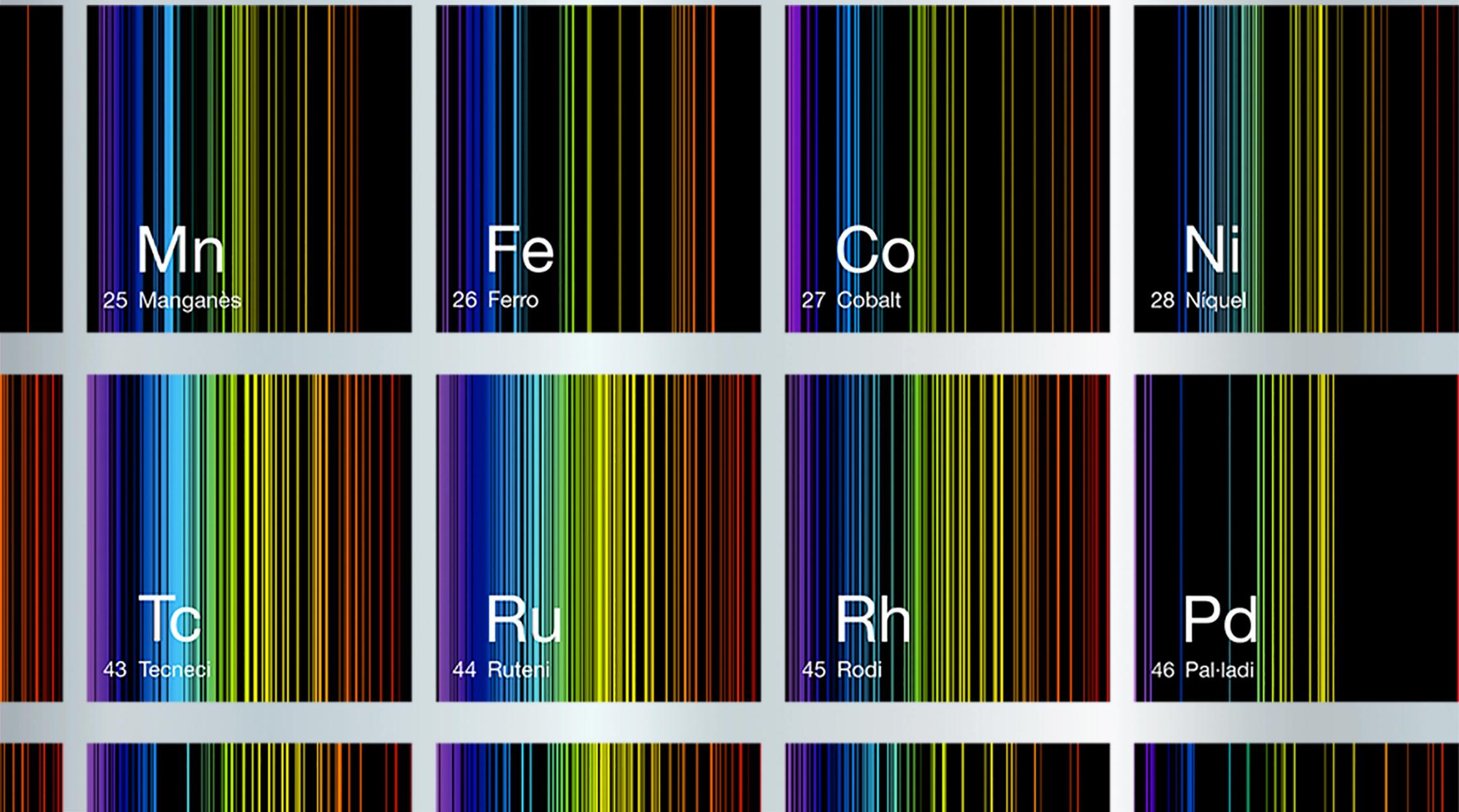




HOMAGE TO THE ELEMENTS

in one single piece

Eugènia Balcells, 2009



THE UNITED NATIONS PROCLAMS 2019 THE INTERNATIONAL YEAR OF THE PERIODIC TABLE OF CHEMICAL ELEMENTS

<https://iupac.org/united-nations-proclaims-international-year-periodic-table-chemical-elements/>

To celebrate the International Year of the Periodic Table, the Eugènia Balcells Foundation submits the mural **HOMAGE TO THE ELEMENTS** (Eugènia Balcells, 2009) for consideration by Museums, Art Collectors, Scientific Research Centers, Universities, Colleges and Schools.

HOMAGE TO THE ELEMENTS recognizes the symbolic character of the Periodic Table by adding the light signature of each element to its chemical description, proclaiming that *light is the voice of matter*.

