Salvador Dalí and science, beyond mere curiosity

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What do Stephen Hawking, Ramon Llull, Albert Einstein, Sigmund Freud, "Cosmic Glue", Werner Heisenberg, Watson and Crick, Dennis Gabor and Erwin Schrödinger have in common? The answer is simple: Salvador Dalí, a genial artist, who evolved amidst a multitude of facets, a universal Catalan who remained firmly attached to his home region, the Empordà.

Salvador Dalí's relationship with science began during his adolescence, for Dalí began to read scientific articles at a very early age. The artist uses its vocabulary in situations which we might in principle classify as non-scientific. That passion, which lasted throughout his life, was a fruit of the historical times that fell to him to experience — among the most fertile in the history of science, with spectacular technological advances.

The painter's library clearly reflected that passion: it contains a hundred or so books (with notes and comments in the margins) on various scientific aspects: physics, quantum mechanics, the origins of life, evolution and mathematics, as well as the many science journals he subscribed to in order to keep up to date with all the science news.

Thanks to this, we can confidently assert that by following the work of Salvador Dalí we traverse an important period in 20th-century science, at least in relation to the scientific advances that particularly affected him. Among the painter's conceptual preferences his major interests lay in the world of mathematics and optics. In his last great work, the Dalí Theatre-Museum itself, the painter was to lend material form to many of those concerns. In that final period the writings of the physicist Stephen Hawking, along with the catastrophe theory of the mathematician René Thom, were to constitute his main interests. Alongside them, the figure of Ramon Llull, a medieval Catalan thinker who placed his faith in the tools of science and religion alongside knowledge, would be one of his chief points of reference throughout his life.

Formative period

"Sant Sebastià", one of the crucial youthful articles by Dalí, published in *L'Amic de les Arts* and dedicated to his friend Federico García Lorca, demonstrates his early interest in science. In it, Dalí described various pieces of apparatus for measuring the agony of the sensual martyred saint, such as a "heliometer for calculating the apparent distances between aesthetic values" and another for "distilling (his) coagulate".[1]

At that time, the artist was living at the Residencia de Estudiantes in Madrid, a centre whose mind-set advocated an ongoing dialogue between sciences and arts and acted as a place open to receiving the international vanguards. The Residencia was also a forum

[1] Dalí, S., "Sant Sebastià", *L'Amic de les Arts,* Sitges, year II, no. 16, 31 July 1927, p. 52-54.

for debating and disseminating the intellectual life of between-wars Europe, presented directly by its main figures. Through its salons there passed Albert Einstein, Paul Valéry, Marie Curie, Igor Stravinsky, John M. Keynes, Alexander Calder, Walter Gropius, Henri Bergson and Le Corbusier, among many others.[2] We cannot be sure that Dalí attended those talks, but we can state that he was interested in such matters. This is shown by a photograph of Federico García Lorca with the painter, who is holding a copy of the journal *Science and Invention* from 1927.[3]

We should note, too, that it was in this period that Sigmund Freud appeared in the intellectual panorama of the future artist. José Moreno Villa, a Residencia companion and fellow-painter, remembers Dalí "always buried in reading Freud".[4] It was then that Dalí discovered the father of psychoanalysis, as his work had been translated by the Biblioteca Nueva from 1922 onwards. We also know of the existence of a copy of *The Interpretation of Dreams* annotated by Dalí and thus showing a closely attentive reading of the work. Dalí also absorbed the content of journals such as *L'Esprit Nouveau and Revista de Occidente*, which carried articles about Freudian theories.

