

## The Foundation of the Sciences Section of the Institute for Catalan Studies (1911) and its early years

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The 1907 creation of the *Institut d'Estudis Catalans* (Institute for Catalan Studies, IEC) as a center devoted to the history, art, and literature of Catalonia marks an early stage in terms of the importance of the sciences in general and the study of the Catalan language in particular [24,25]. The ruling-agreement dated 18 June 1907, stated:

[...] the time has come for the *Diputació* (Barcelona Provincial Council) to take the initiative to fund centers of scientific studies here, specifically centers specialized in and devoted not to education but to producing science and facilitating studies, so we can learn directly about everything that is ours and to not have to learn from the foreigners that have studied here."

Even though the natural sciences are not mentioned explicitly, the wording that laid the groundwork for the 1907 ruling is ambiguous enough to allow for a broader interpretation of the scope of study of the IEC, which would be realized in 1911 with its expansion to include a Sciences Section and a Philology Section.

"A study center is hereby created which shall be called the Institute for Catalan Studies whose mission shall be higher scientific research into all the elements of Catalan culture."

Interest in research and the sciences was nothing new in early 20th century Catalanism [55] The earliest cultural Catalanism had its roots in Romanticism, whose detractors have sometimes pejoratively called 'floralist' (in reference to its relationship with the *Jocs Florals*—Floral Games, traditional poetry contests in Catalonia), but science soon appeared as a distinguishing feature of culture. One of the earliest manifestations of this close relationship between Catalanism and science was the 1876 founding of the *Associació Catalanista d'Excursions Científiques* (Catalanist Association of Scientific Excursions), the first excursionist society in Catalonia [45,46]. In addition to the political and cultural choices in favor of Catalanism, the Association's name also reveals that it set out to confer upon these outings a 'scientific' mission. The goal was to supplement the pleasures derived from the mountains and nature

with an activity that would also generate knowledge of the land, history, geography, flora and fauna, and climatology of the places visited.

Initially, the emphasis of these scientific excursions was on archaeology, art, and folklore rather than on the natural sciences. The first signs of a closer relationship between Catalanism and science can be found in some of the first descriptive historical texts. For example, in 1875 Josep Fiter Inglès, one of the founders of the Association, published an essay on "The Astrological Science in Catalonia" in which he described the Catalan astronomers since the 10th century [39]. We should also mention the contributions of many field excursionists to geography, meteorology, botany, zoology, geology, and speleology. In 1899, when several young Catalanists joined forces to form the Catalan Institution of Natural History (ICHN), which years later would become an affiliate of the IEC, they did so with the intention of "linking science back up with [Catalanist] politics as others had done with history, art, literature, and even excursionist activities." [28,30]. The young founders of the ICHN soon enlisted the help of more highly trained naturalists. One of the first was Norbert Font i Sagué (1874–1910), a geologist and clergyman [26] who was along with several other individuals introduced Speleology to Catalonia. He is also the author of one of the most ambitious works from this period. In the prologue to his *Historia de les ciències naturals a Catalunya del segle IX al segle XVIII (History of the natural sciences in Catalonia from the 9th to the 18th century, 1908)*, he stated:

"The political movement of Catalonia determined the shape of its history, which has served to spur on its spirit even more; but if Catalonia's renaissance was purely literary or historical in theory, today we can now describe it as wholesale, since it extends to all manifestations of life. The scientific movement itself, even though it was one of the last to manifest itself, today shows a lush, tender branching, the harbinger of positive fruits for tomorrow, and within the sciences themselves the so-called natural sciences are the ones with the most cultivators every day, the most promising sciences." [40]

The fact that Font i Sagué wanted to explicitly express that Catalanism could already be regarded as 'wholesale,' in that it encompassed the scientific movement, reveals the extent to which science was considered a hallmark of Catalanism at that time. Thus, it was only natural that in January 1910 Prat de la Riba sought to enlarge the IEC, in a speech as President of the

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*Diputació* of Barcelona [1] in which he stated that, apart from the objective value of the IEC's mission in terms of the substantial components of the Catalan personality (art, language, and history), "it is [also] of paramount importance from another patriotic vantage point [...], and it heralds the beginning [of the period] of the internationalization of the Catalan language, the period of the enshrinement of the Catalan language as an instrument of change in universal scientific life." As a result of all this, he stated:

"Thus, we shall strengthen this action and complete it by having the Sciences Section occupy its place of honor next to the History and Archaeology Sections. Thus we shall also contribute positively to freeing ourselves from foreign patronage, to no longer be the importing clients of the science that other people do as we are today, rather to be the creators of science, and science knows full well that it is the honor, richness, superiority, and predominance of peoples." [50]