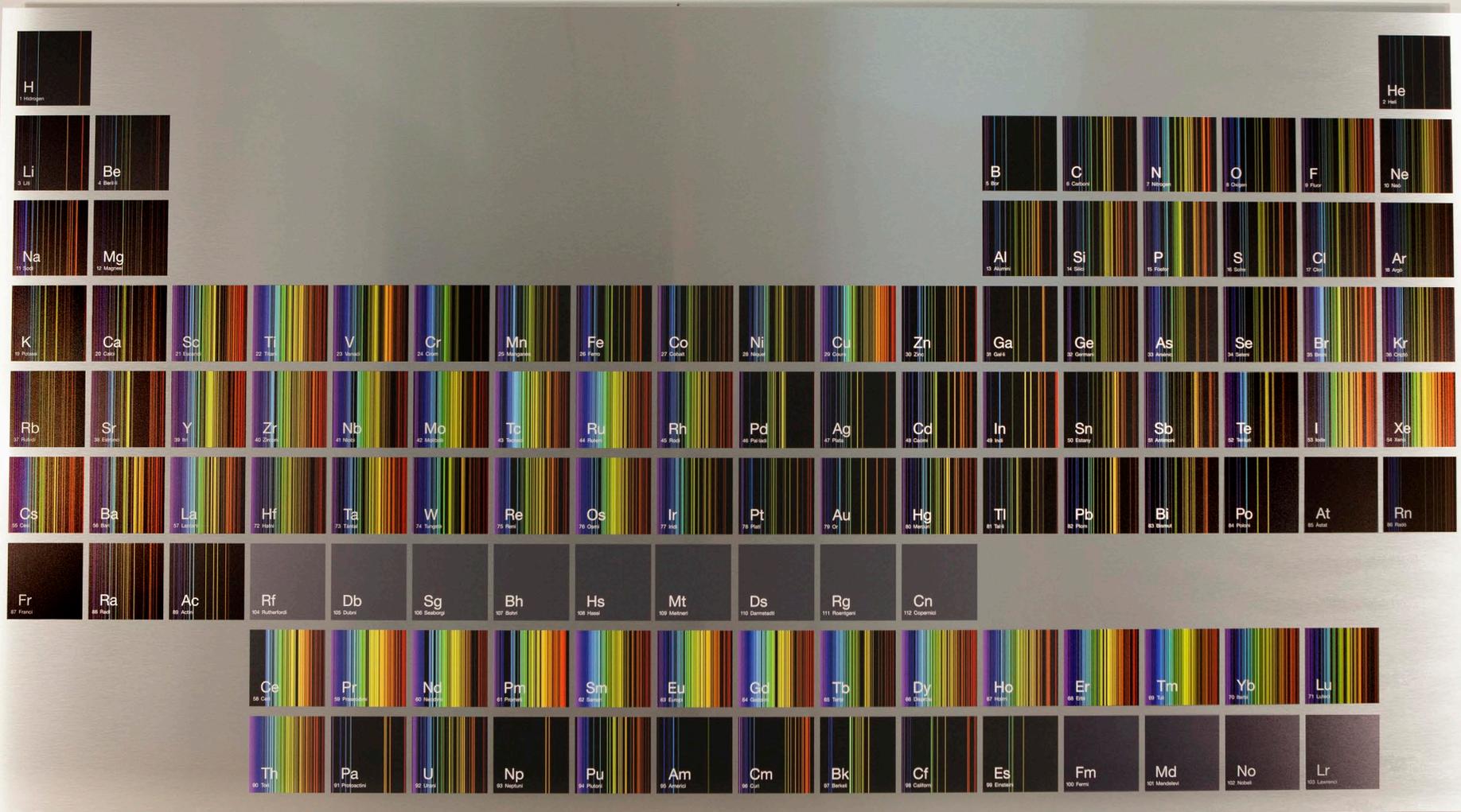
HOMAGE TO THE ELEMENTS celebrates simultaneously the inner power of light and the priceless treasure of human enlightenment. No other image has the symbolic character of unity in diversity that is contained in this mural. Therefore the Eugènia Balcells Foundation wants to honor this symbolic image by offering the mural HOMAGE TO THE ELEMENTS for placement in public cultural spaces, such as the halls and corridors of libraries, schools and universities, research centers and museums where human heritage is kept and passed from generation to generation.

The mural HOMAGE TO THE ELEMENTS is part of an unlimited edition and priced at 1.500 € plus packing and shipping costs.

If you are interested in acquiring the mural HOMAGE TO THE ELEMENTS or donating it to a cultural institution please contact:

info@eugeniabalcellsfoundation.org

To know more about Eugènia Balcells work: <http://eugeniabalcellsfoundation.org/home/> <http://araahoranow.blogspot.com.es/>



HOMENATGE ALS ELEMENTS
 Eugenia Balcells
 2009

Tots els elements de la taula periòdica es van originar a l'interior d'alguna estrella.
 Combinant-se entre ells, van créixer tot el que existeix.
 Cada element té un nom propi i un aspecte de llum que l'identifica.
 La llum és la veu de la matèria.

*Composició sobre un fulla elementari publicat amb permís a través de la
 Comissió d'Art de la Unió Internacional de Física Pura i Aplicada
 (IUPAC) el 2009. 100 x 100 cm.

HOMAGE TO THE ELEMENTS in one single piece

HOMAGE TO THE ELEMENTS

Eugènia Balcells

2009

All the elements of the periodic table had their origin in the interior of a star.

By combining with each other they make up everything that exists.

Each element has its own name and a light spectrum that identifies it.

Light is the voice of matter.

*"So it is easier to understand that many bodies have elements in common,
just as single letters are common to many words."
Lucretius, On the Nature of Things, Vol. I, 1st Century BC.*

HOMAGE TO THE ELEMENTS

Eugènia Balcells created the mural HOMAGE TO THE ELEMENTS motivated by her surprise and admiration on learning that each element in the periodic table, after being excited, emits a light spectrum that distinguishes it from all the others.

The elements are what they are, just as the letters of the different alphabets are what they are. But in the same way that humanity has constructed everything that has been said and written up to now with a small number of letters - and this is still the case - the nature of everything that exists is explained by the elements in the periodic table.

To celebrate and share this knowledge Eugenia Balcells decided to pay homage to these seeds of life as well as to the long process of research that humanity has followed in order to understand who we are and where we come from.

Paying homage means much more than transmitting information. As we have seen on presenting HOMAGE TO THE ELEMENTS in very different places around the world, the visitors, irrespective of their age and education, are overawed by the mystery of the elements, which, at first, they do not know whether to attribute to science or the arts.

A mystery that Eugenia Balcells' exquisite sensitivity has kept alive by recording the luminous emission of each element on an aluminium plate, thus complementing the chemical information that describes them.

