Giorgio Levi in Pisa

Giorgio Levi was born in Padova on July 20th, 1942, and he got the Laurea degree in Ingegneria Elettronica from the University of Padova in 1966. He arrived in Pisa in 1967 following Antonio Grasselli who founded the curriculum in Computer Science.

The foundation and the first activities of the research group are well described by Alberto Martelli in1: “...I arrived in Pisa at the beginning of 1968, after getting my degree from the Politecnico of Milan. At that time Antonio Grasselli was moving from the Politecnico of Milan to organize the new curriculum in Computer Science at the University of Pisa, and wanted to create a research group there. The group was established at the “Istituto di Elaborazione dell’Informazione” (IEI) of the National Research Council (CNR), and included initially Giorgio Levi, Ugo Montanari, Franco Sirovich, and myself. The initial research activities of the group were in the area of image processing, but, after a couple of years, the group, which in the meantime had been joined by Gigina Carlucci Aiello, decided to modify its main research topic. Our conclusion was that Artificial Intelligence was a new and more challenging area, allowing to combine theoretical aspects with problems of practical interest, and we started to redirect our research towards the topic ...”.

I met Giorgio during the academic year 1975/76: I was a student of his course “Elaborazione dell’Informazione Non Numerica” (EINN), a course of Artificial Intelligence. Giorgio was still a researcher of the IEI and I went to the Institute to be examined; it was the summer of 1976. I remember the (small) office that Giorgio shared with Franco Sirovich, with a small blackboard on a wall. Giorgio, sitting at his desk, with his feet on top of it, asked the questions and I answered using the blackboard.

After that occasion I went again to IEI at the time of my master thesis. My supervisor was Norma Lijtmaer, who was a researcher in the same research section as Giorgio. During that period I was not so much present at IEI because I got a fellowship at Olivetti SpA in Ivrea, where I spent eight months in preparing my master thesis.

I took the Laurea degree in “Scienze dell’Informazione” in June 1977, and in October of the same year I got a CNR research fellowship just at IEI. Thus I started to work together with my supervisor, Norma, in her research section. The section was composed of Giorgio Levi, Ugo Montanari, Franco Sirovich, Alberto Martelli, Norma Lijtmaer, Paolo Anciotti, Mario Fusani, and Patrizia Asirelli. In that period Giorgio was working in the new field of Logic Programming. His account on the IBM 370 had the name KOWALAN (which meant Kowalski Language).

The research section was very active and the atmosphere friendly. We, research fellows, had a good time working and joking (mainly joking). I remember that, together with Carlandrea Simonelli, we prepared a software trap (at that time, among the very few users of computers, it was still allowed) which simulated the login page of the IBM 370 and, after having caught the password of the unaware user, printed “sempre sia lodato il pollo che ha abboccato” (which means: be lauded forever the foolish who was hooked). We tried “to hook” Giorgio by freeing the terminal, with the trap simulating the login page, just when he was entering the terminal room. The terminal room was always crowded and with all the terminals constantly busy; thus a free place was very attractive. The trap worked like a charm!

In 1980 the law 382/80 gave the possibility for the CNR research fellows, after a positive judgment of a committee, to become university researchers. I had a positive judgment but, because of some ambiguities in the law, my new position remained uncertain. In the meantime Giorgio Levi got the position of full professor at the University of Pisa and he became the head of the Department of Computer Science. Thanks to his efforts, my situation was clarified and I became researcher at the University of Pisa in 1982.

At the Department of Computer Science I began my research in the field of Logic Programming, under the leadership of Giorgio. The first Logic Programming group included Giorgio Levi, Pierpaolo Degano, Marco Bellia, Maurizio Martelli, and myself.


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The activities of the research group started with the study of the integration between Logic and Functional Programming. One of the first papers of the group had the title “Leaf: a Language which Integrates Logic, Equations and Functions”. The study of the Leaf language continued in the following years and it was the basis of an interesting collaboration between the University of Pisa and CSELT (“Centro Studi e Laboratori di Telecomunicazioni”) in Turin.

The research activity of the Logic Programming group in Pisa increased, with significant scientific successes, up to the end of the nineties. In 1987 Giorgio founded the Italian Association for Logic Programming (“Gruppo ricercatori e Utenti Logic Programming”, GULP) which is still active in organizing Italian and European research events.

Among the successes of the Giorgio Levi’s group I must recall the S-semantics of logic programs, which was the starting point for a number of research works. The idea was developed in an initial paper, in 1987, by Moreno Falaschi, Giorgio Levi, Maurizio Martelli and Catuscia Palamidessi. S-semantics of logic programs was used, by researchers around the world, for understanding and formalizing many properties of logic programs. One of the most important roles of S-semantics was its use as a concrete semantics in Abstract Interpretation. Most of the static analysis tools for logic programs, built by abstract interpretation techniques, used S-semantics as the concrete collecting semantics.

Starting from the mid-nineties, Abstract Interpretation became a new prominent interest of Giorgio. He suggested to Roberto Giacobazzi, a Ph.D. student of his at the time, working on Abstract Interpretation of logic programs, and supervised his thesis on this topic. This was the first in a long series of works concerning abstraction.

In all these years Giorgio was a source of inspiration for his collaborators, as regards both obtaining interesting research results and investigating new research fields, which, in all cases, turned out to be very promising.

During the activities of the Logic Programming group, Giorgio Levi had a lot of students and collaborators. Many of them, currently, have positions in universities or industries. Among them I remember (including the ones cited before): Marco Bellia, Maurizio Martelli, Anna Pegna, Patrizia Asirelli, Enrico Dameri, Carlandrea Simonelli, Catuscia Palamidessi, Moreno Falaschi, Piero Bonatti, Roberto Giacobazzi, Maurizio Gabrrielli, Giuseppe Sardu, Alessio Gugliemi, Paola Bruscoli, Roberto Bagnara, Maria Chiara Meo, Francesca Scozzari, Fausto Spoto, Ernesto Lastres, René Moreno, Giuliana Vitiello, Paolo Volpe, Marco Comini, Gianluca Amato, Enea Zaffanella, Roberta Gori.

In the last few years my research interests diverged from those of Giorgio, but I continued relying on his advice, not to say the friendship between us.

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