However, the proposal for expansion was not carried out immediately. Indeed, a full year was to elapse before the magazine *La Catalunya*, a Spanish-language platform for political and cultural Catalanism which aimed to serve as a communication bridge between Catalanism and Spanish intellectuals, published (January 1911) an extraordinary 32-page double issue on 'The ideal and activity of Catalan youth.' [2] The headline article was a lengthy study by Eugeni d'Ors entitled 'The updating of the Catalan intellectual tradition.' [48] This text is a kind of manifesto of the *noucentista* generation which was about to take over the political reins in Catalonia. To drive home his point, d'Ors formulated a list of opposites, mainly to contrast the beliefs of the new generation with the old-fashioned modernism of the preceding one:

"Instead of Romanticism, the immortal classical tradition; instead of the Bourgeoisie, the Trade Union or the Empire; instead of Liberalism, Socialism or socialization; instead of Democracy, proletarianism, on the one hand, and aristocratic tendencies on the other; instead of indifference, the universal restoration of the worship of religious *values*, the idea of religion as indispensable for the *unity* of mental life and thus the spirit; instead of Primitivism, philosophy and science..." ([3], p. 3)

D'Ors' proclamation can be confusing and ambiguous, but it is clear that his authoritarian and pro-Spain shift in the 1920s did not actually conflict with his original thinking. Worth noting in this sense is his explicit declaration in favor of science as overcoming, primitive, uncultivated minds. When analyzing the rather unsatisfying status of research in Catalonia, he noted that science "is not, nor can it ever be, a personal undertaking; rather it must be, and is, a collective endeavor, an endeavor in which people, nations, and generations work together." ([48], p. 5) When speaking about his tasks as a researcher, which encompassed thinking, ethics, aesthetics, logic, and psychology, he deemed that the first thing needed is an 'editor,' and he mentioned the IEC as an agent in the dissemination of aca-

demical research. The second need is to have a modern library, and he again mentioned the IEC. Thirdly, d'Ors stated:

"The libraries and laboratories must join forces for the sciences that need them. Without them, nothing can be done in several orders of knowledge. Our situation on this front is disastrous." ([48], p. 5)

Here he specifically referred to the difficulties faced by August Pi i Sunyer in his attempt to consolidate a center of physiological research as part of the Municipal Laboratory of Barcelona, but he noted that the shortcomings in this field had parallels in other specialties.

In another article from the same issue of *La Catalunya*, August Pi i Sunyer revisited Eugeni d'Ors's analysis on the limitations of experimental research in Catalonia [49]. He began by noting the secular displacement between the economic take-off and the 'spiritual' manifestations in Catalonia; he believed that the stimulus to study had taken a long time in coming. For science to be modernized, the first thing needed was a powerful technical education, meant in the broadest sense of professional training for both technicians and scientists. In Catalonia, he went on, there had been no lack of individual pursuits in the field of science, but no science schools with guided, disciplined methods had yet been created.

"It is our problem of education, of schooling, of association, of organization: the scientific ideal in Catalonia has to be to study, and to study again, and *to do*, knowing that what is being done, not just by routine, to join efforts; in a word, to prepare the instruments of mental work that we are utterly lacking today, just like not too many years ago we were lacking laboratory instruments. And afterward... having a great deal of confidence, an inexhaustible and ingenuous optimism without which no achievement is possible." ([4], p. 16)

His mention of the confidence that is needed in researchers equipped with the means they need to work harks back to the civil discourse on science, the indispensable framework for that confidence that Pi i Sunyer demanded [42,58] He then surveyed the situation in the fields he knew best, mainly the biomedical sciences. The most highly regarded institution was the Municipal Laboratory, directed by Ramon Turró [51], in addition to the university laboratories, which he claimed were making progress. Besides the biomedical sciences, he mentioned the establishment of the Fabra Observatory, of the Royal Academy of Sciences and Arts of Barcelona, and the Ebro Observatory, run by the Society of Jesus. He further highlighted the geological works by Norbert Font i Sagué, whose recent death he mourned, and the founding of the maritime biological station in Palma de Mallorca by Odon de Buén, then still a professor in Barcelona. Finally, he added the studies being conducted in the Faculty of Pharmacy and the fact that "we have some valuable mathematicians, in mechanics and physics especially." He concluded that almost everything remained to be done and that perhaps that Institute of Sciences that Prat de la Riba had

announced would be a major step forward along the pathway that needed to be taken.