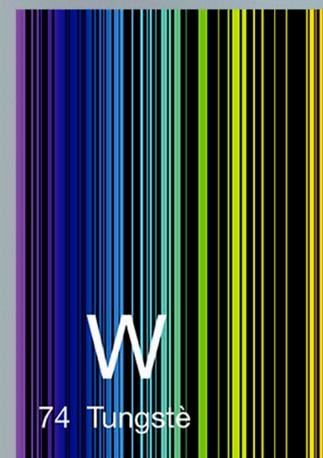
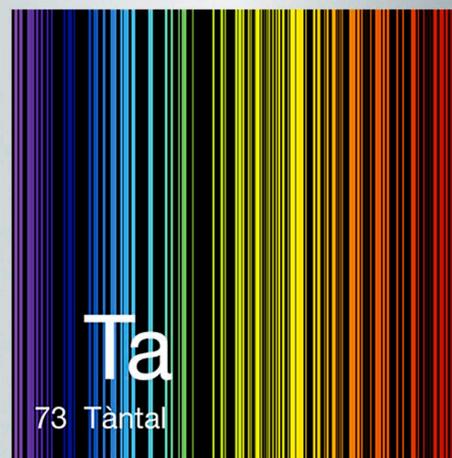
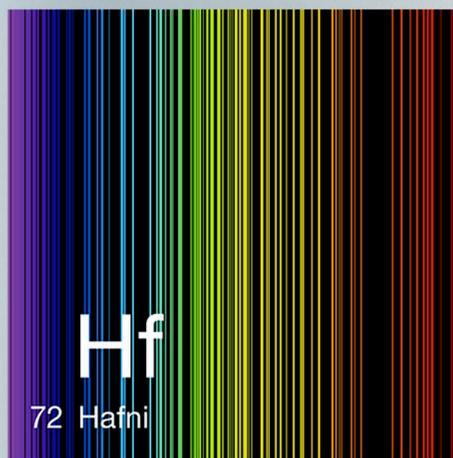
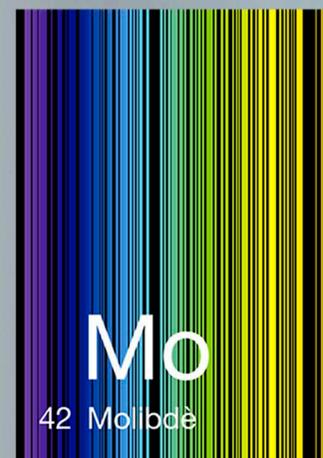
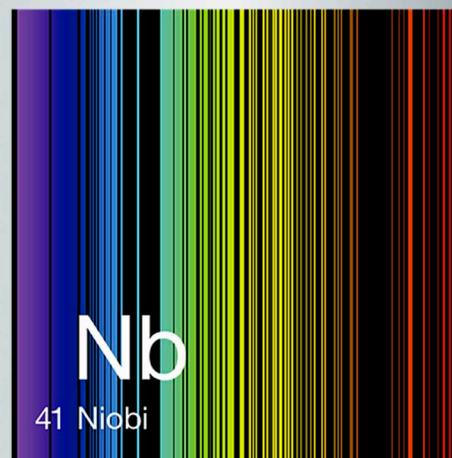
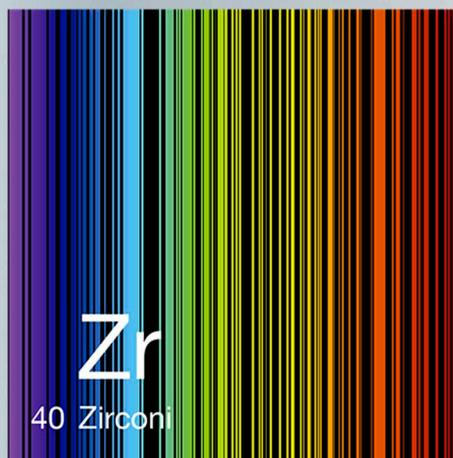
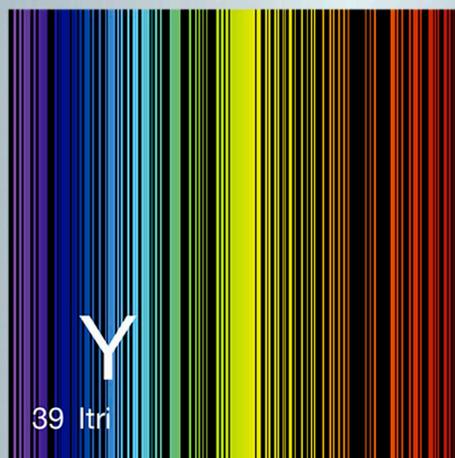
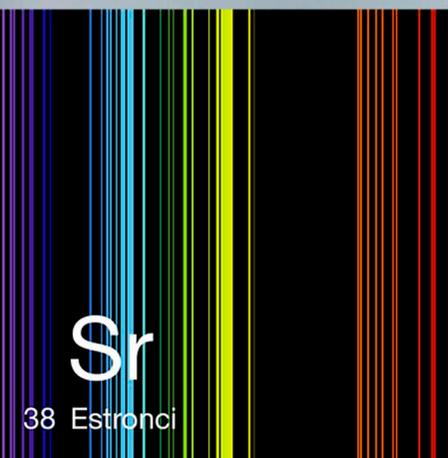
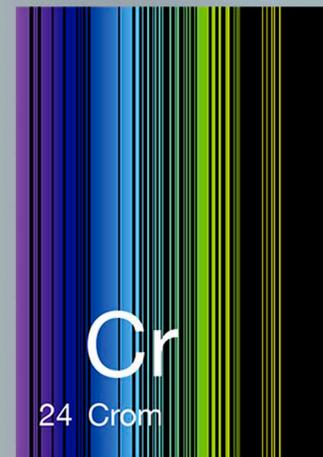
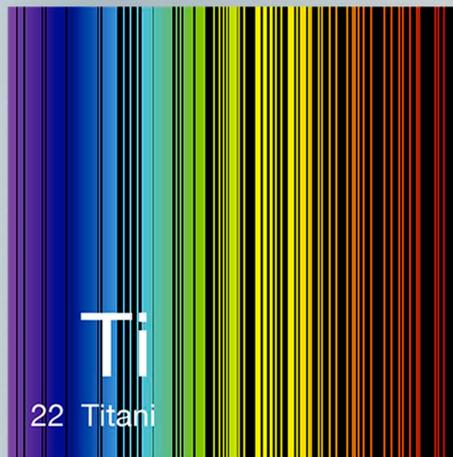
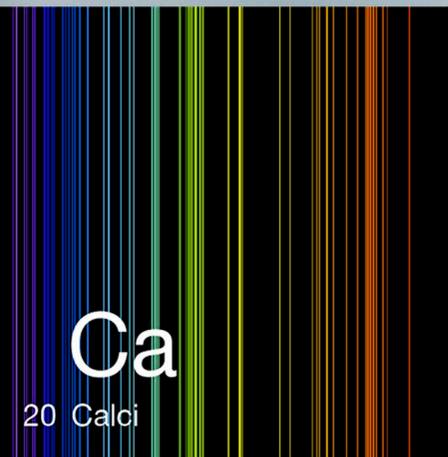
If the contemplation of HOMAGE TO THE ELEMENTS, with the beauty embodied in the light spectra, helps to spotlight the common origin of everything that exists, in other words what Mendeleev's periodic table withholds from the many people far-removed from the scientific world, then perhaps this mural will end up becoming an indisputable universal emblem of human knowledge constructed up till the present day.

