

studied by Roma Halat for years. The collective consciousness is a form of unity. Yet another function appears which is successfully undertaken by Roma Halat—that of ordering, forming. Here is the plastic form which is almost architectural, where the variety of functions must be united in the logical stable whole—the unity of the contents and the form of the work. Such understanding of the work of art follows from the tradition of the Lodz artistic circle, bearing a stigma of the constructivist outlook of Wadyslaw Strzemiński and Katarzyna Kobro. In the 1920's and 1930's they worked out and published their avant guard theories about painting—Wladyslaw Strzemiński—Uniem in Painting and about sculpture—Katarzyna Kobro—Calculating the Time Spatial Rhythms in Sculpture. Owing to their theories and achievements in art they were forever included in the pantheon of the European constructivist avant guard. This tradition has been modified and

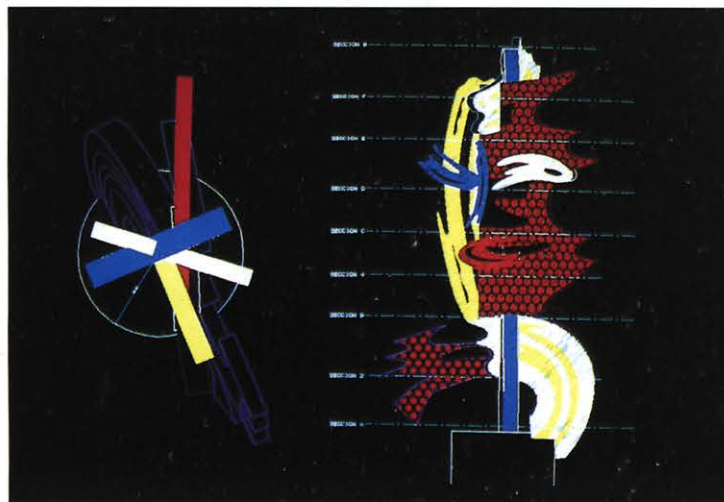
developed in the Lodz circle until the present day. Roma Halat is a unique example of the creative attitude to this tradition since—having abandoned the classic, formal and, in fact, standard problems—she has the habit of synthesis, the evident hand of discipline in building logical (in their multi-motif and subjective form) structures. Some years ago Roma Halat came across the study of the carvings and tracings left by men of the late Paleolithic age in the cave of Castillo near Santander, Spain. There, there are a particularly numerous sequence of points and square signs as well as thousands of imprints of people's hands. Her immediate reaction was the association with her own works from the cycle of Triads—the sequences, rhythms of the inclined semi-circles and the recording of “the life of the hand's shadow”. Hence, since 1989, the works have born the title, “El Castillo ctnd”. The author herself saying; “the work of art is always an expression of

time in which the artist lives and works. It is formed with one's presentiment of one's further life perspective, at the same time marking one's own presence, inscribing one's own trail in the historical sequence of art's existence”. Indeed, the cycle the “Triads” is the continuation of El Castillo, the present day continuation, reflecting the distance man has covered from Paleolithic to modern times. And, it is the same distance covered by architecture from caves to modern construction, with its refined functionality, aesthetic value and construction. Just as the prints in the cave, with their chaotic and casual order, were the expression of human aspirations, needs, and the simple need to leave a trace of his own existence in time, so also the “Triads El Castillo ctnd” of Roma Halat—in their multi-level complexity and logical harmony—expresss the modern world; and together with the architecture of the present day make, like the archaic caves, an integrated whole.