### 'Science today represents the public wealth of tomorrow'

The agreement to enlarge the IEC with two new Sections took effect in February 1911 (Fig. 1). Thirteen new members were added and the institute was reorganized into sections or institutes with seven members each: Historical-Archaeological, which was virtually a continuation of the original IEC, along with the Sciences and Language or Philology Sections. The eight initial members of the Institute, with the exception of Pere Coromines, who joined the new Sciences Section, remained in the Historical-Archaeological Section. The Sciences Section, as we shall see, was made up of a gynecologist, two biologists, an engineer, physicist and mathematician, an economist, a naturalist, and a philosopher. The Philological Section included three distinguished writers (Josep Carner, Àngel Guimerà, and Joan Maragall), two clergymen (Antoni M. Alcover and Frederic Clascar), a Greek professor (Lluís Segalà), and an engineer who also became a linguist (Pompeu Fabra).



**Fig. 1.** Sculpture 'Camins del saber' (Paths of knowledge) created by Xavier Jansana in commemoration of the centenary of the Sciences Section.

The Sciences Section (or Institute of Sciences) clearly bore the hallmark of Eugeni d'Ors, who not only was its Secretary but also, in the absence of Josep Pijoan, became the Secretary General of the IEC as a whole [5]. This section aimed to unite the natural, biomedical, exact, and social sciences along with philosophy in the same institution. In any event, the justification of the new section in the Institute's 1910 annual report was clearly stated by Prat de la Riba. After declaring that the new section would spearhead the use of Catalan in the sciences in order to achieve "the completeness of our cultural renaissance," the report devoted a lengthy paragraph to the relationships between 'science and public wealth,' which read:

*"Science and public wealth.* However, this social cooperation with scientific endeavors is also required of us because of the same economic interests that are peremptorily threatened every day by the superiority of foreign science. This no longer translates solely into international competition or the fight for markets, but here in Catalonia it also subjects us to a kind of shameful status as a colony, transferring the newest and most important affairs within the country's economic life to foreign hands. Our land seems to be ours, our city seems to be ours; however, in reality they are largely the domain of foreigners who lord over them in science, in technology, and in organization. It has been said a thousand times in a thousand different tones: without original science, there is no original industry in a country; without original industry, there is no independent economic life. Any attempt to free ourselves from our slavery on this point will be sterile if we do not attack the plague at the roots. Science today represents to us the public wealth of tomorrow." ([50], p. 584).

For this reason, the IEC had to be completed:

"[...] by forming a new organization, an Institute of Sciences which, joined by the current History-Archaeology Section and making use of some of the means and practices already gathered and used by this department, would complete it in the sciences, giving it the scientific complexity needed by a public entity that does not want to give injudicious preponderance to one of the branches of human knowledge at the expense of the others." ([50], p. 585).

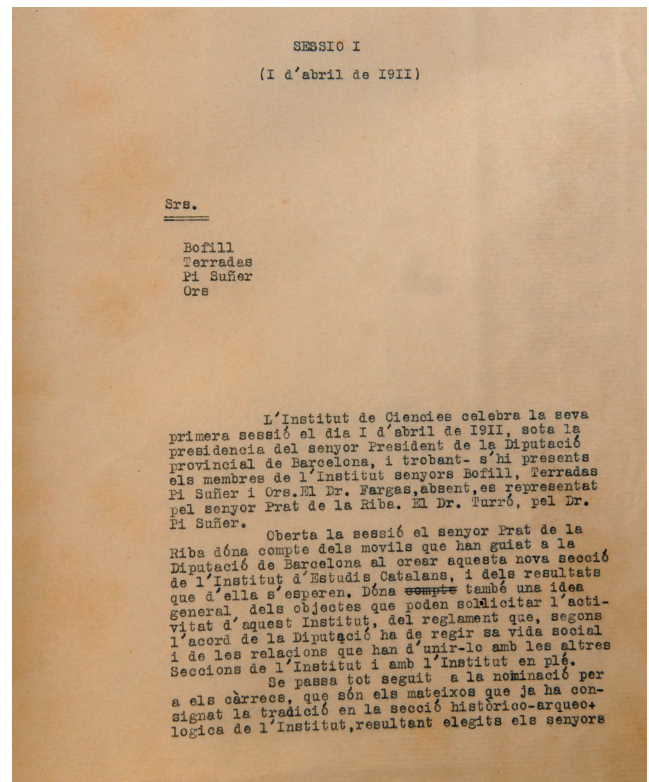
He therefore justified the Science Sections's scope of action, which included not only the natural sciences and mathematics but also the social sciences and philosophy. The Section's initial composition reflected this idea, which was in line with those of d'Ors's at that time, as well as the true status of Catalan scientific research in those days, with its preponderance of biomedical sciences and a secondary role for the physical sciences, mathematics, social sciences, and philosophy.