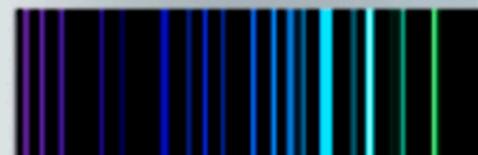
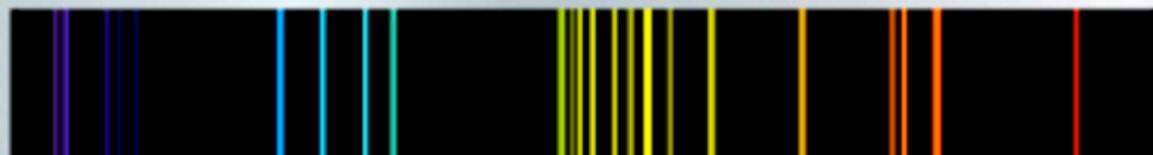
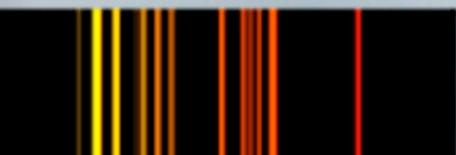
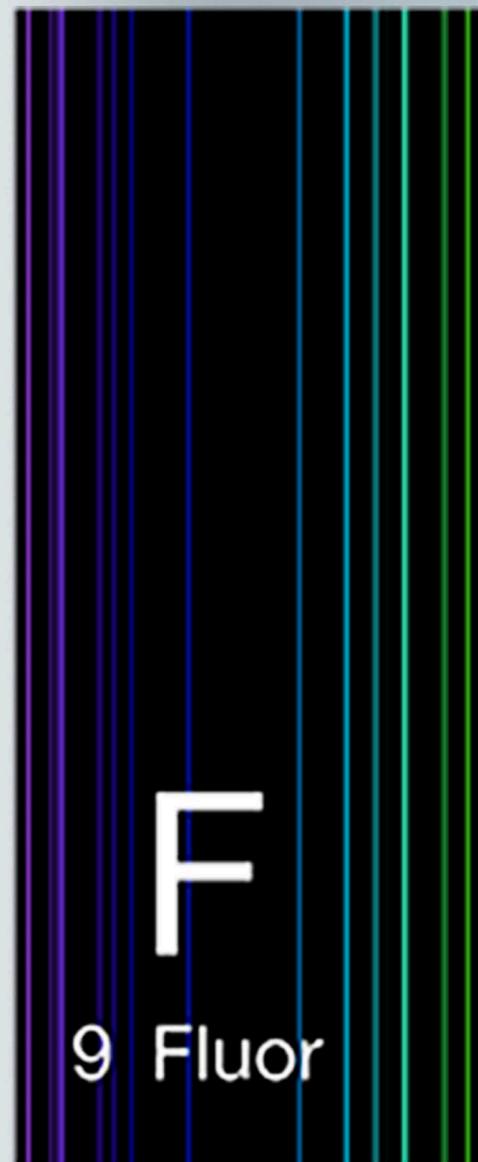
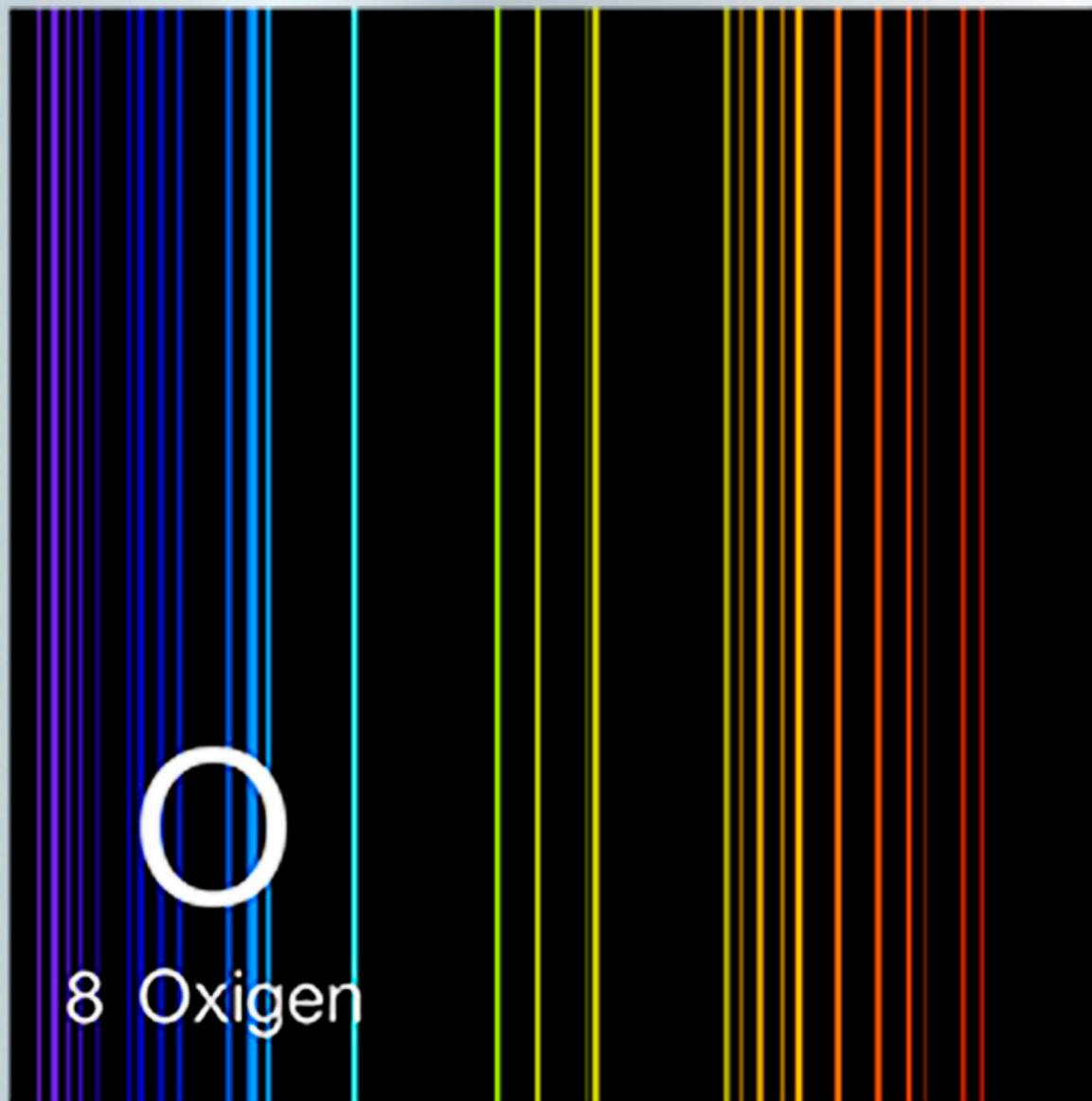
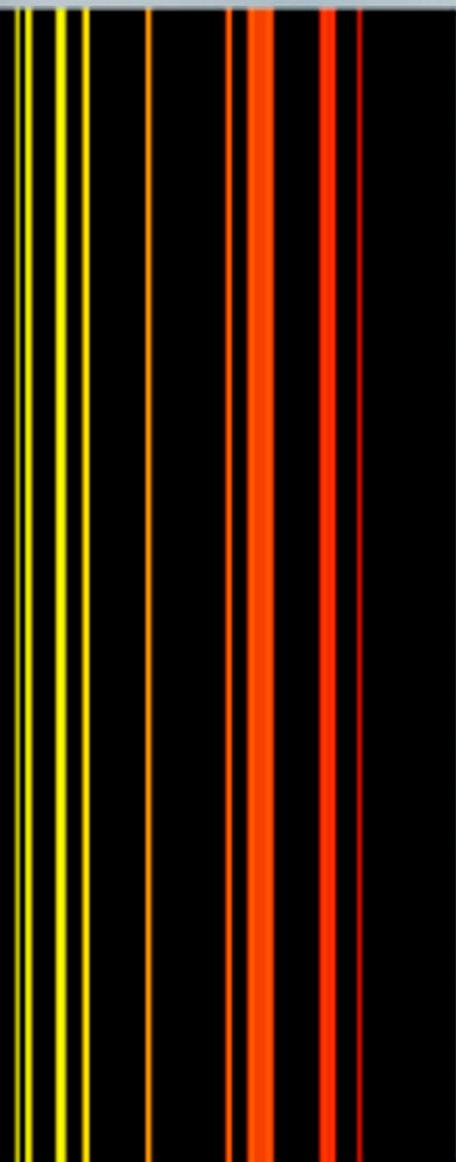
It is with the firm conviction that science and arts are the fruit of the same human curiosity that the Eugènia Balcells Foundation offers the whole world this HOMAGE TO THE ELEMENTS for it to shine in schools and universities and community, cultural and research centres as a permanent beacon of unity in diversity.

