Cruzeiro Novo Project: Design and technology for the first series of banknotes printed in Brazil

LESSA, Washington Dias / DSc / ESDI/UERJ / Brazil
MIRABEAU, Almir / MsC / EBA/UFRJ / Brazil
CUNHA LIMA, Edna Lucia / DSc / PUC-RIO / Brazil
CUNHA LIMA, Guilherme Silva da / PhD / ESDI/UERJ / Brazil

Design / Technology / Aloisio Magalhães / Graphic industry

This paper focuses on the relationship between the design of the series of the Brazilian banknotes known as Cruzeiro Novo, and the acquisition of technology to implement their production. Until 1970, all Brazilian paper currency was produced in foreign countries. The launch of this series designed by Aloisio Magalhães was a milestone in the process that enabled the Brazilian Mint for the production of money in Brazil.

1. Introduction

We intend to analyze the conditions and initiatives that led to the national autonomy in money making, highlighting the technical and visual solution developed by designer Aloísio Magalhães.

The Cruzeiro Novo paper currency series was launched in May 1970. Economic, political, institutional, and cultural factors were combined in several ways in this process. Among those we may highlight: the goal of avoiding wasteful spending on foreign currency used for the printing of money outside the country; the question of national sovereignty that involved in this issue; the nationalist ideology of economic growth characteristic of the military governments; movements of rationalization and modernization of the state machinery; the aspirations and initiatives of cultural modernization of the country involving the design as a profession; and the professional and institutional pride of the Brazilian Mint concerning the production of the money locally (Lessa, 2009).

Our gathering of data initially took place by means of interviews with some people who, directly or indirectly, accompanied the process of design of the new series of banknotes. At a second moment, there was a bibliographic research that worked as grounds for the analysis. It focused on the visual characteristics of the projects presented in the design competition, on visual solution proposed by Aloísio Magalhães and on the technical characteristics used in the implementation of the project.

2. The beginning of the production of banknotes in Brazil

The international company Thomas de La Rue proposed to set up a banknote plant in Brazil between 1936 and 1940, without success. In 1956, a new proposal was made to setup a mixed corporation. In 1957, the company decided to open a joint-stock company in Brazil specialized in security printing. With the creation of the new currency in 1966, the company carried out the overprinting of the existing banknotes with the words ‘cruzeiro novo’ (Trigueiros, 1987: 226).

The Brazilian Mint had already printed banknotes. In 1854, for example, they were printed for the Bank of Brazil "while awaiting an order made abroad". (Trigueiros, 1987: 152). Several years later, between 1907 and 1908, the Brazilian Mint printed five designs of lithographic matrices of the French company Georges Duval, already used in previous designs. Later, between 1920 and 1924, the Ministry of Finance made a new experience that resulted in printing of 17 designs in xylography.

Finally, in 1961, the Brazilian Mint began the production of the third design of five Cruzeiros banknote, known as Cédula do Índio [Indian Banknote] (fig. 1). The design was developed in the Brazilian Mint and it greatly differed from the iconography and some graphical patterns used until now. According to Trigueiros (1987: 156), the production was interrupted not only because the productive resources of the Brazilian Mint were precarious, but also because the banknote had technical problems. On the other hand, we identified a positive appreciation of the experience on the part of the technical team of the Brazilian Mint. Vicente de Paulo, who headed the Department of Matrices, minimized the technical problems by saying that the production of the banknote was discontinued due to the lack of supply of paper bought abroad (Silva Junior, 2008: 115). Anyway, the effective process of the equipping of the Brazilian Mint only takes place from 1965 on.

Figure 1. The Indian Banknote 5 Cruzeiros, 3rd design, 1961, chalcography plus offset. Design by Orlando Mau, Casa da Moeda [Brazilian Mint].
3. The new series of banknotes

In November 1965, a decree was issued authorizing the creation of a new currency, the Cruzeiro Novo. It was also determined that a new series of banknotes and coins, designed and printed in Brazil, would represent the launch of a “strong” Cruzeiro. To do so, it was necessary to initialize some institutional changes regarding the issue of values and the organization of the Brazilian Mint.

