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Preface

<http://www.numdam.org/item?id=ITA_1994__28_3-4_155_0>

PREFACE

This special issue is devoted to our longtime friend Karel Culik II on the occasion of his 60th birthday. All the contributions were written by Karel's friends, colleagues and former students, and we believe that these contributions reflect part of Karel's important scientific influence.

Karel was born in Prague on the 11th of May 1934. He was educated there in one of the most famous old universities of Europe, the Charles University. In subsequent years he was also with the Technical University of Prague and the Czech Academy of Sciences. He received his Ph.D. in Theoretical Computer Science from the Academy and then finished his R.N.Dr. in Mathematical Logic in 1967. He returned to Charles University to a research position, but left Czechoslovakia five days after the Russian occupation in 1968, and was not allowed to visit his country until 1990, after the "soft" revolution.

Karel continued his scientific career in North America, first at the Université de Montréal, then at the University of Waterloo in Ontario, where he stayed from 1970 until 1987, and from then on at the University of South Carolina in Columbia, USA. During all these years Karel has kept very close connections to Europe and has considered himself a European. Indeed, he has always preferred European conferences in Computer Science. Conversely, European conferences have greatly appreciated his contributions, as shown by the fact that he is one of the two North American scientists who received Kudlek's prize for at least five full talks at ICALP conferences.

There are several admirable features in Karel's scientific personality. Everyone who works with him notices immediately how unbelievably fast he is in developing hypotheses, or in finding counter-examples, or in providing new elegant proofs for known results. He can be amazingly stubborn in pursuing these goals. He does not hesitate to attack difficult problems which

others would consider hopeless and, as a rule, he does not give up until a solution has been found.

Karel's scientific production is very broad and varied. His more that 100 referred publications contain several very important contributions in different fields of Theoretical Computer Science. In addition to this, he has contributed dozens of articles to books and conference proceedings, and has lectured in about 100 universities all over the world.

Karel's scientific interests can be divided into four different categories: Theory of Programming Languages, Automata and Formal Languages, Cellular Automata, and Applications of Automata to Computer Graphics.

After writing several articles on programming languages, Karel moved to his main field, the theory of automata and formal languages, where he quickly became one of the recognized experts in the 70's and early 80's. At that time he wrote several very important and lasting contributions, such as the first solution of the DOL equivalence problem and a remarkable, purely morphic characterization of recursively enumerable languages.

In the mid 80's he started to work on cellular automata, and again very quickly became a recognized expert of that field. For example, he laid the theoretical foundation of Wolfram's classification of different types of cellular automata.

In recent years he started to apply his knowledge of automata and his brilliant intuition to computer graphics. His idea of using finite automata with multiplicities for generating and compressing real pictures has already shown its usefulness and may lead to major applications in the future.

Besides science, Karel also has another world, namely sports. He has always liked various sporting activities, such as canoeing, windsurfing, cross-country skiing, downhill skiing, table tennis, and, last but not least, tennis. In sports, just as in science, Karel does everything professionally, enthusiastically, and very competitively. No matter whether he is leading or trailing in a match by five games to love, he does not want to lose the next point! Tennis has always been an indispensable factor in Karel's life. Even during short scientific visits one of Karel's first priorities is to find nearby tennis courts. Besides playing in tournaments himself, Karel has always been proud of his daughters' – Carolina's and Susan's – successes on tennis courts, as well as the successes of this Czech compatriots in international competitions.

Above all else, what has pleased Karel most during the last few years is that he can finally travel freely in Europe – without the dangers of the

Cold War. He can again spend his summer holidays on tennis courts of his youth in Revične near Prague.

We have only touched two major aspects of Karel's life. Although his life is much dominated by science and sport, that is not all by any means. He and his wife Jana are extremely interested in all aspects of human life, and they want to live it to the fullest extent.

We wish Karel all the best in all the different aspects of his life, and we are sure that we will continue to enjoy his old and new theorems for many years to come.

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Christian Choffrut and Juhani Karhumäki
Paris, January 1994

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