

Experimental Phonetics Laboratory at the University of Coimbra (1936-1979)

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Keywords: Experimental Phonetics Laboratory at the University of Coimbra; Armando de Lacerda; Chromography; Coarticulation.

In 1936, the Portuguese phonetician Armando de Lacerda (1902-1984) set up the Experimental Phonetics Laboratory at the University of Coimbra. Equipped with modern chromographs and using innovative methods to analyse the sounds of language, this space came to be considered by several members of the international community as the most advanced experimental phonetics laboratory in Europe. The scientific study of human speech developed by Lacerda attracted researchers from all around the world over the decades, transforming his laboratory into one of the global centres of phonetic science.

On 20 June 1957, the front page report in the *Diário de Coimbra* read: “Dr Armando de Lacerda returns tomorrow from Brazil where he set up the first Phonetics Laboratory in South America”. This news item was referring to the creation of the Experimental Phonetics Laboratory at the University of São Salvador in Bahia, for which the Portuguese phonetician Armando de Lacerda (1902-1984), founder and director of the Experimental Phonetics Laboratory in Coimbra, had the cooperation of his disciple Nelson Rossi (1927-2014). This Brazilian laboratory, equipped with chromographs – innovative instruments for the phonetic research that Lacerda had been carrying out since 1932 – produced the first linguistic atlas of Brazil in 1960-1963, the *Preliminary Atlas of Bahian Speech*, which used the phonetic transcriptions of Armando de Lacerda and Göran Hammarström (1922-2019). This endeavour, in which Nelson Rossi and some of his colleagues took part, was vital in the emergence of dialectology in Brazil, giving rise to the emergence of linguistic atlases in other states. Examples are the *Linguistic Atlas of Sergipe*, also developed by the team from the University of São Salvador in Bahia and completed in 1973 (although only published in 1987); the *Outline of a Linguistic Atlas of Minas Gerais* (1977); the *Linguistic Atlas of Paraíba* (1984); the *Linguistic Atlas of Paraná* (1994); and the *Linguistic Atlas of Sergipe II* (2005).

In the USA, the influence of the Experimental Phonetics Laboratory in Coimbra was also felt. The equipping of this laboratory space with chromographs, combined with Lacerda's international prestige, was fundamental in attracting PhD student Francis Millet Rogers (1914-1989) to Coimbra. With a scholarship from Harvard University, Rogers specialised in the use of chromography under Lacerda's supervision in 1939. After returning to Harvard, where he got his PhD in 1940, Rogers' career culminated in the creation at that university of the first chair of Portuguese Studies in the USA (the “Nancy Clark Smith” Chair of Portuguese Language and Literature). Along the way, Rogers, who saw Lacerda as his mentor,

managed to integrate Portuguese studies into the General Education programme. He used the speech recording methods learnt in the laboratory run by Lacerda in his classes. Among other innovations, this practice boosted the interest in the Portuguese language to levels worthy of inclusion in his memoirs, where he mentions that, from 1960 onwards, with the updating and improvement of the Portuguese language course, he often heard rumours that the two most prestigious languages for Harvard University students were Arabic and Portuguese.

At the same time, in 1965, but on the other side of the globe, in Melbourne, another of Lacerda's disciples and colleagues from Coimbra's Experimental Phonetics Laboratory took up the position of Australia's first full professor of linguistics. We are referring to Göran Hammarström, the Swedish phoneticist who had already set up the Department of Phonetics at Uppsala University in 1955. As with Francis M. Rogers and Nelson Rossi, this academic career was also based on the Experimental Phonetics Laboratory in Coimbra, where Hammarström had prepared his PhD, which he then defended in Uppsala in 1953. The importance of the laboratory work he did with Lacerda was emphasised in 1957, when Georges Straka (1910-1993), Director of the Institute of Phonetics at the University of Strasbourg, drew up an opinion on Hammarström's scientific skills at the request of the Director of the School of Arts and Humanities in Uppsala. In this document, Straka argues that Hammarström's study on the duration of phonemes in Swedish is of great interest to linguistics, far exceeding the results previously achieved by other researchers. In his opinion, this was because Hammarström had used the "excellent chromographic method" when he was in Coimbra.