In 1950, the law established that one of the goals of the Brazilian Mint would be the printing of banknotes. Nevertheless, there was the idea of setting up a national plant for the production of paper currency that did not depend solely on the Brazilian Mint. That problem was solved in December 1964 when the military government determined the reorganization of the Mint, making it subject to the Ministry of Finance. Brazilian Mint would receive an increase in its productive capacity by means of the acquisition of equipment and training of staff abroad. Also, in December 1964, the National Monetary Council was created and the SUMOC (Superintendence of Currency and Credit and of Specialized Portfolios) was turned into the Central Bank of the Republic of Brazil (later called the Central Bank of Brazil, in 1967). The project of the new series of banknotes would be chosen by means of a competition by invitation. F. dos Santos Trigueiros, a Central Bank official, was appointed to organize it. The printing matrices would be developed in the European headquarters of De La Rue Giori.

The competition jury consisted of Florisvaldo dos Santos Trigueiros [Central Bank], Vicente de Paulo Ferreira da Silva [Brazilian Mint], Waldimir do Amaral Murinho [Ambassador and supporter of the project], Flavio de Aquino [Director of ESDI, School of Design] and Leopoldo de Souza Campos [engraver of the Mint and teacher of the EBA, School of Fine Arts]. The competition was confidential and limited to the invited guests. The Central Bank invited the following people: Alexandre Wollner, Aloísio Magalhães, Gustavo Goebel and Ludovico Martino, all of the design area. The Mint appointed its employees: Benedito Ribeiro [coin engraver], Petrarca Amenta [designer], Waldir Granado [designer] and Zélio Trindade [banknote engraver]. Each participant received an album with the basic characteristics of the banknotes and examples of banknotes from Brazil and from other countries. From the distribution of members of the jury, and invited participants, it is clear that there was a division between two professional categories, in fact, the two sides that organized the competition.

The technical staff of the Mint were the heirs of a tradition of more than 250 years of security printing and, according to Silva Junior (2008: 129), “that is not committed to a specialized graphic tradition of graphic design, connected, according to Silva Junior (2008: 231), to the security printing techniques, the designers sought to break with the classical iconographic tradition and bring designs connected to the standardization and industrial reproduction.”

![Figure 2](image)

The decision was announced on August 16, 1966. Four votes were given for the proposal offered by Aloísio Magalhães and one for the proposal of Benedito de Araújo Ribeiro. At the end of the competition, the design by Magalhães was chosen. According to Trigueiros (1984: 231), Aloísio Magalhães presented a design “that is not committed to a specialized graphic tradition that offered a new visual design making use of the banknote as an element of genuine mass communication of our culture”. Silva Junior says that:

Aloísio Magalhães won the competition, because the material he presented fascinated the jury and went well beyond the requirements and characteristics asked for (...) It is a graphic proposal that conciliates visual innovation and appropriateness of the work to the specifics of the paper currency. [Silva Junior, 2008: 129]

On October 14, 1966, Magalhães presented the details, and on November 4, he and Trigueiros arrived in Milan to follow the production of the matrices at the Center of Instruction and En-
graving of De La Rue Giori. The work was developed in Vienna and London. The result achieved on February 14, 1967 did not correspond to the expectations of the designer. So, Magalhães returned to Brazil, but he and Trigueiros, who had stayed in Europe, continued to work in order to achieve the intended result. When Magalhães returned to Milan, in April, the solution was considered satisfactory. On May 11, both men returned to Brazil. On November 6, Magalhães presented to the Central Bank a mockup corresponding to the preparation of the matrices, thus concluding the stages of the project for production.

With the purpose of putting an end to the dependence on foreign suppliers in the manufacture of paper currency and of showing Brazil as a “country of the future”, the military government appointed the design that best presented the ideals of a modern and progressive country. Besides presenting the most innovative design, (fig. 3) the winning project also introduced a new safety factor, the Controlled Moiré, created from a guilloche.

The Moiré effect is caused by the superimposing of equal graphic patterns in different angles, generated by the regular repetition of lines or dots. It is characterized by the formation of optical interferences between the two standards. The proposal of Magalhães was to develop controlled Moiré backgrounds. From films of rosettes and geometric backgrounds he experimented by superimpose them, until he got to the intended result (fig. 4). Jorge Manriques, of the Brazilian Mint, made an assessment of the association between the Moiré pattern and the guilloche concluded that “no one, until then, had dared, at that time, to place guilloche as he did” (apud Silva Junior, 2008: 142).