Surrealism

The decade of the 1930s was marked by an interest in double images and optical illusions, an obsession that was to remain with Dalí throughout his work. In 1929 he began to paint his first double image, *The Invisible Man*, 1929-32,[5] which was followed by *Invisible Sleeping Woman Horse Lion*, 1930,[6] and *The Image disappears*, ca 1938,[7] to cite some works from the 1930s.[8]

That time coincided with his joining the surrealist group, upon which he was to exercise a great influence. Founded by André Breton in 1924, surrealism was a movement of ideas, of artistic creation and action that propounded psychic automatism, an experience based on the world of dreams and of the subconscious, a world that we associate with Freud's psychoanalysis. Surrealism was also influenced by modern physics, developed over the preceding ten years and to become another key element in Dalí's painting and writing in the thirties.[9]

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[2] http://www.residencia.csic.es/pres/frame_hist.htm (consulted on 19 April 2010).
[3] http://www.fundacionac.es/cas/revista/articulo.jsp?idArticulo=85 (consulted on 2 September 2009).
[4] It would seem that Dalí read this book on various occasions, as he says in his autobiography *The Secret Life of Salvador Dalí,* 1942: "In that period I had begun to read *The Interpretation of Dreams,* by Sigmund Freud. The book struck me as one of the capital discoveries in my life, and I was overtaken by a real vice for self-interpretation, not only of dreams, but of all that happened to me, however casual it might have appeared at first sight".
[s] The Catalogue Raisonné of Salvador Dalí paintings can be consulted on http://www.salvador-dali.org/cataleg_raonat/. In this case, it is Catalogue Raisonné no. 237.
[6] Catalogue Raisonné no. 246
[7] Catalogue Raisonné no. 466
[8] Other examples are to be found in: *Paranoiac Face,* ca 1935 (Catalogue Raisonné no. 404); *The Great Paranoic,* 1936 (Catalogue Raisonné no. 435); *Swans Reflecting Elephants,* 1937 (Catalogue Raisonné no. 454); *The Image disappears,* 1938 (Catalogue Raisonné no. 466) and reaches its culmination in the most complete and complex work, *Endless Enigma,* ca 1938 (Catalogue Raisonné no. 464), in which the same painting can be seen in six different forms: *Mandolin, fruitbowl with pears and two figs on a table, Mythological beast, Face of the great one-eyed moron, Greyhound, Reclining philosopher* and *Cap de Creus beach with woman mending a sail seen from the back and boat.*
[9] One example is the text "The sanitary goat" included in the publication *The Visible Woman* from 1930, in which we can read: "Physics must form the new geometry of thought, and will be precisely the delirium of the paranoiac interpretation".

The surrealists submerged Dalí in the world of physics. The new reality proposed by the recent theory of relativity of Albert Einstein, followed by the theories of quantum physics, struck them as extraordinary. The new science held up a world in which determinism did not exist, in which particles could be found in two places at the same time, in which the identity of objects was created in the very act of observation. These concepts are difficult to understand, though they do lend themselves to the imagination. They are ideas so stimulating as to become a recurring theme at the laboratory of surrealist creation and, therefore, of its experimental creations.[10] According to Gavin Parkinson: "Dalí was fascinated by the theory of relativity because it offered the idea that reality could not be reduced to a single flow".[11]

Endless Enigma, ca 1938.

The world of dreams

As already noted, Sigmund Freud was one of the painter's cultural reference-points. His theories were already emerging during the artist's formative period, so Dalí was already familiar with the interpretations and symbology propounded by Freud and he incorporated them into his iconography. On the basis of interpreting his own consciousness, Dalí captured in his paintings themes such as the Oedipus complex, incestuous desires, perversion, birth trauma, the death instinct, and so forth. At first, the work of the Viennese doctor served to help him find the solution to the conflicts that were beginning to obsess him and which he would use to get to know himself; it later became the source of inspiration of the works that would open up to him the doors of the surrealist movement.

