

Ciència magazine, second period (1980–1991): Recovering normality for the Catalan scientific language

Montserrat Vallmitjana

Societat Catalana de Biologia, Barcelona, Catalonia

Correspondence:

M. Vallmitjana
C/ Rosselló 157
08036 Barcelona, Catalonia
Email: montseval@gmail.com

Summary. *Ciència. Revista catalana de ciència i tecnologia* (1926–1933) was the first science magazine written in Catalan. A second science magazine, which bore the same name and was essentially a continuation of the first, was launched in 1980. It was founded by Joan Senent-Josa and Francesc Solé Plana and was published from July 1980 until March 1991, with a two-year hiatus prior to its end. It was a Catalan-rooted magazine but also highly universal in its approach, reflecting the prestigious Catalan and foreign scientists who published articles in it. The magazine contained scholarly papers, interviews, and even short stories, among its other sections. At its peak it had a monthly circulation of 8000. Publication ceased due to financial constraints.

Keywords. popular science magazine · science · research · Catalan · culture

Resum. La primera revista científica de divulgació escrita en català va ser *Ciència. Revista catalana de ciència i tecnologia* (1926-1933). L'any 1980 va aparèixer una segona revista científica en català que es va dir com la primera, de la qual podem considerar una segona etapa. Fou fundada per Joan Senent-Josa i Francesc Solé Plana i va existir des de juliol de 1981 al març de 1991, però amb una aturada de dos anys abans del final definitiu. Va ser una revista molt catalana però també molt universal i d'un nivell molt elevat per la categoria dels científics catalans i estrangers que hi van col·laborar. Comptava amb articles científics, entrevistes i moltes seccions fixes. En els seus millors moments la seva tirada era de 8.000 exemplars mensuals. Es va deixar de publicar per motius econòmics.

Paraules clau. revista de divulgació científica · ciència · recerca · català · cultura

Background

In Catalonia, the 20th century was marked by continuous workers' conflicts and the restoring of political autonomy after its abolishment in 1714. The Setmana Tràgica (The Tragic Week), the Mancomunitat de Catalunya (Commonwealth of Catalonia), Primo de Rivera's dictatorship (1923–1930), the Second Spanish Republic (1931–1939), the Spanish Civil War (1936–1939), Franco's dictatorship (1939–1975), the Transition (1975–1982), and Jordi Pujol's government (1980–2003) were the different historical periods in which the Catalan language was either prohibited or promoted.

Beginning in the second half of the 19th century, several science magazines contained articles in Catalan [4]. However, *Ciència. Revista catalana de ciència i tecnologia* (Science.

Catalan magazine of science and technology) was the first truly modern, popular, and interdisciplinary scientific magazine written in Catalan [1]. It was first published in February 1926, and its last issue appeared in February 1933. Although at that time many Catalan magazines and newspapers, there were no such science publications, apart from medical journals. The first Catalan science magazine, *Ciència*, included in its 48 pages articles from the various fields of science and technology as well as more journalistic items such as feature stories, essays, brief articles, and simple notes. It also published a few monographic issues. The appointed editor was Ramon Peypoch (1898–1984) and the magazine came out monthly, although only 53 rather than the anticipated 73 issues were published during the magazine's seven years of existence [5].

Ciència debuted during Primo de Rivera's dictatorship, a time when the Catalan language was strongly persecuted. As was the case with other magazines from that era, the mere publication of *Ciència* was a sign of resistance against the prevailing cultural oppression. Despite the intense commitment to the magazine by its publishers, *Ciència* disappeared during the Spanish Second Republic. Many years later, Ramon Peypoch explained the reasons for the closure of the first magazine to Antoni Roca, editor-in-chief of *Ciència*'s second incarnation. In 1934, after the insurrection of the Autonomous Government of Catalonia against the Spanish Central Government, and in defense of the exercise of autonomy—events recorded in history as the *Fets del 6 d'octubre* (Events of 6 October)—Ramon Peypoch left *Ciència* to take charge of another publication. He was a leading member of the political party *Acció Catalana*, which published the newspaper called *La Publicitat*.