Eulàlia Bosch, Curator of the EUGÈNIA BALCELLS FOUNDATION

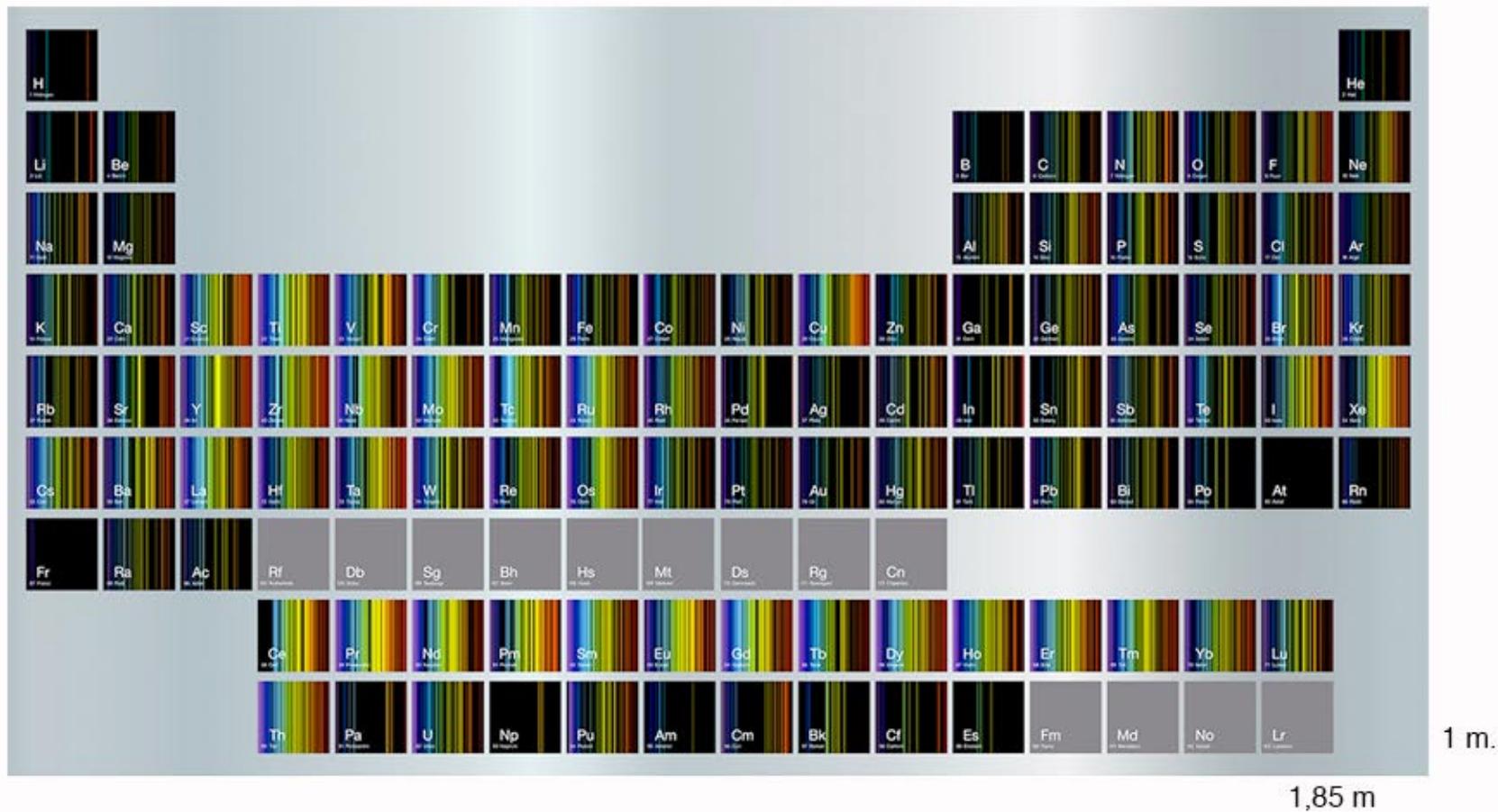


HOMAGE TO THE ELEMENTS in one single piece





TECHNICAL SPECIFICATIONS



HOMAGE TO THE ELEMENTS is a mural of 1,85 x 1 m. that consists of the 112 emission spectrums of the elements of the periodic table printed on a aluminum piece of 3mm thick and with a rear aluminum frame to be installed to the wall.

The names of the elements can be printed in any language. The Eugènia Balcells Foundation has available copies in Spanish, Catalan and English.

If a version in any other language is desired, a specific budget will be prepared.

The wall wash track lights should be installed as high as possible to avoid reflections.

There is also another version of HOMAGE TO THE ELEMENTS by Eugènia Balcells, as a large mural of 6,5 x 2,50 m., that has been permanently installed in different Universities and Research Centers.

If you are interested in adquiring the large mural HOMAGE TO THE ELEMENTS please contact: info@eugeniabalcellsfoundation.org



LIBRARY OF THE FACULTY OF PHYSICS AND CHEMISTRY
UNIVERSITY OF BARCELONA



SCIENCE MUSEUM COSMOCAIXA, BARCELONA 2018



The mural HOMAGE TO THE ELEMENTS has been presented:

Exhibition FREQUÈNCIES
Centre d'Art Santa Mònica, Barcelona
Sept. – Nov. 2009

Exhibition FREQUÈNCIES
MACUF, La Coruña
Dec. 2010 - June 2011

Exhibition LIGHT YEARS
Tabacalera, Madrid
Sept. – Nov. 2012

Exhibition LIGHT YEARS
Centro Nacional de las Artes, Mèxic DF
May - August 2015

Exhibition LIGHT YEARS
Queretaro, Mèxic
Sept. – Nov. 2015

Exhibition LIGHT YEARS
Museo de Arte Contemporáneo
Panamá
July - August 2017

Exhibition LIGHT YEARS
CosmoCaixa
Barcelona
March - June 2018

HOMAGE TO THE ELEMENTS is permanently installed:

- Library of the Faculty of Physics and Chemistry of the University of Barcelona
- Entrance hall of the Centre d'Investigació i Desenvolupament del CSIC in Barcelona
- Science Museum COSMOCAIXA in Barcelona.
- Entrance Hall of the Maxine Greene High School and The Martin Luther King, Jr. Campus in New York City.

Is part of the permanent collection:

- Technische Universität Berlin, Germany
- University of Erlangen a Nuremberg, Germany

CATALOGUES:

FREQUÈNCIES . FRECUENCIAS . FREQUENCIES
Eugènia Balcells
Edición: Arts Santa Mònica. Generalitat de Catalunya
MEIAC Junta de Extremadura
ACTAR
ISBN 978-84-92861-03-3

AÑOS LUZ . LIGHT YEARS
Eugènia Balcells
Organized by Eulàlia Bosch
Ministerio de Educación Cultura y Deporte de España
ISBN 9788481 815221

WEBS:

<http://www.universoeugeniabalcells.com/>