Thanks to the collaboration of the painter's benefactor and friend, Edward James, and the writer Stefan Zweig, Dalí visited Sigmund Freud in London on 19 July 1938. The three men all attended that visit and, while James and Freud conversed, Dalí drew a series of portraits of the neurologist, in which he compared his cranium to a snail. James took with him the last work that he had acquired from Dalí, *Metamorphosis of Narcissus* (1937),[12] which gave rise to a sharp and harsh observation from Freud: "... in the painting of the old

[10] López, M., "La obsesión de Salvador Dalí por la ciencia", *História, Ciências*, *Saúde - Manguinhos*, Rio de Janeiro, v. 13 (supplement), October 2006, p. 127.
[11] Gavin Parkinson, art historian at the University of Oxford. In op. cit, p. 127.
[12] Catalogue Raisonné no. 455

masters the tendency is to immediately seek out the unconscious, whereas in the surrealist paintings what is immediately sought is the conscious."[13]

The paranoiac-critical analysis method developed by the painter over these years was largely owed to the father of psychoanalysis. On the basis of the concept of paranoia,[14] Dalí developed his method consisting in a conscious extraction of elements that make up the inner world of the paranoiac. Dalí lends it material form through the double image, creates a representation which, without transforming its outer appearance, forms a second image, so that viewers looking at them can discern both of them. The supreme application of the paranoiac-critical method thus offers us objects that turn into other objects, or images which when observed anew become another image.

Dalí develops the theme of double images or "invisible images" in his article "Total Camouflage for Total War", published in *Esquire* magazine in August 1942.[15] In it he says the following: "The discovery of 'invisible images' certainly lies within my destiny. At the age of six years, I amazed my parents and their friends by my gift, very much of the sort that mediums have, of 'seeing things in another way'. I have always seen what others do not see; and what they did see, I could not (...) I had a paranoiac spirit. Paranoia is defined as a systematic illusion of interpretation. This systematic illusion constitutes, in a more or less morbid state, the basis of the artistic phenomenon in general, and of my magical genius for transforming reality in particular".[16]

The Atomic Bomb and the Mystical Manifesto

Between 1940 and 1948, Dalí lived uninterruptedly in the United States. Those were the years of testing of the atomic bomb that was finally dropped on the Japanese cities of Hiroshima and Nagasaki. Dalí was not unaware of all that. The testing of the nuclear weapons made a deep impression on him. A few years later he reminded the writer André Parinaud of it, saying to him: "The atomic explosion of 6 August 1945 seismically struck me. Since that time, the atom has become my favourite subject of reflection. Many of the landscapes painted over this period express the great fear I felt at the news of that explosion. I was applying my paranoiac-critical method to the exploration of that world. I want to see and understand the power and hidden laws of things so as to gain control over them. In order to penetrate into the marrow of reality I have the genial intuition of having an extraordinary weapon available to me — mysticism, the deep intuition of what is, an immediate communion with the whole, absolute vision through the grace of truth, by divine grace".[17]

Thus began the nuclear or atomic period in the work of Salvador Dalí, from which would

[13] Letter from Salvador Dalí to André Breton dated 2 January 1939. Jacques Doucet Collection, París.
[14] Psychiatric illness characterised by the presentation of delirious ideas that cannot be dispelled by logical argument and that appear as a consequence of a constitutional predisposition related with the experiences of the subject suffering from it.
[15] Dalí, S., "Total Camouflage for Total War", *Esquire,* New York, vol. 18, no. 2, August 1942, pp. 64-66 and 129-130.
[16] In Dalí, S., *Complete Works,* vol. 4, Barcelona; [Figueres]; [Madrid]: Destino; Fundació Gala-Salvador Dalí; Sociedad Estatal de Conmemoraciones Culturales, 2006, pp. 496-507.
[17] Dalí, S.; Parinaud, A., *Unconfessable Confessions,* 1973. In: Dalí, S., *Complete Works,* vol. 2, Barcelona; [Figueres]; [Madrid]: Destino; Fundació Gala-Salvador Dalí; Sociedad Estatal de Conmemoraciones Culturales, 2003, p. 603.

come works such as *Uranium and Atomica Melancholica Idyll*, 1945[18]; *Intra-Atomic Equilibrium of a Swan's Feather*, 1947[19]; *Dematerialization Near the Nose of Nero*, 1947[20], and *The Three Sphinxes of Bikini*, 1947[21].