Following the events of 6 October, this newspaper was also closed down and did not publish new issues until 1 January 1935. The weekly newspaper *La Publicitat* was temporarily replaced by *Mirador*, which was issued daily and included a weekly supplement that served as its magazine. Ramon Peypoch took over the newspaper and was its account manager from 1935 onwards. Although the last issue of *Ciència* corresponded to 1933, it was probably released in 1934.

Almost 50 years later, when the war and post-war periods were over, a small group of enthusiastic individuals led by Joan Senent-Josa embarked on the venture of starting the second-ever science magazine written in Catalan [2]. It was named after the first one, *Ciència. Revista catalana de ciència i tecnologia*, but this time around the word “science” was put in parentheses: (*Ciència*).

The second *Ciència* magazine

The second magazine was created based on Joan Senent-Josa's wish to issue a scientific periodical in Catalan. This wish would have remained exactly that if it had not been for the drive and determination of Joan Senent-Josa and the financial support of several individuals, especially Francesc Solé.

The eventual format of *Ciència* was initially drafted by a group of young university professionals, myself included. Our group of biologists, chemists, physicists, and physicians gathered as a “research committee” that from late 1974 until 1978 met at the Col·legi Oficial de Llicenciats en Filosofia i Lletres i en Ciències de Catalunya (Official Association of Doctors and Graduates in Humanities and Sciences of Catalonia). We took part in the first Congress of Catalan Culture (1975–1977) and, among many other ventures, wrote manifestos in opposition to the waste disposal site to be built at El Garraf and the project of land recovery and subsequent housing construction on the Alfacs peninsula, at the Ebro Delta.

[http://www.ub.edu/cres/catala/recursos_i_bbdd/man/manifest_2.pdf].

The idea of embarking on a further endeavor in the form of *Ciència* magazine felt very appropriate at the time, especially considering that some of the leading figures in science and technology were from Catalonia. It was not surprising that many Catalan intellectuals and scientists had endorsed the manifesto “El català, idioma científic” (The Catalan language, a scientific language), which had been approved at the Catalan Summer University of Prada de Conflent (UCE, Universitat Catalana d'Estiu) in 1973 [6], an eight-day summer event held in Prada de Conflent, in Northern Catalonia (nowadays the region belongs to France). It consists of short courses, lectures, debates, workshops, exhibitions, film showings, etc., related to Catalan culture and provides a meeting point for students, lecturers, professionals, politicians, and other participants from the various Catalan-speaking territories. One of the paragraphs of the manifesto “El català, idioma científic”, which we fully endorsed at the new start of *Ciència*, read “If a language has to live to the full, then exclusive literary cultivation does not suffice: the language must be strengthened through the development of scientific and technical terminology, and be in keeping with the vigorous, dynamic nature of science. Only by going down this path can a language achieve its coming of age.” [8]

With the endorsement of Ramon Peypoch, the name *Ciència* was chosen as a tribute to the first *Ciència* magazine and also to continue from where the latter had left off. The editor during this second endeavor was the biologist Joan Senent-Josa, with the physicist Antoni Roca appointed editor-in-chief in 1980 [7]. An Editorial Board was established, made up of Francesc Solé (physicist), Adolf Tobeña and Eduard Rodríguez (both physicians), Rafel Aracil (historian), Eduard Averbuj (chemical engineer), Manuel Bermudo (philosopher), Eduard Bonet (engineer), Joan Prat (anthropologist), Ramón Carbó (chemist), and Josep M. Camarasa, Montserrat Ponsà, and, myself, Montserrat Vallmitjana (biologists).

The magazine had representatives at different places around the Catalan-speaking territories (Girona, Andorra, and València) as well as correspondents abroad. These were, in the beginning, Salvador Giner, in London; Pere Puigdomènech, in Berlin; Antoni Lloret, in Paris; and Françoise Breton and Xavier Parés, in Boston. Alfonso García Pérez was the correspondent appointed in Madrid. An Advisory Board made up of leading Catalan scientists was also established. It included Joan Oró (1923–2004), Ramon Margalef (1919–2004), Salvador Giner, and Josep Ferrater Mora (1912–1991). The engineer and lexicographer Lluís Marquet i Ferigle (1937–2011) was appointed language adviser of the magazine; Francesc Solé and a few individuals who participated in privately funding the magazine were appointed members of the Editorial Board.