La Ingeniería de una escultura de Roy Lichtenstein

The Engineering of a Roy Lichtenstein Sculpture

IGNACIO COBIÁN BABE y JAVIER RUI WAMBA

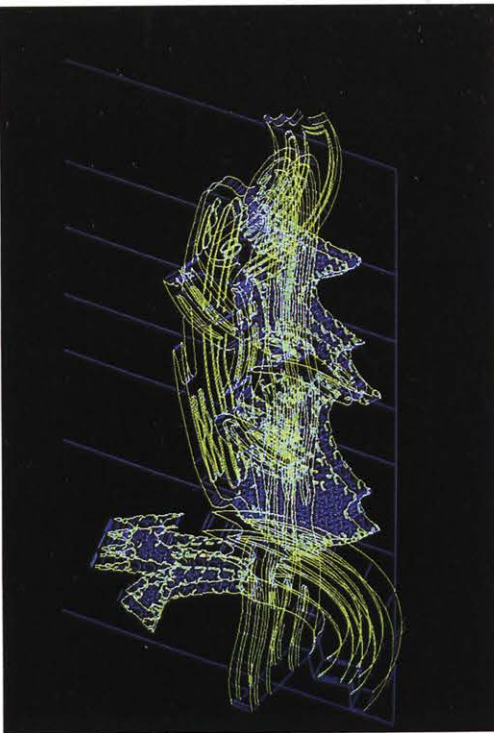


Ignacio Cobián Babe es arquitecto. Javier Rui-Wamba es ingeniero de Caminos, Canales y Puertos, y director de la empresa consultora de ingeniería ESTEYCO, S. A., que fue la encargada de realizar el proyecto de ejecución de la escultura de Roy Lichtenstein para Barcelona que aparece comentada en esta LECTURA.

Ignacio Cobián Babe is an architect. Javier Rui-Wamba is an engineer of roads, canals and pores, and also director of the engineering consulting service ESTEYCO, S. A., which was responsible for the production of the Roy Lichtenstein's sculpture for Barcelona, upon which this article comments. Translated by Deborah Gorman.

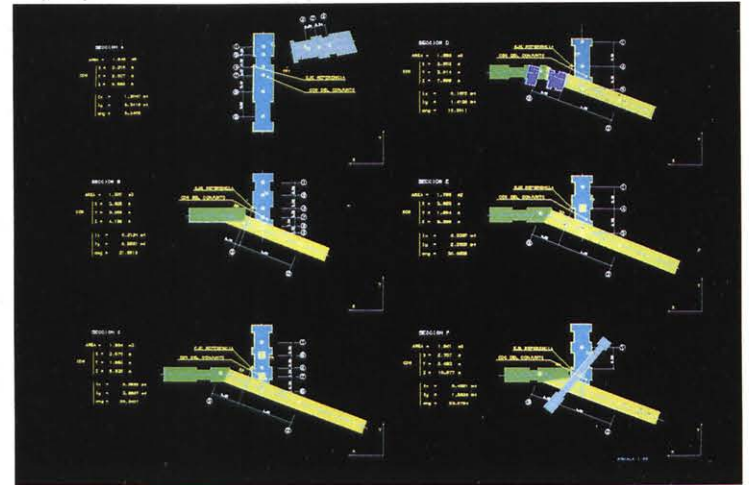
1. Alzado y planta de la escultura de Roy Lichtenstein que se está instalando en Plá de Palau, en Barcelona. La escultura tiene 14,00 m. de altura, una anchura máxima de 6,00 m. y apoya sobre un pedestal de 6,00 m. de altura cimentado sobre cuatro pilotes hincados de 90 toneladas de capacidad útil. Construida con la tecnología de los puentes de voladizo con dovelas conjugadas prefabricadas, mediante ocho piezas de 2,80 m. de altura máxima y un peso máximo de 20 toneladas. Las piezas prefabricadas se han construido con un hormigón H-300 con fibras de acero inoxidable. La dosificación de las fibras ha sido de 45 kg/m³. Las piezas se unen, en obra, mediante cables postensados y las juntas se tratan con morteros de resina epoxi.

1. Elevation and plan of the Roy Lichtenstein sculpture that is being installed in Plá de Palau, in Barcelona. The sculpture is 14.00 meters tall, with a maximum width of 6.00 meters and presses down to a pedestal 6.00 meters tall piled to four driven piles of 90 tons of service capacity. Built with the technology of corbeled bridges with prefabricated interconnected voussoirs, by means of eight pieces with a maximum height of 2.80 meters and a maximum weight of 20 tons. The prefabricated pieces have been built with an H-300 concrete with stainless steel fibers. The batching of the fibers has been 45 kg/m³. The pieces join, in situ, by means of posttensioned cables, and the joints are treated with apoxy resin mortars.