Brazil, the USA, Scandinavia and Australia: the set-up of laboratories in a number of foreign universities that used the research techniques applied at Coimbra's Experimental Phonetics Laboratory are some examples of the global influence of this research centre. The lessons learnt in Coimbra contributed to sparking a "dialectological mentality" in South America, as well as to the creation of phonetics chairs, Portuguese courses and their use in Romance Language classes at Harvard.

The director of the laboratory, Armando de Lacerda, played a key role in obtaining this status. Lacerda had benefited from the existence, since 1929, of the National Education Board, an institution that planned and funded scientific research in Portugal, followed, from 1936, by the Institute for High Culture. It was as a research fellow of the National Education Board that Lacerda specialised in experimental phonetics in Hamburg and Bonn in 1930-1933. At the phonetics institutes in these universities, he gained international prestige, namely with the creation in 1932 of the polychromograph, equipment that made the kymograph, until then the main instrument used in experimental phonetics laboratories, obsolete. Also

noteworthy is the publication in 1933, in co-authorship with his supervisor Paul Menzerath (1883-1954), of *Koartikulation, Steuerung und Lautabgrenzung*, a work that created the key concept of coarticulation (the influences exerted on each other by contiguous speech sounds), which from then on played a central role in phonetic theory.

Returning to Portugal in 1933, Lacerda set up the country's first experimental phonetics laboratory at the University of Coimbra. Considered by several foreign linguists to be the best experimental phonetics laboratory in Europe in the mid-twentieth century, this laboratory space, as illustrated by a few cases, attracted numerous scientists from Europe, North America, South America and Africa. Common to all the foreign researchers was the search for specialisation that would enable them to start prestigious international academic careers.

In the 1960s, the Portuguese state's support for the laboratory headed by Lacerda declined and, from 1972 onwards, with his retirement and in the absence of a successor to lead the institute, the ten rooms that the laboratory had occupied until then at the School of Arts and Humanities in Coimbra began to be used for different purposes. Reduced to a single room, the laboratory closed its doors in 1979. That same year, Lacerda still held the position of honorary member of the Permanent Council for the Organisation of the International Congresses of Phonetic Sciences, on a par with Roman Jakobson (Cambridge, USA) and Eberhard Zwirner (Cologne, Federal Republic of Germany), a distinction that, at the end of his life, was in keeping with the history of his academic career. While his school of research, through his followers, spread to the most diverse countries and continents, in Portugal, one of the few Portuguese scientists to be recognised in the history of a scientific discipline was consigned to oblivion, a fact that may have been helped by the fact that the University of Coimbra systematically considered him to be a member of the. “technical, auxiliary and minor staff”.

The historiographical (in)visibility of the Experimental Phonetics Laboratory at the University of Coimbra and Armando de Lacerda is therefore of particular interest in the history of world science, as it shows how a laboratory space on the periphery of Europe came to hold scientific attraction more typical of traditional scientific centres; at the same time, its founder and director, although one of the biggest names in the discipline, was officially consigned to the status of “invisible technician”. These are reasons that more than justify the recovery of this history, which is being carried out by the PHONLAB project (2022.06811.PTDC) “Phonetics Laboratory: Coimbra – Harvard. Rethinking 20th-century scientific centres and peripheries”, funded by the Foundation for Science and Technology. The ongoing historiographical recovery has led the Royal Swedish Academy of Sciences to dedicate a day to the Portuguese phonetician([Armando de Lacerda: A pioneer of](#)

[Experimental Phonetics – Kungl. Vetenskapsakademien \(kva.se\)](#), as well as in 2022 leading the international network focusing on the history of speech communication research to dedicate one of its biannual workshops to a scientist for the first time ([LACERDA 120 – 5th International Workshop on the History of Speech Communication Research \(HSCR\) \(wordpress.com\)](#)).

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