The President of the Section, Miquel A. Fargas, was a professor of Obstetrics at the University of Barcelona and one of the senior leaders of the *Lliga Regionalista* (Regionalist League), Prat de la Riba's party [6]. Ramon Turró, a veterinarian, was the director of the Municipal Laboratory of Barcelona, which under his stewardship had become a cutting-edge center of biomed-

ical research in Catalonia [29,31]. August Pi i Sunyer, the descendant of a long line of physicians from the Empordà region, had earned his professorship in Physiology at the University of Seville through the civil servant selection process and had declined it to continue his research at the Municipal Laboratory in Barcelona, where he was appointed Honorary Professor of Physiology; in 1915, he became the Chair of the Faculty of Medicine of Barcelona [7]. Josep M. Bofill i Pichot was a physician as well, but for health reasons had stopped practicing and in the meantime had become a renowned entomologist, with a particular focus on insects that were harmful to agricultural crops. He had been one of the disciples and partners of Santiago Ramón y Cajal during his sojourn in Barcelona and had twice presided over the Catalan Institution of Natural History, a job he held until just a few days before being appointed a member of the IEC. Since 1909, he had been a member of the Royal Academy of Sciences and Arts of Barcelona [33]. Esteve Terradas was a physicist, mathematician, and engineer, and a Professor of Acoustics and Optics at the University of Barcelona. He had joined the Royal Academy of Sciences and Arts of Barcelona in 1909, and his education and youthfulness had made him a beacon of hope for the world of the physical sciences, mathematics, and engineering in Catalonia. Pere Coromines was a lawyer by training but he worked in the finances department of the Barcelona City Hall, where he had transformed the municipal treasury. Associated with the leftist pro-Catalan movements, his research fell within the social sciences, mainly economics and sociology. Finally, Eugeni d'Ors, the secretary of the Section and the new Secretary General of the IEC, had a degree in Law and Philosophy and had returned from sojourns in several European countries just a few years earlier. He was quite well known to the public through his contributions to newspapers, primarily the 'Gloses' that he published in *La Veu de Catalunya*, and he had become a leader and guide of the new aesthetic and intellectual current called *noucentisme*.

### Publications, services, and affiliated organizations (1911–1917)

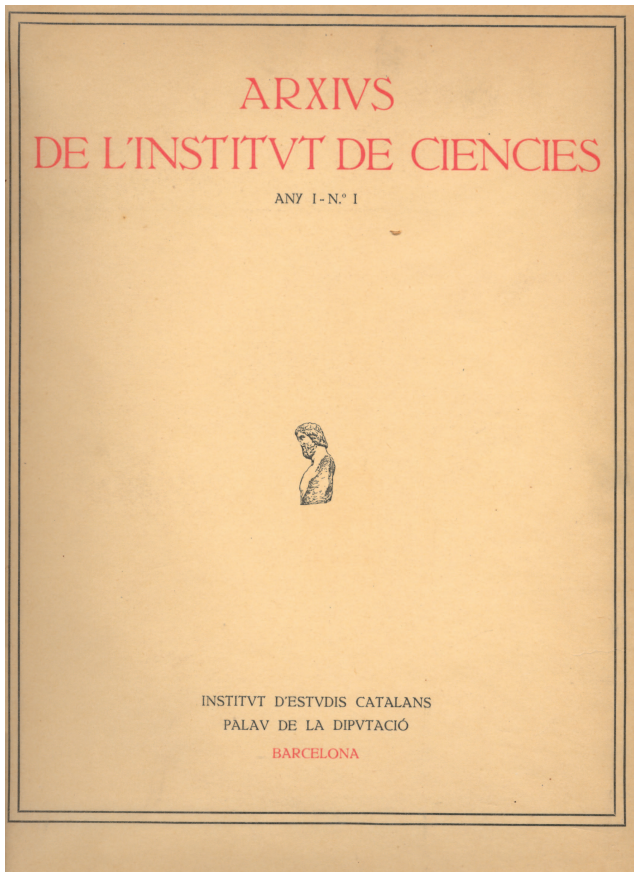
The Sciences Section launched its activities on 1 April 1911 (Fig. 2). At its first meeting, the members agreed to publish a scientific journal that would be entitled *Arxius de l'Institut de Ciències* (*Archives of the Institute of Sciences*) [53]. The plans for the journal were quite ambitious, with international contributions in the authors' original language and briefs or sectorial reviews written by the Section's members themselves [8]. In the same year, Eugeni d'Ors participated in the 4th Philosophy Congress, held in Bologna, and secured a contribution to *Arxius* by the Italian mathematician Giuseppe Peano. Shortly thereafter, Esteve Terradas participated in the 1911 meeting of the *Versammlung Deutscher Naturforscher und Ärzte* (Congress of German Naturalists and Physicians), and although he secured no foreign contributions, his reports on the gathering were a testament to the cutting-edge position of physics at that time. His review of Max von Laue's 1911



**Fig. 2.** Minutes of the first meeting of the Sciences Section of the IEC, on 1 April 1911. Source: Archive of the *Institute d'Estudis Catalans*.

book on the principle of relativity was one of the first 'official' appearances of Einstein's theory in Spain [52,57]. The pace at which publications were issued was quite lively in the early years, but the Section members were unable to sustain this momentum for too long, and in 1916 the format became smaller and the publications began to appear on a more irregular basis (Fig. 3).