Preparatory drawing for *Leda Atomica,* 1947.

At the end of that decade, the artist devoted himself almost exclusively to studying the Fra Luca Pacioli's work, *De Divina Proportione*. A fruit of his investigations in this field was the oil painting *Leda Atomica* (1947-1949)[22]. The work called for a lot of mathematical elaboration, to which he devoted many hours of analysis and study, as well as having assistance from the Romanian mathematician Matila Ghyka. This is demonstrated by the preparatory drawings and letters exchanged between the mathematician and the painter kept in the archives of the Centre for Dalinian Studies of the Fundació Gala-Salvador Dalí. Another work for which mathematical elaboration was of great importance is *Hypercubic Christ* or *Crucifixion* from 1954[23].

At the start of the 1950s, Dalí's painting once more took a new turn, this time related with the scientific advances of the time, and particularly in connection with nuclear fission and fusion. Dalí announced this in a talk he gave in 1950 under the title "Why I was sacrilegious, why I am mystical",[24] in which he outlined his evolution up to his incorporation into the Spanish mystic tradition formed by Zurbarán, San Juan de la Cruz and others, auguring a rebirth of European religious painting.

[18] Catalogue Raisonné no. 606
[19] Catalogue Raisonné no. 627
[20] Catalogue Raisonné no. 626
[21] Catalogue Raisonné no. 629
[22] Catalogue Raisonné no. 641 & 642
[23] Catalogue Raisonné no. 681
[24] Talk given at the Ateneu Barcelonès, Barcelona on 19 October 1950.

The Madonna of Portlligat (first version), 1949.

That epoch was characterised by its handling of religious themes from the standpoint of the scientific advances of the time. He set out the theoretical corpus of the period in a text entitled *Mystical Manifesto*[25] and its first fruits can be seen in the exhibition held at the Carstairs Gallery in New York[26] which shows alongside each other the two versions of the painting *The Madonna of Portlligat* (1949 and 1950)[27]. In the catalogue for that exhibition, introduced by a quote from the mathematician Matila Ghyka, Dalí explains that, as he had promised in the last pages of his *Secret Life*, he would apply the surrealist experiences that occurred throughout his life to the classical tradition in painting.

Later, in June 1952, the painter published the article "Reconstitution of the glorious body in the sky"[28] in the Catholic thought magazine *Études Carmelitains.* Dalí announced there that the Assumption of the Virgin Mary would be possible on the basis of constitution of the Dalinian mysticism, a mysticism which unashamedly mixed itself in with the postulates of atomic physics: "Wishing, as the Russians counsel, to paint a great historical theme of our epoch, I consider as most important of all the recent proclamations by the Pope concerning the dogma of the Assumption of the Virgin. I could only approach this work based on the 'constitution' of my 'nuclear mysticism', for the time being the only one capable of providing my imagination access to a new cosmogony that integrates into metaphysics the general principles of the unparalleled progress of our time in the sciences. Thus it is that in the course of my last four months in the United States, and as a consequence of my scientific studies and my exhausting (though enjoyable to the point of paroxysm) 'mystical fantasies', I have managed to imagine visually the main elements that make up modern physics,

[25].Robert J. Godet, Paris, 1951.
[26] Exhibition held from 27 November 1950 to 10 January 1951.
[27] Catalogue Raisonné no. 643 & 660

revealing their shapes and particular structural features with a precision unprecedented in my realistic work. Thus it was that, one after another — and in the same way as Fra Luca Pacioli and Leonardo did in their transcendent Pythagorism, with the solid or hollow bodies derived from the five Platonic solids — Dalí, for the first time in the world, has just drawn an *electron*, a *proton*, a *meson*, a *pi meson*, and even the soft structure par excellence (of that ultra-new 'cosmic tail' that I often speak of in a nearly obsessive way), long before professor Fermi had come to use it in the strictest scientific terminology".[29] Mysticism and science thus appeared to be indissolubly linked.[30]

DNA and immortality

Thus far we have seen how Dalí's artistic trajectory cannot be understood in isolation from his interest in science. But in the period between 1962 and 1978 his work was most influenced by the staggering impact made on him by genetics, DNA and its structure and, later still, holography.