Fig. 1. *Ciència* magazine covers from the 1980s.

The highly original and groundbreaking graphic design of *Ciència*'s logo, layout, and cover design included the name 'ciència' in lower case and in parentheses. It was the work of Enric Satué, a young renowned graphic designer who worked for the magazine for very little money (Fig. 1). It was his suggestion to put the name of the magazine in parentheses. He also suggested some of the titles of the different sections of the magazine. The world-famous Catalan artist Antoni Tàpies provided a drawing made especially for the magazine, marking the start of its interest in collecting artwork.

The first issue of *Ciència* was finished on 18 April 1980 and finally appeared on 3 July. At the presentation, Joan Oró highlighted the role of the magazine as a springboard for Catalan scientists. The 8000 copies that had been printed sold out in a few months, and about 1000 subscriptions were secured within a very short time.

What was *Ciència* like?

The magazine had two editorial columns written by Joan Senent-Josa. One had a more general approach and addressed issues such as scientific policies, Catalan as a scientific language, and other topics of general interest. The other editorial focused mainly on the articles published in each particular issue. Every issue included a monographic section made up of two or three articles on a single topic; there were also additional articles on other subjects and an interview with a leading Catalan or foreign scientist or, from time to time, notable individuals from the arts. The magazine also contained many regular features. Thus, in the first issue there was a report on energy. Among the

many articles written for the first issue of the magazine, one by Ramon Margalef, "Cap a una teoria de la biosfera" (Towards a theory of the biosphere) stood out. The interview in this first issue was with Joan Oró, Catalan biochemist who worked in the United States and had collaborated with NASA.

Ciència's regularly appearing sections were the following: (a) Agenda, which announced events such as congresses, lectures, exhibitions, or open calls; (b) Els mots (Words), with an article by Josep M. Camarasa in the first issue titled "Darwin i la lexicografia científica catalana de la renaixença" (Darwin and scientific lexicography in Catalan during the Renaissance); (c) El mussol (The owl), with the debut article "Félix Rodríguez de la Fuente, in memoriam" [Rodríguez de la Fuente, who had passed away recently, was a very popular scientific communicator]; (d) Bibliografia científica (Scientific references), with reviews of books on language, anthropology, cookery, and wine, written or translated into Catalan in the 1980s, for example "Els vins de Catalunya" (Wines from Catalonia); (e) Tast i flaire (Taste and smell), with "Un cop d'ull al llibre de Coch" (A look at Coch's book) in the first issue, by Dolors Llopart; (f) *L'Opinió* (Opinion) consisting of letters to the editor, which in the first issue included letters of endorsement of the joint project from the Generalitat de Catalunya (the Autonomous Catalan Government) and the Institut d'Estudis Catalans (IEC; Institute for Catalan Studies); (g) Ficció (Fiction), which consisted of a science fiction short story, with the first one a story by Jaume Freixa: "Memòries d'una rata de Skinner" (Memories of one of Skinner's rats); (h) La Ciència a l'escola (Science in school); and (i) Jocs i entreteniments matemàtics (Games and mathematical pastimes).

These sections, however, varied over time. Some disappeared and new ones were created, such as *La ciència en la història* (Science in history) or *El fil d'Ariadna* (Ariadne's thread). The October 1980 issue, the third one, contained a monographic section entitled "Einstein entre nosaltres" (Einstein among us); the editorial, "Ara, transferir la recerca" (Now, let's transfer research), which focused on the need to transfer responsibility for research in Catalonia from the Spanish Government to the Catalan Government, which at the time had yet to occur. The interview was with Joaquim Moles (a prominent figure in literature and the arts), and the Catalan writer and poet Josep Elies (1941–1982) wrote the science fiction short story.

