Impressions on António Aniceto Monteiro

I got to know Monteiro because of Bento de Jesus Caraça. Before him, the only portuguese mathematicians I had heard of were Pedro Nunes and Gomes Teixeira. Not mentioning Serrasqueiro's elementary books on Algebra and Arithmetic, highly regarded by my secondary school teachers and by students of the generation preceding mine.

No one introduced or suggested Caraça to me. I found him by chance, at a second-hand bookstore in Fortaleza, as a book with its pages still unopened.

of sets, transfinite numbers, natural numbers, integers, real and complex numbers, all constructed step by step. Caraça was my only mentor, my guide. One interesting aspect of the book was the annotated bibliography at the end of each chapter. Those suggestions led me to order "Pure Mathematics" by Hardy and "Survey of Modern Algebra" by Birkhoff and MacLane at a bookshop in Rio. Together with the books came a catalogue which mentioned the monograph "Filtros e Ideais" by Monteiro and "Aritmética Racional", which he wrote

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It was called "Lições de Álgebra e Análise", vol 1. Some admirer had surely bought it for the title or received it as a present and discarded it, disappointed by its table of contents. It was exactly this strange summary and the unexpected concepts that I glimpsed at on the exposed pages that fascinated me. I bought the book, and through it, I launched myself into the world

with J. Silva Paulo.

I thought it easier to start with Monteiro. The "Aritmética" was delicious, although I was curious to know if the secondary school students in Portugal (or in any other country) were, except for the extremely able, capable of appreciating the elegance and subtlety of that exposition.

Monteiro lived in Rio de Janeiro for around four years between 1945 and 1949. At that time, his interests were divided between General Topology and Ordered Sets, evolving from the first to the latter. But his personal energy was considerable enough to allow him to also have a political activity, and in this field, his main interest was the overthrowing of Salazar's dictatorship. There wasn't, of course, much room for maneuver, especially because the high administration of the Universidade do Brasil (then the name of the Universidade Federal do Brasil), was linked by ideological and emotional ties to the Portuguese government. Monteiro's position made it harder and harder for him to have his contract renewed, and he finally had to emigrate to Argentina. In Bahia Blanca, fulfilling his vocation as a pioneer, and by now definitely dedicated to Mathematical Logic, he founded and led a group, which is still today both flourishing and significant, of researchers in that area, among which is his son. The cultural and geographic distance led him away from Portuguese politics and brought him closer to Mathematics and to his involvement in the creation of a very high-level school. This also demanded an effort and political skills, but in another way.

While he was in Brasil, Monteiro mostly collaborated with Leopoldo Nachbin and Mauricio Peixoto, at the time young mathematicians trying to launch their careers in an environment in which the tradition for mathematical research was practically non-existing. With his strong and restless personality, he gathered students, organized seminars and founded a collection of monographs called "Notas de Matemática", of which the first volume was his work on Filters and Ideals. The affinity of mathematical interests between Monteiro and Nachbin was greater than with Peixoto. His influence on Nachbin can be seen in the monograph entitled "Topologia e Ordem", published by Nachbin, about ordered topological spaces. It is interesting, however, to note that Peixoto was the only Brazilian mathematician with whom Monteiro co-wrote a paper, published in the journal Portugaliae Mathematica under the title "Le nombre de Lebesgue et la continuité uniforme".

"Filtros e Ideais" was my first example of how to elaborate an abstract and not trivial mathematical theory from a system of extremely simple axioms like the one of ordered sets. Although later studies and personal choice made me follow very different paths in mathematics, reading Monteiro's monograph made me familiar with the general methods and this was useful years later for my doctorate thesis, when I developed the theory of spectra of topological spaces.

I met Monteiro twice when he visited Brazil while already living in Argentina. The first time, in Rio, when I was still a student, and the second time in Poços de Caldas, at a mathematical meeting, after returning from my studies in Chicago. On both occasions, I expressed my admiration for the work he had extended to three countries, and for his role in my studies. I am certain that many Portuguese, Brazilian and Argentinean mathematicians have benefited even more from his work and feel even more grateful than I do.

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