<http://araahoranow.blogspot.com.es/>
<http://eugeniabalcellsfoundation.org/es-home/>

CHEMISTRY

International

The News Magazine of IUPAC



An Artist's Hommage to the Elements

by Santiago Alvarez

The School of Chemistry of the University of Barcelona culminated the celebration of the International Year of Chemistry (IYC) with the installation of *Hommage to the Elements* in the atrium of the Physics and Chemistry Library. It is placed right above the printed collection of *Chemical Abstracts*, a monumental compendium of twentieth-century chemistry, and under the large windows through which percolate the lively human activity of the campus. *Hommage to the Elements*, the work of multimedia artist Eugènia Balcells, is an invocation of the foundations of the universe and of life: matter and energy, light, and the chemical elements. It takes the shape of a periodic table in which each element is represented by a collection of lines from its emission spectra and combines two of the best known icons of science or, as some like to say, constitutes the bar code of Nature.

Hommage to the Elements was born as a counterpoint to the multimedia exhibition *Frequencies*, presented for the first time by Balcells in Barcelona in 2009. Through the collaboration of the artist's workshop with physicists and chemists from the University of Barcelona, and thanks to the sponsorship of chemical companies Solvay and BASF and the support of the Catalan Societies of Physics and Chemistry, 20 copies of the wall installation were produced to commemorate the IYC. A poster of the exhibit was also produced.

Born in Barcelona, Eugènia Balcells has developed a wide trajectory in the fields of conceptual art, experimental film-making, and multimedia installations in New York and Barcelona. Her work was recognized in

2010 with the Visual Arts prize of the Catalan government, and with the medal of Fine Arts by the Spanish government.

The wall installation of *Hommage to the Elements* offers both scientists and nonscientists the opportunity to reflect on historical and philosophical aspects of chemistry. One obvious question many people pose when faced with it is, why do elements 100 (fermium) to 112 (copernicium) appear as empty gray boxes? These are the artificial elements for which emission spectra are as yet unknown, because these "atoms are brief, a game of inventiveness that lasts just long enough to deserve a name and vanishes," in the words of



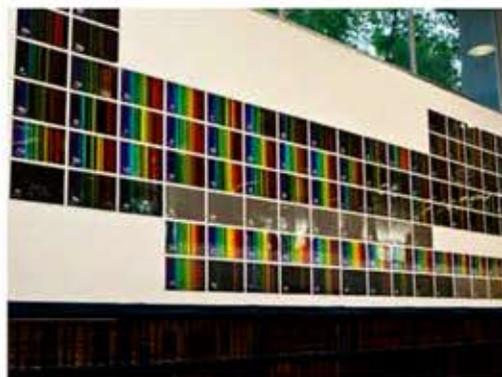
poet and physicist David Jou.