At the end of 1963 the painter presented at the Knoedler Gallery in New York an exhibition whose key work was entitled *GALACIDALACIDESOXIRIBUNUCLEIC-ACID (Hommage to Crick and Watson)*[31]. The cover of the catalogue was devoted to the two researchers, reproducing a fragment of the DNA molecule. Using balls that represented the nucleotides, Dalí brought out Arabs with guns, a motif we find in the aforesaid work, along with two press cuttings with photographs of the two scientists[32].

The list of works was accompanied by an article by the painter. In relation to the work we have just mentioned, Dalí said: "At a time when the titles of pictures are rather short (i. e. 'Painting No. 1' or 'White on White') I call my Hommage to Crick and Watson: GALACIDALACIDESOXIRIBUNUCLEICACID. It is my longest title in one word. But the theme is even longer: long as the genetical persistence of human memory. As announced by the prophet Isaiah—the Saviour contained in God's head from which one sees for the first time in the iconographic history his arms repeating the molecular structures of Crick and Watson and lifting Christ's dead body so as to resuscitate him in heaven".

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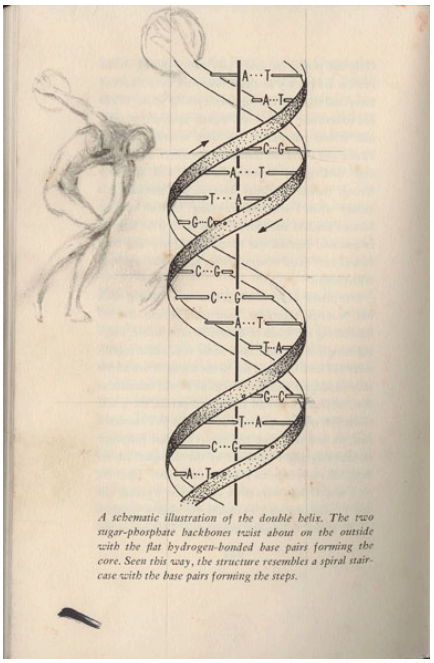
[28] "Reconstitution du corps glorieux dans le ciel", written in 1952, it was included in the special issue of the magazine entitled "Magie des extrêmes", in which there were collaborations from, among others, the French Carmelite J. M. Bruno, Director of the publication.

[29] In Dalí, S., *Complete Works,* vol. 4, Barcelona; [Figueres]; [Madrid]: Destino; Fundació Gala-Salvador Dalí; Sociedad Estatal de Conmemoraciones Culturales, 2006, pp. 657-658.

[30] Other works from this period are *Lapis Lazuline Corpuscular Assumpta,* 1952 (Catalogue Raisonné no. 670) ; *Galatea of the Spheres,* 1952 (Catalogue Raisonné no. 672); *Hypercubic Christ,* 1954 (Catalogue Raisonné no. 681); *Portrait of Gala with Rhinocernotic Symptoms,* 1954 (Catalogue Raisonné no. 680); *Saint Surrounded by Three Pi Mesons,* 1956 (Catalogue Raisonné no. 716); *Fast-moving Still Life, ca.* 1956 (Catalogue Raisonné no. 708), etc.

[31] Catalogue Raisonné no. 797

[32] Watson and Crick received the Nobel Prize for Physiology and Medicine in 1962 for their discoveries about the molecular structure of the nucleic acids. They developed the theory of genetic mutation based on the ordering of the pairs of specific bases within the DNA chain. En 1961 they discovered that the grouping of the bases in triplets provided only 64 of the possible combinations between the 20 fundemental aminoacids that make up living substances.



