar Charoux, *Equilíbrio Restabelecido*, 1969
- Maria Helena Andrés, *Cidade Iluminada*, s.d.
- Mário Silésio, *Composição Abstrata*, 1959
- Marília Giannetti Torres, *sem título*, 1960

The selected works were chosen respecting the criteria of interrelationship with the works of the Patricia Phelps de Cisneros Collection studied by the project developed by the Getty Conservation Institute,

from the discussions with curators and curators of the collections of the listed institutions and through the discussions established among the members of the research group based on LACICOR.

▷ **The database**

The construction of a database for the insertion of the results of the historical researches and physical-chemical analyses was intended to provide a better understanding and integration of the research being developed in Brazil, Argentina and Los Angeles. The database was one with the guidelines of Technical Art History, concerning that the research has an interdisciplinary and transdisciplinary approach regarding the understanding of the relationship among the technique, the style of the artist and the methodology used in the construction of this.

The Technical Art History goals to developing a methodology of art's analyses systematically addressed to the judgment criteria, such as the critical discourses done by critics, art historians and experts, and an outlook that emphasize the scientific rigor (formal and stylistic classification categories, documentary, historical and physicochemical analyzes). This syllogism, carried out by an interdisciplinary reading, admits, therefore, a more in-depth analysis of the work which, although complex, allows the understanding of the specificities of artistic making - considered a whole set of elements such as technique, stylistic, etc. Thus, aware the needs to manage a greater and varied number of sources, we sought to select data that composed the specific fields that would allow comparison and a better understanding of the works. The graphic below elucidates the methodology used for the composition of the database:

▷ **Conservation Science applied at the Brazilian Concrete and Neoconcrete works**

Scientific equipment and methodology used in this project are a combination of movable equipment for in situ analysis, such as visible, infrared, and ultraviolet light documentation set up, small stainless steel tools which are used to touch, scratch, and scrape paint surfaces for sample removal and visual diagnostics, head loupes, USB microscopes, stereomicroscopes, and equipment such as Portable ATR FTIR Spectrometer; portable BRUKER EDXRF Spectrometer; Portable X-Radiographic equipment; Portable Olympus Zeiss EZ40 Stereomicroscope, Portable USB Microscope.

▷ **Placing the questions**

Considering the broad objectives of the proposal, regarding Concrete Art produced in Brazil in the 1950s and 60s, this project tried to determine, through the analysis of specific works of art:

- Experimentation of industrial materials and processes by artists to achieve distinct visual characteristics on various surfaces, in some cases considering the use of different materials within the same artistic work;

- The availability of new materials and the adaptation of industrial production materials and techniques - such as formulations of automotive paints, use of sprays and industrial supports of modified cellulose (plywood, agglomerates, etc.) from the expansion of the construction industry in the post-war in different countries, and its impact on artistic practice;

- The use of industrial materials and techniques as artistic strategies to highlight the rupture with traditional art;

- The comparison of materials and techniques used by artists within the Concrete Brazilian Concrete movement, as well as those of other Latin American countries, with a focus on Argentina;

- Reception of the European avant-gardes through reproductions and specialized criticism.

Based on these presented objectives, what these questions guided our investigation:

- How does the conceptual issue manifest itself in the materiality of the works? What are the common structures as proposed by the manifests and in to what extension are collective orientations altered by the individual choices of the artists? It repeats the previous concerns posed as general strategies, but what happened with the specific analysis of the set of works selected? Conceptual analysis of each of the works in what concerns their formal elaboration? Is the use of industrial materials a conceptual strategy?

- How is integrated the use of industrial materials and traditional media? We could see the use of traditional technics in a different way than usual; also, the use of the of industrial materials by new methods and related some traditional techniques.

- How the break with the frame and new system of expose the objects changes the way to construct these objects?

- How do the marks of the production of the artistic work contribute

to the understanding of the innovative methods of construction of the work of art developed by the artists, like the strip-lines, the tape, the ruler, and the compass?

- What are the types of degradation resulting from the choice of these industrial substrates, the use of mixed media (traditional and modern media) or the differentiated use of degradation media? What are the methods of observation? What is the visual impact of the aging process on these supports? Does degradation interfere with the aesthetic / ascetic fruition of the modern? The value of “antiquity” can be absorbed in this modern aesthetic / asceticism? What intervention methods have been identified and how do they interfere in the authentication, analysis, and conservation of works?

- How do formal and informal processes of abstraction consolidate the political, aesthetic, formal and technical principles of artists displaced from the Rio-SP axis? How do these artists on the fringes of the movement produce an autonomous and significant art in the 1950s and 1960s?

Each question or set of questions tried be answered first by means of the research of a group, but with the contribution of the investigations resulting from the research of all. The advance of research consists in breaking the supremacy of the formalist analysis with respect to the period and thinking of form-materiality-concept as integrated non-hierarchical units. These questions and the result of the investigation will be the basis for generating the contents of the articles in the collection.

This article aimed not to present the achievements of the project, but place the mains questions and challenges regarding the Technical Art History as a new field of study that can put a contemporary and interdisciplinary view on objects so studied by the Art History.

▷ **References**

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