The first volumes of *Flora de Catalunya* and *Fauna de Catalunya* (*Flora of Catalonia* and *Fauna of Catalonia*, Fig. 4) also appeared quite early on. Lectures given by Bofill i Pichot and Eugeni d'Ors were published in the second and third installments of the first volume of the *Anuari de l'Institut de Ciències*. Bofill i Pichot former proposed the publication of *Flora de Catalunya* and entrusted it to Joan Cadevall [9]; the latter began with the malacology described in the publication *Fauna de Catalunya* and assigned Artur Bofill i Poch and Manuel de Chia to develop the *Fauna malacològica de Catalunya* (*Malacological fauna of Catalonia*). In fact, at Bofill i Pichot's proposal, in the second session of the Institute of Sciences held on 5 May 1911, the members agreed to publish "the work on Catalan flora that the distinguished botanist Mr. Cadevall had been working on for some years." [10] Indeed, Joan Cadevall had already written much of the text, but in Spanish, and the job now was to translate it into Catalan. Likewise, Cadevall's original had to be adapted to the characteristics of an illustrated book on flora similar to Coste's *Flore de France*, from whose publishing house (*Librairie des Sciences Naturelles* in Paris) they intended to request authorization to reproduce the figures illustrating the species common to both French and Catalan flora. The translation and adaptation, as well as the scholarly



**Fig. 3.** Cover of the first issue of *Arxius de l'Institut de Ciències* (1911). Source: Archive of the *Institute d'Estudis Catalans*.

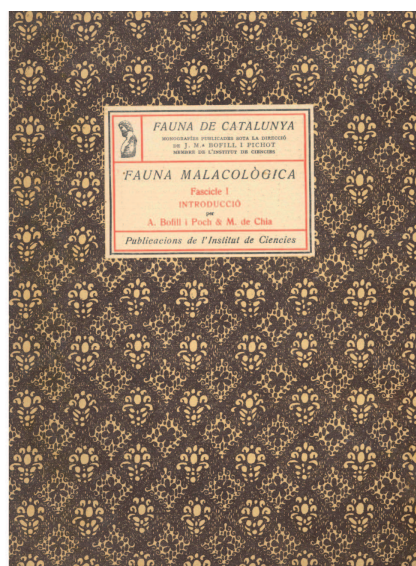
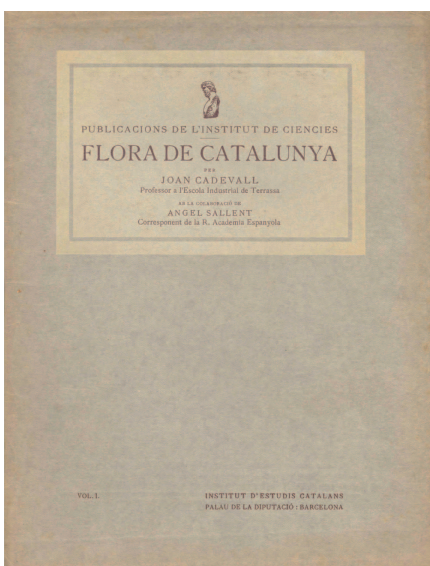
notes on the etymologies or origins of the names of the plants, were assigned to Àngel Sallent.

The first installment of *Flora de Catalunya* did not appear until the summer of 1913 [11], but the minutes of the Institute of Sciences noted that in September 1911 Cadevall and Sallent were already working on it and that the first originals would be delivered to the Institute in late October or early November. Their publication was approved at the first Institute of Sciences

meeting, in January 1912. In early March of the same year, authorization was received from Léon Lhomme, the editor of Coste's *Flore*, to use the illustrations from that book, and several days later Cadevall and Sallent delivered the rest of the material needed to complete the first installment. The 'painter Mr Viver' [12] simultaneously delivered his originals for two color plates of two endemic species and two black engravings of species that did not appear in Coste's *Flore*.