Page from the book by James D. Watson, *The Double Helix* (Atheneum, New York, 1968), which contains autographical annotations and drawings by Salvador Dalí.

For Dalí the function of that molecule was very clear: it is what lends us immortality. In the essay *The Tragic Myth of the Millet's "Angelus"*, published in 1963, the painter explains: "Moral law must be of divine order, for even before it was set down on Moses' tablets it was contained in the codes of the genetic spirals".[33] This direct reference to DNA related that molecule with immortal life. Later, in his article "The immortality of genetic imperialism" Dalí referred us to science in order to explain immortal life once more, saying: "it (immortal life) is contained in deoxyribonucleic acid — nothing is more monarchical that a molecule of DNA". According to Dalí, God's laws were those of inheritance contained in deoxyribonucleic acid, and ribonucleic acid, RNA, was simply the messenger entrusted with transmitting the genetic code: "On Jacob's ladder, each step is a DNA landing, and the angels going up and down are the RNA".[34]

Dalí was naturally not satisfied with being able to express those ideas through his theoretical writings or in his artistic work. That is why, whenever he got the chance, he liked to have them appear in his declarations to the media, in which he would repeat the word "deoxyribonucleic acid" tirelessly, leaving his interlocutors dumbfounded.

The third dimension

Dalí's interest in holography and three-dimensional art began in 1965. At the end of the 1960s, he continued his exploration in that field and into the pictorial work of Gerard Dou, in whose canvases he finds images in relief, i.e. stereoscopic images. Dalí sought to represent

[33] Dalí, S., *The Tragic Myth of the Millet's "Angelus",* 1963. In Dalí, S., *Complete Works,* vol. 5, Barcelona; [Figueres]; [Madrid]: Destino; Fundació Gala-Salvador Dalí; Sociedad Estatal de Conmemoraciones Culturales, 2005, p. 407.
[34] In Dalí, S., *Complete Works,* vol. 4, Barcelona; [Figueres]; [Madrid]: Destino; Fundació Gala-Salvador Dalí; Sociedad Estatal de Conmemoraciones Culturales, 2006, p. 833.

at one and the same time the external and internal reality of the viewer through different methods: double images, stereoscopy, holography or by seeking out the fourth dimension, following the advances of science. It may be that such representations did not coincide with the viewers' actual vision, but they did induce in them a number of mental associations that could end up submerging them in the discourse of the painter.

Gala's Foot. Stereoscopic work in two elements, ca 1975-76.

From 1970, Dalí began to work with Fresnel lenses in order to elaborate stereoscopic images. In 1971, on the basis of awarding of the Nobel Prize to Dennis Gabor for his work on the laser, the artist began to take an interest in holography and in 1972 staged an exhibition of holograms at the Knoedler Gallery in New York. There he presented the hologram *Holos! Holos! Velázquez! Gabor!* (a hologram also presented at the Theatre-Museum).

From the decade of the 1970s we may also stress the following stereoscopic works: *Dalí from the Back Painting Gala from the Back Eternalized by Six Virtual Corneas Provisionally Reflected in Six Real Mirrors*, 1972-73; *Dalí Lifting the Skin of the Mediterranean Sea to Show Gala the Birth of Venus*, 1977; *Dali's Hand Drawing Back the Golden Fleece in the Form of a Cloud to Show Gala the Dawn, Completely Nude, Very, Very Far Away Behind the Sun (Homage to Claude Lorrain)*, 1977. Also *The Harmony of the Spheres* (stereoscopic work in a single element) and *Searching for the Fourth Dimension*, both from 1979.

Determinism and freedom

From the 1980s and through to the end of his life, Dalí focused his attention on the catastrophe theory of René Thom. This is shown by his works *Treatise of Catastropheiform Writing*, 1982 (29 handwritten pages); *Topological Abduction of Europe. Homage to René Thom*, 1983, and *Untitled. "Queue d'aronde" and Cellos (Catastrophes Series)* dating from the same year.