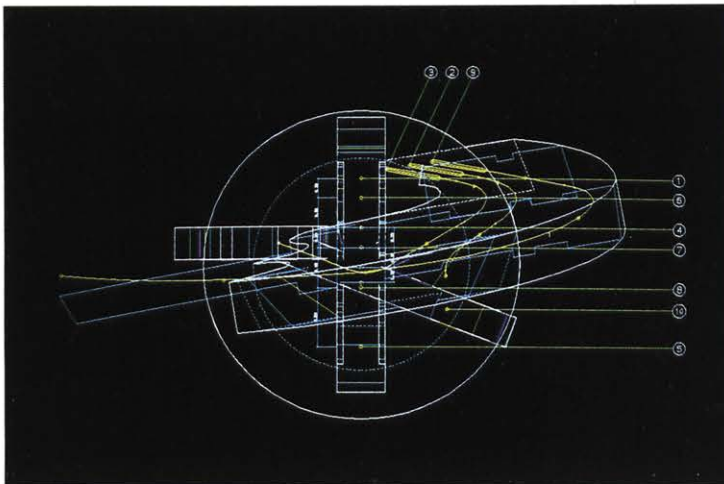
2. Visión espacial de las líneas que definen, en un modelo transparente, la geometría de la escultura y que ha servido de base para la definición de los encofrados de los diferentes moldes con que se ha construido el artefacto.

2. Spatial view of the lines that define, in a transparent model, the geometry of the sculpture, and that have served as a base for the definition of the formwork of the different molds with which the artifact has been built.



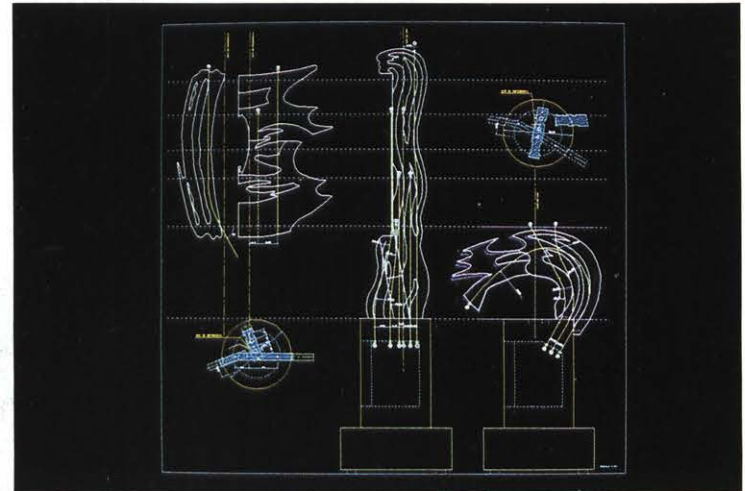
3. Algunas secciones características de la escultura con la posición del centro de gravedad, área de sección, inercias según dos ejes ortogonales y posición de los ejes principales de inercia, datos utilizados para los cálculos de la estabilidad estructural.

3. Some characteristic sections of the sculpture with the position of the center of gravity, sectional area, inertias according to two orthogonal axes, and position of the principal axes of inertia, data used for calculations of structural stability.



4. Planta con la geometría de los diez conjuntos de cables postensados utilizados para el cosido de las dovelas prefabricadas. Cada familia está constituida por 4 torones de 0,6 pulgadas, con acero superestabilizado, tipo 270 k, tensados inicialmente al 75% de su tensión de rotura desde la cámara creada en el pedestal.

4. Plan with the geometry of the ten ensembles of post-tensioned cables used for the riveting of the prefabricated voussoirs. Each assemblage is composed of 4 stranded wires of 0,6 inches, with superstabilized steel, type 270 k, stressed initially to 75% of its breaking-strain from the chamber created in the pedestal.



5. Alzados de los diez conjuntos de cables.

5. Elevations of the ten ensembles of cables.