Obituary:

Ernest Corominas

On January 24, 1992 Ernest Corominas, Honorary Professor at the Université Claude Bernard, Lyon, passed away, at the age of 79.

Born 1913, in Barcelona, Ernest Corominas pursued studies in architecture and mathematics at the University of Barcelona, where he graduated in 1936. The Spanish Civil War broke out in July. At the age of 23 he entered the ranks of the Republican Army, serving as officer of military engineering. During the retreat he was charged to destroy the last bridges assuring the retreat of the Republican Army.

In February 1939 he arrived in France, staying only for a few months. Sensing the impending war and unwilling to relive the nightmare which he had just left behind, he left by boat, in August 1939, with other Spanish refugees, destined for Santiago de Chile. Among those welcoming these refugees to Chile were Salvador Allende, then a government minister, and Pablo Neruda, already consul in Paris. It was on this boat, crossing the Panama Canal, with his companions from the Republican Army, that he learned of the German–Soviet Pact of 23 August 1939. On September 3 the boat arrived in Santiago, the very day war broke out in Europe.

After six months in Chile, where he worked as an architect, he moved to Buenos-Aires. J. Rey Pastor, an important figure in the Spanish mathematical world, and student of Carathéodory, offered him a position of Assistant at the University of Buenos-Aires. It was Rey Pastor, whom he had known since his studies in Barcelona, who was the first to encourage the blossoming of Corominas' mathematical thoughts. After one year, dedicated to reading mathematical works which had been deprived him for so long, he was named Full Professor in the Institute of Economics at Mendoza, several thousand kilometers from Buenos-Aires, near Santiago, but on the other side of the Andean Range. He taught finance mathematics until 1946 when he, like hundreds of other colleagues, was relieved, by General Peron, of his position.

During this South American period he met Marie Edith Guevara (cousin of her well-known namesake) whom he married in 1946.

This period witnessed the growth of his mathematical personality. As is well known, a function is a polynomial as soon as a derivative vanishes. A. Denjoy used his "totalisation" to obtain the same conclusion for the "Peano derivative" (defined as the nth coefficient of its power series). Corominas eliminated the "totalisation" and developed a differential calculus based on the "Peano derivative" [1].

In 1947 Denjoy offered him a position at the C.N.R.S. in Paris. Here, at the heart of Parisian mathematics, Corominas found himself among P. Malliavin, J. P. Kahane and G. Choquet, taking up work on "asymptotic algebra". Together, with Sunyer-I-Balaguer, he established the spectacular result, now classic, that a function infinitely differentiable is a polynomial, if, at each point, some derivative vanishes. In 1952 he defended his thesis under Denjoy [2]. (Other students of Denjoy included G. Choquet, D. Kurepa, and R. de Possel, whose students, in turn, included R. Fraissé.) It was perhaps not entirely surprising that Corominas would turn later to ordered sets.

After this same Parisian period, during which his three children Edith, Henri, and Hélène were born, he decided to return to Spain, where Rey Pastor offered him a post at the Spanish C.N.R.S. Although his ambition was to establish a school, he was disappointed and, in 1955, he left, alone, to accept an invitation from the Institute for Advanced Studies at Princeton, where he was soon led to "ordered sets". The following year he lectured on ordered sets in Barcelona. Life was difficult and in 1960 he decided to leave for Caracas, where in an atmosphere of civil unrest, he worked alone on ordered sets.

In 1964 he settled in Lyon. Naturalized in 1966, he was Professor until his retirement in 1982 when he was named Emeritus. In his research courses, he proposed a set theoretical approach to ordered sets with "well-quasi-ordering" as a central notion, a notion whose importance continued to grow with the work of G. Higman [7], M. Kruskal [8], and the discovery of "better-quasi-ordering" by C. St. J. A. Nash-Williams [9].

On this general theme which he called "Ordinal Algebra", he attracted several students: R. Bonnet, who illustrated this theme in his works on Boolean algebra, M. Pouzet, in his work on relations, and R. Assous, on "better-quasi-ordering". Corominas himself pursued his work on "p-primary groups". In 1982, an international conference, Ordered Sets and its Applications, held at la Tourette à l'Arbresle, organized by his students, was dedicated to him [10, 11].

Despite retirement, he continued to participate in seminars, locally and internationally (most recently at the 1991 summer meeting "Algebras and Orders" in Montréal). During his last years, his research passion focussed on the "product problem for fixed points". He introduced a "projection property" [5] which has since attracted much attention.

On January 23, 1992, he participated, as usual, in the weekly "Ordinal Algebra Seminar", where he seemed in full form. Shortly thereafter he suffered a stroke, and died the following day.

His students and all who knew him well, remember his quiet confidence, his encouraging demeanor, and his delight at whatever scientific progress and success occurred around him.

References

1. E. Corominas (1948) Sur un théorème de M. Denjoy, *C. R. Acad. Sci. Paris.*
2. E. Corominas (1953) Contribution à la théorie de la dérivation d'ordre supérieur, *Bull. S. M. F.* 81(3).
3. E. Corominas: Sur une application de l'algèbre ordinale à la théorie des groupes abéliens de torsion, *C. R. Acad. Sci. Paris* 272.
4. E. Corominas (1985) On better quasi-ordering countable trees, *Discrete Math.* 53, 35–53.
5. E. Corominas (1990) Sur les ensembles ordonnés projectifs et la propriété du point fixe, *C. R Acad. Sci. Paris* 311(1), 199–204.
6. E. Corominas and Sunyer-I-Balaguer (1954) Sur des conditions pour qu'une fonction infiniment différentiable soit un polynôme, *C. R. Acad. Sci. Paris* 238.
7. G. Higman (1952) Ordering by divisibility in abstract algebra, *Proc. London Math. Soc.* 2(3), 326–336.
8. J B. Kruskal (1960) Well quasi-ordering, the tree theorem and Vazsonyi's conjecture, *Trans. Amer. Math. Soc.* 95, 210–225.
9. C. St. J. A. Nash-Williams (1965) On well-quasi-ordering infinite trees, *Cambridge Phil. Soc.* 61, 697–720.
10. M. Pouzet and D. Richard (eds.) (1984) *Orders: Description and Roles*, Annals Discrete Math. 23, North-Holland, xxvii + 548 pp.
11. M. Pouzet and D. Richard (eds.) (1985) Ordered sets and their applications (Special Volume), *Discrete Math.* 53, 287.

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