The launch of *Fauna de Catalunya*, which would publish installments on mollusks and insects under the supervision of Josep M. Bofill i Pichot (except for one by Josep Maluquer i Nicolau, an expert in coelenterata), came somewhat later: on 8 March 1912, the Institute of Sciences agreed to ask Manuel de Chia i Bajandas (Girona, 1856–Barcelona 1917) to submit a complete monograph on venerids, in which he would extensively examine the genus *Tapes* [13]. Publication of the first few installments on fauna would also prove to be slow and laborious, especially because of the difficulties posed by the photographs that Chia wanted to include. Bofill i Pichot, in turn, heavily stressed the importance of small explanatory glossaries of the technical zoology terms to improve understanding of the descriptions. Finally, on 10 March 1915, the forms and title of the monographs from *Fauna de Catalunya*, subtitled *Monografies publicades sota la direcció de Josep M. Bofill i Pichot, membre de l'Institut de Ciències* (Monographs published under the direction of Josep M. Bofill i Pichot, member of the Institute of Science), were decided upon. The first three installments on malacological fauna—*Introducció*, *Família de les venèrides* and *Família de les petricòlides* (Introductions, Family of the venerids, and Family of the petricolids)—appeared in July of the same year.

The first initiatives aimed at developing and publishing the geographic and geological maps of Catalonia also date from these early years. On 18 June 1912, the Institute of Sciences agreed to ask the Geographic and Statistical Institute of Madrid for the basic publications needed to start a geographic map of Catalonia. However, the agreement to fill the jobs of topographer and draftsman at the Geographic Map Service was not



**Fig. 4.** Covers of *Flora de Catalunya* (Volume I) and *Fauna de Catalunya* (Fascicle I). Source: Archive of the *Institute d'Estudis Catalans*.

reached until 8 May 1914, with the period for candidates to submit their applications set for September 30. Late in that year, José de Rivera was chosen to fill the job of topographer and Baldomer Pérez Mayol was hired as the draftsman [47].

Once the Geographic Map Service had been organized, the decision was made to begin organizing the Geological Map Service. Already in early 1913, Bofill i Pichot had taken steps “to provide the Institute with the studies on the Geological Map which Dr. Almera is publishing on commission from the *Diputació*.” [14] In early November 1914, the *Diputació*, aware of Almera’s refusal and his proposal that he be replaced by Marià Faura i Sans, his disciple and partner, assigned the IEC to proceed with the map [15]. The Geological Map Service was set up with Faura as the director in charge of the same staff that had worked under Almera’s orders: topographer Eduard Brossa and assistant Josep Ramon Bataller (then still a seminarist and student of natural sciences at the University of Barcelona). The appointments took effect on 28 June 1915 [23].

Another of the initiatives ushered in by the Sciences Section was the Aerologic Station of Barcelona (1912), following the suggestion of Eduard Fontserè, a member of the Academy of Sciences and Arts. Shortly beforehand, he had taken charge of the Meteorological and Seismic Department of the Fabra Observatory [56]. The Aerologic Station, with its systematic release of weather balloons, was part of an international plan to gather meteorological data from the high atmosphere, a plan promoted by Vilhelm Bjerknes, the founder of modern meteorology. The Aerologic Station became the seed of the Meteorological Service of Catalonia, approved in 1919 (Fig. 5).

In those years, in addition to the Geographic Map Service, the Geological Map Service, and the Aerologic Station, the Malaria Technical Service (1915) was created, led by Gustavo Pittaluga, who spearheaded public health policy in the Mancomunitat de Catalunya (Commonwealth of Catalonia). August Pi i Sunyer and Jesús M. Bellido (1917) also drafted the first proposals to create an Institute of Physiology; however, Prat de la Riba’s death [16] would delay the creation of this institute, which did not become a reality until 1921.