For chemists, this spectral periodic table invokes our ancestors, such as Bunsen, Kirchhoff, Seaborg, Mendeleev, Davy, Priestley, Lavoisier, Ramsay, Curie, and many others. Both chemists and nonchemists may recall the artists that taught us new ways of seeing color, such as Mark Rothko or Anish Kapoor, or those who theorized on light and color, such as Newton, Ostwald, Goethe, Delacroix, or Josef Albers. It may also make us think about writers such as Howard Phillips Lovecraft, who wrote about a mysterious substance: "when upon heating before the spectroscope it displayed shining bands unlike any known colors of the normal spectrum. There was much breathless talk of new elements, bizarre optical properties, and other things which puzzled men of science are wont to say when faced by the unknown."

Institutions interested in installing *Hommage to the Elements* should contact the workshop of Eugènia Balcells. More information on *Frequencies* and *Hommage to the Elements* can be found in <http://araa-horanow.blogspot.com>. To learn more about Eugènia Balcells and her work, visit www.eugeniabalcells.com. Copies of the poster can be ordered through the virtual bookstore of the Institut d'Estudis Catalans: <http://publicacions.iec.cat>.

Balcells' *Hommage to the Elements* is featured on the cover of this issue of *Chemistry International*.

Santiago Alvarez <santiago.alvarez@qj.ub.es> is a professor in the Department of Inorganic Chemistry at the University of Barcelona in Spain. This September, he co-chairs the 40th International Conference on Coordination Chemistry in Valka, 9–13 September 2012.



INTERNATIONAL UNION OF
PURE AND APPLIED CHEMISTRY

Science for Haiti ▶

Nanoparticle Toxicity Challenges ▶



Eugènia Balcells was born in Barcelona, where she later received a Diploma in Technical Architecture. The daughter and granddaughter of architects and inventors, her daily contact with all kinds of instruments and devices related to vision, optics and mathematics started her off on an apprenticeship in the fragile balance between the material and the intangible, the illusory and the exact.

She moved to New York in 1968 and completed her training at the University of Iowa, where she was awarded an M.A. in Art in 1971. She then alternated between Barcelona and New York until 1979, when she made the United States her fixed place of residence. Since 1988 she has once again divided her time between the two cities.

She started out on her artistic career in the mid seventies in the context of conceptual art, and was one of the pioneers of experimental cinema and audio-visual art in this country. Her first installations, films and videos that can be identified with the critical-sociological current, deal with themes relating to contemporary consumer society and the effects of the media on mass culture.

Towards the end of the seventies Eugènia Balcells began using the circle in some of her most important works, on the one hand as a physical description of the motion of a camera located in the center of the space, and on the other as a formal concept employed in the compositional structure of the installation. This strategy can be seen in the film FUGA [Escape] (1979), in the video INDIAN CIRCLE (winner of the Grand Prix at the 1ère Manifestation Internationale de Vidéo in Montbeliard, 1982) and the video installation FROM THE CENTER (awarded a prize at the Visual Studies Workshop, Rochester, NY, 1983).

Between 1981 and 1982, on the strength of a series of contacts with American musicians, notably Peter van Riper, and as a continuation of her exploration of the relations between sounds and images in her film 133 (1979), she produced a series of works entitled SOUND WORKS.

Her exploration of the limits of visual perception in two 1980s video installations — COLOR FIELDS, presented at the 1st National Video Festival at the Círculo de Bellas Artes in Madrid (1984), and TV WEAVE, presented at the Institute for Art and Urban Resources, P.S.1, New York (1985) — brought her to a new understanding of the electronic image. With this work (2006-2007) she took part in the exhibition *First Generation – Art and image in movement* organized by the Museo Nacional Centro de Arte Reina Sofía.

This show was articulated around the works and ideas of the first artists to use video in their work anywhere in the world.

Our confrontation as human beings with our own existence and the harmonies and dissonances in our interpersonal relations are the central themes of works such as *THEY REST AS IN THE MATERNAL HOME I and II*, *IN TRANSIT* and *SYNCHRONIES*, presented at the Museo Nacional Centro de Arte Reina Sofía in Madrid in 1995.

In the installation *PASSING THROUGH LIMITS*—part of the exhibition *SEEING THE LIGHT* at the Museu d'Art Contemporani de Barcelona (MACBA) in 1996— she addressed the interaction of the complementary functions of two hemispheres of the human brain. The six translucent screens permeated by images from two opposing projectors suggested a metaphor for the coexistence of intuitive and rational worlds.

Her work comprises a large number of audio-visual installations. At times she reflects explicitly on the light, one of the interests that runs through all of her researches as a creative artist and a teacher. Her most recent work for a public space is the illuminated garden *GARDEN OF LIGHT-COLLSEROLA* (2003), a permanent installation in the Ciutat Meridiana subway station in Barcelona.

Eugènia Balcells' interest in everyday objects—already evident in such early works as *SUPERMERCART*, *CLEAR BOOKS*—is the basis for her exploration of the human habitat by way of the objects found in each space and their symbolic and energetic presence. The exhibition *IN THE HEART OF THINGS* consists of five audio-visual installations that correspond to the essential spaces of a house—*LIVING ROOM*, *KITCHEN*, *DINING ROOM*, *BEDROOM* and *BATHROOM*—and was presented at Tinglado 2 in Tarragona in 1998.

Another work that uses everyday objects, *RODA DO TEMPO* [TIME WHEEL], is a reflection on time: the cyclical time of nature, the dialectic time of history, subjective time, imaginary time, the non-existence of time, the coexistence of all time. This installation was commissioned by the Centre Cultural Banco do Brasil in Rio de Janeiro in 2001.