Soon after that, the magazine launched a series of manifestos and declarations, such as "Recerca i autonomia, declaració dels científics catalans" (Research and autonomy, a declaration by Catalan scientists), which appeared on page 5 of the fourth issue (November, 1980) and was endorsed by several well-known individuals. Other declarations and manifestos were published later, for example, an antinuclear declaration (December, 1981).

Ciència provided a platform for Catalan scientists to promote their work in their own language. It allowed the dissemination of research carried out in Catalonia, discussion of current hot issues, and the publication of contributions from Catalan and foreign scientists. There were also analyses of historical texts by, for example, Einstein, Watson and Crick, and Durand Reynals, in which their continuing validity was demonstrated. At the same time, the magazine was a powerful tool in establishing linguistic and cultural normalization. It was available to everyone with an interest in culture, and not just to those who were scientists.

The income of the magazine came from different sources. There was advertising, although it was scarce. Among the first advertisers were the publishing house Blume, the savings bank Caixa de Barcelona, and the firm Hoechst Ibérica. They were later joined by Nenuco (a firm managed by Miquel Horta) and IBM, among others. However, the main resources came from an agreement with the Catalan Government: 1000 copies of each publication were purchased at a reduced price and handed out in primary and secondary schools, universities, and libraries. This, together with subscriptions and direct sales at newsstands, allowed the magazine a circulation that at its peak reached 6000–8000 copies, according to Francesc Solé.

Four top-quality issues came out between 3 July 1980 and 4 November 1980, followed by a publishing hiatus that lasted until June 1981. Indeed, the financial situation of the magazine was catastrophic. More money had to be put forward and a series of changes occurred: Ricard Moles stepped down as member of the Editorial Board and two new members joined.

The good times

Francesc Solé undertook the task of re-launching the magazine. With its renewed financing *Ciència* recovered and was published on a regular basis between 1982 and 1984, the magazine's best years. It contained articles of great interest by renowned Catalan professors. Thus, apart from the aforementioned Ramon Margalef (ecology), Antoni Prevosti (genetics, 1919–2011), Joan Oró (biochemistry), Jordi Sabater Pi (primatology, 1922–2009), Antoni Lloret (physics), Claudi Esteva (anthropology), and many others contributed high-quality articles. Foreign scientists also published in the magazine, including the paleoanthropologist Richard Leakey and the astrophysicist Carl Sagan (1934–1996).

Interviews also played a major role in *Ciència*. For example, 1982 was the Year of Darwin: it marked the centenary of the death of the British naturalist and the magazine included interviews with several leading evolutionary biologists, that were not published until October 1983. One of the interviewees on that occasion was Lynn Margulis (1937–2011). At the time, she was not well known in Spain, but she would later become very popular as the winner of many awards for her endosymbiosis theory. Shortly after that, Margulis started cooperating with the Department of Microbiology at the Autonomous University of Barcelona, in Bellaterra, especially with its chairperson Ricard Guerrero, who was her partner since then until her death in 2011. A section included science fiction with short stories by Joan Brossa (1919–1998) and Pere Calders (1912–1994), among other writers.

Issues 5 and 6 were published jointly and noted the establishment of the Interdepartmental Research and Technological Innovation Commission (CIRIT). CIRIT was a public body created in 1980 by the Generalitat de Catalunya with the purpose of coordinating the different activities and projects of the departments (ministries) of the Catalan Government in the fields of scientific research and technological innovation in Catalonia. A second aim was to devise a proposal for Catalonia's Research and Technological Innovation Plan [Act 217/1980, 5 November, published in the Official Gazette of the Catalan Government, 12 November 1980, number 93, p. 1440]. The first appointed vice-president was Gabriel Ferraté i Pascual. Following its establishment, CIRIT published announcements and calls in *Ciència*.

In 1983, *Ciència* launched the collection of books *Clàssics de la Ciència* (Science Classics). It was first published in 1984 with support by CIRIT, and Francesc Solé was the editor. Among the titles were: Charles Darwin's *The Descent of Man I & II*; Josep M. Millàs i Vallicrosa's *Essay on the History of Physics and Mathematics in Catalonia during the Middle Ages*; Claude Bernard's *An Introduction to the Study of Experimental Medicine*; and Norbert Wiener's *Cybernetics, or, Control and communications in the animal and the machine*. The collection consisted of six works in all.