Apart from its scientific and technical publications and serv-

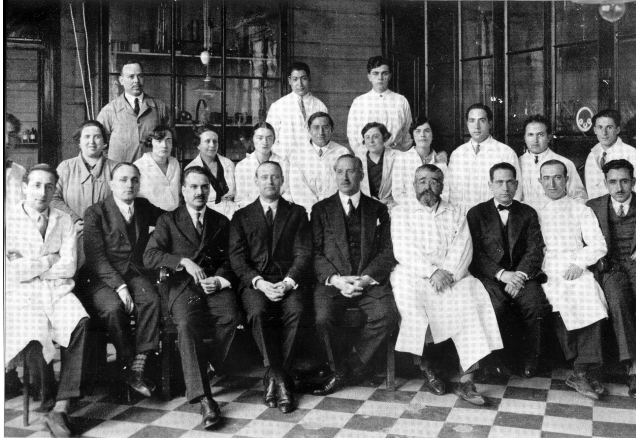


**Fig. 5.** Release of a weather balloon by meteorologists of the Aerologic Station directed by Eduard Fontserè.

ices, the Institute of Sciences began to take part in organizing the Catalan scientific community through the addition of affiliate organizations. The first one, in late 1912, was the Biology Society of Barcelona (today the Catalan Society for Biology) [17]. The Society was first mentioned in the 2 November 1912 minutes of the Sciences Section, which seem to indicate that the initiative did not stem from the IEC or its Sciences Section but from Catalan physiologists who had contacted the *Société de Biologie* in Paris to create, according to August Pi i Sunyer, “a sister organization [in Barcelona] in communication and working correspondence with it and with the Society for Biology of Madrid.” [18] The minutes of the session at the Institute of Sciences that day were limited to a scant mention that “some Institute members will be part of the new institution.” On 14 December 1912, the first scientific session of the new Society was held, and in the first year, from December 1912 to December 1913, 31 scientific papers were presented in the sessions, which featured Turró, Pi i Sunyer and some of their disciples and partners. This group formed the initial embryo of the incipient ‘Catalan Biology School’ and their papers served as the cornerstone of the first volume in a new publication: *Treballs de la Societat de Biologia de Barcelona (Papers of the Society for Biology of Barcelona)*, which appeared in the early months of 1914 (Fig. 6). In the ensuing years, until 1920, the Society continued to publish papers presented at the scientific sessions the preceding year [19].

Another member of the Institute of Sciences, Josep M. Bofill i Pichot, served as a bridge to help another society join the IEC as an affiliate: the Catalan Institution of Natural History (ICHN). Thus, a more explicit link was forged between the tradition of scientific excursions in Catalonia and the new research institutions. This process, which began in early 1915, was long and complicated and was not completed until 6 December 1917, when the assembly of ICHN members approved the new by-laws under which the organization was to be governed as an IEC affiliate.

When the *Consell de Pedagogia* (Educational Research Council) of the Mancomunitat de Catalunya decided to launch Monographic Courses on Exchanges and Advanced Studies, the Sciences Section took an immediate interest and submitted a proposal, which was approved by the Mancomunitat. In fact, the matter was somewhat of an internal affair since the leader on behalf of the Mancomunitat was Eugeni d’Ors and the proposals were submitted by Terradas and Pi i Sunyer. The outbreak of World War I hindered exchanges with universities abroad and, more seriously, thwarted the participation of researchers from the belligerent countries. For this reason, in early 1915, the only professors from outside Catalonia were the Italian educator Anna Maccheroni and the Spanish mathematician Julio Rey Pastor, and the following year the only professor from abroad was the Hungarian Béla Szilárd, who had previously worked in the Curie laboratory but had moved to Madrid after the war broke out [20]. It was the lecture by Rey Pastor and the others who followed him that would give rise to a new series of publications in 1916, the *Collection of Physics and Mathematics Lectures* supervised by Esteve Terradas [41].



**Fig. 6.** The members of the 'Catalan Biology School'. Source: *August Pi i Sunyer: l'home i l'obra*. Barcelona: IEC, 1966.

In summary, in these early years of its history, the Institute of Science intervened in the science policy of both the *Diputació* and the *Mancomunitat* in efforts to address everything that remained to be done, as proclaimed by Prat de la Riba a few years earlier: scientific publications in Catalan (except those by foreign authors published in the *Arxius* of the Institute of Sciences, which were published in their original languages), inspection (and supervision, in many cases) of scientific and technical services, support for the creation of research centers and scientific societies, and the organization of monographic courses, all of which emphasized the desire to internationalize scientific activity in Catalonia. In these efforts, the policies of the Sciences Section coexisted alongside those established by Spain through the *Junta para Ampliación de Estudios e Investigaciones Científicas* (Board for the Expansion of Studies and Research), an organization created in 1907 (like the IEC), but with quite different characteristics and scope [21]. Pi i Sunyer was a member of the Board from 1918 to 1923, which ensured smoother relations between the two organizations. Esteve Terradas, through Julio Rey Pastor, also had close ties with the *Junta* and directed the Mathematics Laboratory in 1929 and 1930.

## Conclusion

We shall close this study around 1920, on the verge of the first crisis suffered by the Institute for Catalan Studies, which led to the expulsion of its Secretary General, Eugeni d'Ors [22]. A few years later (1923–1930), the Institute suffered from more serious operating difficulties during the dictatorship of Primo de Rivera. The expulsion of Eugeni d'Ors affected the Sciences Section twofold, since he was both a member and the Secretary of the Section. We shall not cover the rest of the Sciences Section's history, but we can state that those early years set the general tone of the Institute for Catalan Studies' mission in science policy: to promote the publication of serious scientific information in Catalan and in the main languages of scientific communication; to promote membership in scientific organizations and, as a consequence, to bolster the

scientific and technical community in the Catalan-speaking territories; and to promote research in conjunction with the appropriate institutions.