In a number of her works Eugènia Balcells has engaged with the image and the role of women in culture and the need to pay tribute to the legacy of history (*CROSSING THROUGH LANGUAGES*, *PORTABLE ALBUM*), and she depicts woman in constant transformation immersed in the waves of the sea as a metaphor for life in *A SPACE OF ONE'S OWN* (2000). This homage to Virginia Woolf was commissioned by the Centre de Cultura Contemporània de Barcelona (CCCB) and explores the boundaries between the inner and exterior worlds.

By way of welcome to the new millennium she created *TOAST* (Invitation to Abundance) (1999-2000), presented at the Galeria Alter Ego in Barcelona and the Casa de las Américas in Madrid. This work invokes abundance, plenitude, happiness and festivity in a celebration of life that invites us to fill our glasses and toast our best wishes.

Her installation *ON AND ON* (2000)—a synthetic work that uses everyday objects and rhythmic sound to generate a new poetic experience of perception—recently formed part of the exhibition *The Discreet Charm of Technology - Arts in Spain* at the MEIAC museum in Badajoz and the ZKM Center for Art and Media in Karlsruhe,

Germany. This installation was also presented in 2009 at the Fontana d'Or in Girona.

Eugènia Balcells exhibition FREQUENCIES revolves around color as the element that distinguishes—at once enabling and delimiting—perception. In this work she sets out to create almost holographic images in which different planes coexist in order to represent reality as a tissue of frequencies. The poetic nature of the work is underpinned by the encounter between science and the arts, always so fragile and so potent. This project was presented in 2009 at Arts Santa Mònica in Barcelona and at the Museo de Arte Contemporáneo Gas Natural-Fenosa de la Coruña (MACUF) in 2010-2011. It is composed of four installations: FREQUENCIES, COLOR WHEEL, LABYRINTH and MARBLE and it culminates with the film RICE IS PLANTED WITH RICE, that documents the projects by schools and universities after visiting the exhibition.

In 2012 her exhibition LIGHT YEARS was presented at Tabacalera in Madrid. This exhibition is composed of two installations: UNIVERS and FREQUENCIES, a mural: HOMAGE TO THE ELEMENTS, a film GLIMPSE OF THE UNIVERSE and a space for documentation and activities.

This exhibition started the international itinerancy in Mexico in 2015, in the Centro Nacional de las Artes, in DF, and in Queretaro, in July 2017 was presented in Panamá and in 2018 in Barcelona's Science Museum, CosmoCaixa.

In recent years Eugènia Balcells has combined intense creative activity with teaching at a number of centers and universities. In her workshops she engages with light as creative essence,

integrating into her vision different forms of knowledge such as philosophy, literature, poetry and physics.

In February 2010, Eugenia Balcells was awarded by the King of Spain the Gold Medal to the Fine Arts Merit.

In 2010, her exhibition FREQUENCIES was awarded by the Generalitat de Catalunya the 2010 National Prize for the Visual Arts.

<http://www.eugeniabalcells.com>

araahoranow.blogspot.com.es

<http://www.universoeugeniabalcells.com>



EUGÈNIA BALCELLS FOUNDATION

Introduction

The Eugènia Balcells Foundation was set up in 2014 in New York, where the artist lived for over twenty years, and in September of that year its Barcelona branch was officially opened (Fundación Eugènia Balcells, FEB).

During these two years of working life, the Foundation has drawn up its list of patrons, including some of the individuals who have encouraged Eugènia Balcells' work since the early days:

John Berger, writer and art critic; Carlos Cavallé, emeritus Director General of IESE; Roald Hoffmann, Nobel Prizewinner for Chemistry in 1981; Federico Mayor Zaragoza, Director General of UNESCO from 1987 to 1999; S. Mohanambal, doctor of holistic and ayurvedic medicine; Phyllis Montgomery, Curator of the Ellis Island Immigration Museum in NY and Leopoldo Rodés, Chairman of the Board of the Fundación MACBA.

The FEB is now working on setting up a board to finance the production of new work and facilitate the organisation of the exhibitions already envisaged in the current work plan.

With the exhibition FREQUENCIES, shown at the Centre d'Art Santa Mònica (Santa Mònica Arts Centre) in Barcelona in 2009, Eugènia Balcells won the Premio Nacional de Artes Visuales (National Prize for Visual Arts) awarded by the Generalitat de Catalunya. This came a few months after she had been honored by H.M. the King with the gold Medalla al Mérito en las Bellas Artes (Medal of Merit in Fine Arts), 2009.

Since then, the project that began with FREQUENCIES has done nothing but grow. First, it led to LIGHT YEARS, an exhibition that follows in the very old artistic tradition of using the language of the arts to communicate an interpretation of the reality of any given moment in history to the general public.

This exhibition was presented in Tabacalera, Madrid in 2012 and traveled to the Centro Nacional de las Artes in Mexico City in May 2015 and in November of the same year was presented in Queretaro, Mexico. In July 2017 has been presented in Museo de Arte Contemporáneo (Museum of Contemporary Art) in Panama.

This long career of artistic research is now channeled in the following ongoing projects:

- The presentation of the exhibition project LIGHT YEARS in the Science Museum CosmoCaixa in Barcelona. For the first time this exhibition has been presented by a center dedicated to the history of science and the contemporary scientific research.
- The itinerancy of LIGHT YEARS continues at the Contemporary Art Museums of Bogotá-Colombia, Rosario-Argentina and in Japan.
- The exhibition REPRISE, bringing together three pieces of work, ATRAVESANDO LENGUAGES (ACROSS LANGUAGES), RE-PRISE and BOY MEETS GIRL, created by Eugènia Balcells in the 1970s, as part of a project organised by the Centre d'Art Santa Mònica in Barcelona in May 2017. The artist has found fresh ways to present these pieces for this show.
- Participation in the exhibition on the photo-novel at the Musée des Civilisations de l'Europe et de la Méditerranée (Museum of European and Mediterranean Civilisations) in Marseille from December 2017 to April 2018, with the piece FIN (END).
- The FEB is currently working on the presentation of the exhibition project LEGACY in the city of Barcelona. This is a large-scale exhibition that looks at the human knowledge contained in a large inherited library. Through a series of murals and multimedia installations Eugènia Balcells proposes a way to visualize the multiple layers of the comprehension of reality that have been compiled through human history.

For more details about the activities of the Foundation, see: <http://eugeniabalcellsfoundation.org>