We will end this overview with the symposium under the title "Culture and science: determinism and freedom", organised in 1985 under the dome of the Dalí Theatre-Museum by the Physics Faculty of the Universitat de Barcelona. The symposium focused on six papers on the role of chance in science, given by specialists in the fields of physics,

mathematics, astrophysics and chemistry. The discussion sessions, preceded by the talks, were directed by Jorge Wagensberg, the current Director of the Museu de la Ciència in Barcelona.

Dalí followed the sessions attentively, using video equipment set up in his bedroom at Torre Galatea. Luis Racionero, who followed the talks, wrote in the *Avui* daily newspaper: "Dalí recommended to Thom and Prigogine that they make peace between them, thereby showing that he had followed the debates attentively ..."[35]

The Dalí Theatre-Museum

Dalí liked to interpret the world from a localist perspective, based on the triangle formed by Figueres, Púbol and Portlligat. His Theatre-Museum has to be understood as a compendium of his life and work, and is for that reason a good place to gain an overview of Dalinian scientific obsessions.

Right on the balcony at the entrance to the Theatre-Museum, we find a dummy dressed as a diver. It commemorates the talk given by Dalí in 1936, at the International Exhibition of Surrealism held in London. It symbolises the immersion in the depths of the unconscious that Dalí proposed, when he chose to give the talk thus dressed. We find ourselves once again faced with Freudian theories.

The geodesic dome, which has become an emblem of the city, is the symbol of that vision which is at once reductionist and holistic, something absurd and impossible, yet real. Dalí's dome looks at the firmament over 360 degrees, like a fly's eye.

The subtle interplay between Dalinian art and physics stands out even in oil paintings apparently far-removed from the subject. That is the case of *Explosion of Mystical Faith in the Midst of a Cathedral* (1974), in which we are witnesses to a hallucination, although if we look more closely we discover the continuous presence of massive bodies, like stars, and will at the same time note the existence of tiny discontinuous cores of energy, like the quarks within atoms.[36]

His obsession for technological contrivances led him to create pieces of jewellery. He also designed installations such as *Cybernetic Princess* (1974), a reproduction of the jade mummy that was found in the custody of the fabulous terracotta army found at the archaeological site of Ling-Tuong in 1968. In making it, Dalí used printed circuits, metallised and coloured, seeking to evoke in the viewer the emblematic value of each material, in accordance with its time in history.

Many of the stereoscopic works and holograms already cited are also to be found at the Theatre-Museum alongside many surprises in the form of mechanical contrivances and optical illusions, hidden in the showcases which visitors-viewers find along the way.

[26] In Dalí, S., *Complete Works*, vol. 4, Barcelona; [Figueres]; [Madrid]: Destino; Fundació Gala-Salvador Dalí; Sociedad Estatal de Conmemoraciones Culturales, 2006, p. 833.
[27] Racionero, Ll., "Ciència al Museu Dalí", *Avui,* 6 November 1985.
[36] Chimal, C, "Dalí, Ciencia y Poesía", *Letras Libres,* July 2004. (http://www. Letraslibres.com/ index.php?art=9771, consulted on 6 April 2009).

The overall importance that science always had in the work of the artist is thus clear. It was an interest that arose just when the scientific world was beginning to specialise. Dalí, faithful to his discordant spirit, advocated a very different stance: he opted for the unity of scientific knowledge. We can find it in a speech entitled "Gala, Velázquez and the Golden Fleece", which he gave on becoming a foreign associate member of the Académie des Beaux-Arts of the Institut de France. In his speech, Dalí spoke of DNA, Heisenberg, Descartes and René Thom. When asked by a journalist from *Le Figaro*, "Why so much interest in science?" Dalí replied: "Because artists scarcely interest me. I believe that artists should have scientific notions, so as to walk on different terrain, which is that of unity".