In 1983, changes were made in the graphic design of the magazine, under its original graphic designer, Satué, and over the years the original layout changed as well.

The end of *Ciència*

Due to various circumstances, the two leading figures behind the magazine had to step down: editor-in chief Antoni Roca, in October 1983, and the editor, Joan Senent, only a few months later. *Ciència* continued being published from the end of 1984 and throughout 1985, but it did so intermittently. Francesc Solé headed the magazine at that time, serving as editor and as a member of the Editorial Board, and appointed different associate editors, among them, Xavier Torremilans.

At the end of 1987, *Ciència* again ceased publication [3] until April 1990, when with Ferran Fullà as the editor-in-chief, the 64th issue was published. The Editorial was a letter to readers proclaiming: “*Ciència* is out yet again. It was the only way to go, despite the many hurdles such an ambitious endeavor encounters. An enthusiastic team has once again taken on the challenge of continuing the meritorious work others had started with such admirable commitment. All of them have always been well aware of both what it means to talk science in Catalan and the responsibility of reporting on the most up-to-date scientific subjects.”

The spirit of *Ciència* was still the same, but not the people behind it. The Publication Board changed: Montse Ponsà, Montse Vallmitjana, Josep M. Camarasa, Adolf Tobeña, among others, had departed. Lluís Marquet and Eduard Rodríguez remained on the board, and new members were appointed, including Ricard Guerrero.

Unfortunately, the financial losses that had always plagued the magazine continued. In all probability, the fact that *Ciència* had not been on the market for three years meant a loss of interest among potential subscribers. It all came to an end when the Catalan Government reneged on its agreement to purchase 1000 copies of each issue. As a result, the last issue of the magazine came out in March 1991.

Closing thoughts

For me, *Ciència* was an adventure even before the magazine finally came to life. Joan Senent-Josa, Jordi López Camps and I had collaborated with the newspaper *Diari de Barcelona*, in December 1974 and throughout 1975. Scientific articles were published in the Sunday supplement, which back then was tucked into the central pages of the newspaper. Our contact person and the supplement's editor was the journalist Antonio Álvarez Solís.

Also, some of the pages we put together for the *Diari de Barcelona* newspaper were political. Thus, we published the

Manifest del Garraf (Garraf manifesto) in March 1975, protesting the conversion of a natural space in Barcelona into a dumping ground. Despite our efforts, the project came into effect and today the space is a waste storage site. Also, some of the pages published in the supplement contained outstanding articles of science. Simultaneously and coinciding with the end of Franco's dictatorship, Joan Senent-Josa and a group of friends established the above-mentioned Research Committee of the Association of Doctors and Graduates.

Ciència differed from magazines such as *Investigación y Ciencia* or *Mundo Científico*. Although both were top-quality magazines, they were translated into Spanish and included scientific work from abroad. *Mundo Científico*, which has since ceased publication, was a translation of the French magazine *La Recherche*, and *Investigación y Ciencia* a translation of the American monthly magazine *Scientific American*, which remains popular until this day.

Would a third version of *Ciència* currently be possible? In 2011, Antoni Roca aptly wrote that “*Ciència*'s heritage is still awaiting a worthy heir.” [7]. In the meantime, scholars and those interested in historical aspects of science over the 20th century will soon be able to browse, read, and download all the issues of the second period of *Ciència* (73 issues), thanks to a project of the IEC and the Alsina i Bofill Foundation (Fundació Alsina i Bofill, FAB). The magazine has been digitized in high quality and a first pdf version with optical character recognition has been created. It will be uploaded at the IEC online scientific periodicals library (Hemeroteca Científica Catalana), with a mirror website at the FAB.

Every time I go back and read *Ciència* I appreciate its excellence as a scientific magazine, one which was both Catalan and universal in scope, highly idiosyncratic, focusing mainly on science but also on general culture. It popularized the science produced in Catalonia and greatly contributed to establishing and restoring a Catalan scientific terminology. It is a privilege to have participated in this project, especially in its early years. ■

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