## Notes

1. "[...] we have to complete another of the initiatives of the previous biennial: the Institute of Catalan Studies." ([50], p. 473)
2. The publisher devoted the issue to Prat de la Riba and stated that through him it aimed to showcase 'the Catalonia of tomorrow.'
3. [48], the italics are from the original text.
4. [49], the italics are from the original text.
5. Regarding the IEC's science policy, see [32].
6. Regarding Fargas, see Casassas Simó, 1999.
7. Regarding Pi i Sunyer and the Catalan biology school, see [38].
8. The first few issues feature, for example, August Pi i Sunyer's survey of the physiological research conducted during the first decade of the 20th century and Esteve Terradas' review of relativity.
9. Today Joan Cadevall i Diars (1846–1921) is primarily known as the author of *Flora de Catalunya* (1913–1937), an unquestionably important work but one that is largely marginal within Cadevall's professional and civil life as a whole. Joan Cadevall's efforts as a generalist naturalist and educator, the true forerunner to what we call environmental education today, and his civic activities in his city of Terrassa (as the promoter of the Municipal Arts and Crafts School and the Industrial School, the founder of the local Red Cross assembly, the President of the Official Chamber of Commerce and Industry, the Director of the local Meteorological Centre, and the list goes on) have never been sufficiently valued by his biographers, almost all of them botanists who have stressed his achievements in the field of botany.
10. IEC Archive. *Minutes of the Sciences Section*. Book 1, p. 9
11. The first copies were received on 14 July (IEC Archive. *Minutes of the Sciences Section*. Book 2, p. 89). On 16 July 1913, Cadevall sent to Carlos Pau a copy of this first installment (letter from Cadevall to Pau dated 16.07.1913. Pau Collection. Archive of the Botany Institute of Barcelona).
12. The Terrassa-based painter Pere Viver (1873–1917), one of the exponents of the Terrassa modernist landscape school. He was the brother of painter Tomàs Viver (1876–1951), who at that time was the director of the Municipal Arts and Crafts School of Terrassa, which had been founded in 1886 upon Cadevall's initiative.
13. IEC Archive. *Minutes of the Sciences Section*. Book 1, p. 122.
14. IEC Archive. *Minutes of the Sciences Section*. Book 2, p. 7-8. Regarding [43].
15. IEC Archive. *Minutes of the Sciences Section*. Book 3, p. 127. Regarding [44].

16. And unquestionably the lower degree of political understanding between the new president of the Mancomunitat. Josep Puig i Cadafalch, and August Pi i Sunyer, especially after the latter's February 1918 election as a deputy to the Courts for the district of Figueres representing a Catalanist Republican coalition.
17. [35]. Regarding the IEC'S affiliate organizations, see [54].
18. IEC Archive. *Minutes of the Sciences Section*. Book 1, p. 193. He was probably referring to the Spanish Biology Society founded the year before by Santiago Ramón y Cajal, Gregorio Marañón, and other physicians who conducted biomedical research in different centers in Madrid. Pi i Sunyer might have wanted to bolster his arguments in favor of creating the Barcelona-based society by holding up their Madrid-based colleagues as an example, or perhaps he had spoken with them regarding the possibility of mutually strengthening each other in view of their French colleagues.
19. The 1920 and 1921 papers were published together in a single volume in 1922, although the following year things returned to normal with the publication of the volume for 1922.
20. Despite this, apart from Maccheroni and Szilárd, between 1915 and 1918 the German anthropologist Diedrich Westermann participated in the Monographic Courses on High Studies and Exchange on the suggestion of the Sciences Section. In 1919 the Belgian psychologist Georges Dwelshauvers and the Belgian educator Leon de Paeuw participated, and in 1920 the Italian educator Maria Montessori and the Belgian psychologist Georges Dwelshauvers did, too. It should be borne in mind that in 1917, the Biology Society began to organize its own series of short courses and the biological sciences disappeared from the programs of the Monographic Courses on High Studies and Exchange. As part of these courses run by the Biology Society, in 1917 the French physiologists Éugène Gley and Hyacinthe Vincent, and in 1919 the veterinarian Paul Dechambre, the physicians A. Bosan and A. Balvay, and the physicist Jean Perrin, all of them French, came to Barcelona.
21. See, for example, [34].
22. In the extensive literature on the expulsion of Eugeni d'Ors, see [53], which analyses it from the vantage point of the Sciences Section, or [24]. Casassas [37] and Camarasa [31] analyze the role of the clash between Turró and d'Ors in this expulsion. A very serious analysis of the conflict within the general frame of Spanish culture in the first quarter of the 20th century can be found in Cacho Viu [27].
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