4. Final considerations

Aloísio Magalhães, repeatedly declared that money was one of the most comprehensive means of mass communication. Therefore, it was required that such communication be effective. Beyond that, the design of the banknotes was a quest for adequate, innovative and contemporary solutions, specific to the design field. It also became a factor of consolidation of a professional field. As we analyze the process, it can be said that:

1. the graphic categories consolidated by the tradition of banknote design were simplified without losing the visual characteristics that allow them to be identified as paper currency;
2. the procedures for visual modernization and technical innovation reach their high point with the use of the Moiré pattern as security background;
3. the ornament is elevated to a non-traditional technical level, providing a contemporary character to inventiveness;

a) they characterize, what can conceptually be called, the “transfiguration of an error” by aesthetic value of visual effects and by the transformation of something graphically common into a sophisticated element.

b) they respond to the demand for the use of elements of dif-
ficult reproduction and due to the emphasis of the Moiré ef-
fect in the layout, it emphasizes semantically the question of
security.

The design by Aloísio Magalhães presents the singularity of be-
ing modern and independent without leaving tradition behind. It
breaks with the visual conventions established in Europe and in
the United States since the 19th century. All of this confirms the
importance of the series of banknotes Cruzeiro Novo, as a mile-
stone in the development of Brazilian design, and as the reiter-
ate of the sovereignty of the country.

References


Paulo, Secretariat of Culture, Science and Technology.

Institute of Fine Arts, Oxford: Phaidon Press.

Ivins, Jr, W. M. 1975. Imagem Impressa y Conocimiento. Translation of

Rio de Janeiro: Artviva.

Visual do Projeto de Aloísio Magalhães para a Primeira Família de Papel-
Moeda Impressa no Brasil. In: 4º CIDI Congresso Internacional de Design
da Informação [Information Design International Conference], 2009, Rio
de janeiro. Annals of the 4º CIDI Congresso Internacional de Design da
Informação [Information Design International Conference]. 443-455.

Mirabeau, A.; Lati-Mayer, um Estudo de Caso. Tecnologia na História do

Modernizante. Exemplos de aceleração evolutiva no Brasil. In: 4º CIDI
Congresso Internacional de Design da Informação [Information Design
International Conference]. 2009, Rio de janeiro. Annals of the 4º CIDI
Congresso Internacional de Design da Informação [Information Design
International Conference]. 471-479.


SILVA JUNIOR, A. F. 2008. Uma etnografia do dinheiro: os projetos gráfi-
cos de papel-moeda no Brasil após 1960. Orientação de Clarice Ehlers
Peixoto e co-orientação de João Trajano Sento Sé. Social Sciences Ph.D.
Thesis at the State University of Rio de Janeiro.

About the author(s)

Washington Dias Lessa is a CNPq level 2 researcher, holder of
bachelor degree in Design from ESDI/UERJ (1973); he holds a
Master’s degree in Education from the IESAE, Rio de Janeiro
(1983); and a Doctor’s degree in Communication and Semiotics
from the PUC-SP (1998). He is an Associate Teacher at the ESDI/
UERJ, where he began his teaching career in 1977. <washington.
lessa@gmail.com>

Almir Mirabeau da Fonseca Neto holds a master’s degree in
Design by ESDI/UERJ (2010). He works in the printing industry
since 1984 as a consultant in the graphic production and art
director. He is currently a PROATEC scholar of the LHDB at the
PPDES/DI/UERJ, Substitute Teacher at the Department of Visual
Communication/Design at the EBA/UFJ and Assistant Coordi-
nator at the Infnet Institute. <mirabeau@mirabeau.art.br>

Edna Lucia Oliveira da Cunha Lima is a CNPq level 2 researcher. She
holds a degree in Visual Communication from the UFPE (1979), Mas-
ter’s degree in Design from PUC-RIO (1998) and a Doctor’s degree
in Communication from ECO/UFJ (2003). She is currently an As-
Sociate Teacher at PUC-RIO and participates in the Brazilian Graphic
Memory PROCAD project. <ednacunhalima@gmail.com >

Guilherme Silva da Cunha Lima is level 1 CNPq researcher and
CAPES consultant. He holds a degree in Visual Communication from the UFPE (1979) and a Ph.D. in Graphic Design from Univer-
sity of Reading (1993). He is currently an Associate Teacher at
the ESDI/UERJ, where he is the Vice Coordinator for the Program
of Postgraduate Studies in Design (PPDES/DI/UERJ).
<gecunhalima@globo.com>