# The MC Fortieth Anniversary

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A few months ago our Centre for Mathematics and Computer Science, CWI, entered its fifth decade. It is an occasion for reflection, for looking back and for a look forward.

It is an exciting time for research in computer science and in mathematics. New results and new products, as well as (sometimes unexpected) combinations of insights won in separate branches, lead to very powerful techniques indeed. More than ever, mathematics provides the language and the foundations for developments in science, technology and social organization, together with computer science which in addition furnishes vital and by now absolutely essential supporting tools, sc. computers, systems for complex information processing and, increasingly, for knowledge handling.

In early 1946, when CWI was founded, times were exciting, too. The world had just passed out of the dark shadows of a terrible and devastating world war into the bright and hopeful area of rebirth, of rebuilding society and civilisation. The founding fathers of the CWI - at that time named Mathematical Centre, as informatics and computer science had not yet emerged as a separate discipline - were convinced that mathematics and mathematicians could contribute to the restructuring of society. Their aim, as put down in the charter of the new centre, was 'to promote the systematic pursuit of pure and applied mathematics in the Netherlands, in order to increase, on the one hand the contributions of these disciplines to a higher level of prosperity and civilization in the Netherlands, on the other hand the contribution of the Netherlands to international culture'.

Elsewhere in this Newsletter G. Alberts devotes a study to these early days of the Mathematical Centre/Centre for Mathematics and Computer Science. He encapsulates the two main aims from the charter in the key words: mathematics as as *Productive* and as a *Cultural* force. Alberts succeeds well in

conveying the ideas and the idealism of those early days.

In the fourty years which passed since 1946, the CWI developed into an institute with a personnel of over 200, of which some 120 are directly involved with research. Several scores of university professors in the Netherlands and abroad worked at the CWI as researchers. In many hundreds of cases the CWI provided mathematical and computational support to technical and scientific projects, originating from industry, from government organizations or from other research institutes. The CWI was instrumental in introducing mathematical statistics and operations research as scientific disciplines into the Dutch university curriculum, and it was the cradle of computer science in the Netherlands. Through the years, several international conferences were organized at or by the CWI, researchers from all over the world visit us (and sometimes stay for a considerable time, e.g. a full sabbatical leave), and researchers of the CWI are regularly invited to visit colleagues or contribute to conferences abroad. Indeed, the researchers at the CWI have convincingly shown mathematics to be both a productive and a cultural force.

And what about the future? What will the next decade bring us? Well, as I already mentioned before, it is again an exciting time for mathematics and computer science. A recombination and unification is going on of mathematical subdisciplines. The support provided by the products of computer science have postered new developments in computational mathematics that are of great importance both for theory and for applications. The traditional superstition of a division between 'pure' and 'applied' mathematics is breaking down, and new applications of mathematical methods are made in fields as disparate as off-shore technology and the study of epidemics. The development of computer science itself generates interesting mathematical problems, e.g. with regard to concurrency and distributed systems (parallel algorithms and mathematical performance analysis are two examples that come to mind).

The CWI is well set up to contribute to the flourishing of computer science and mathematics. Both fields are well represented in our present research program. Good cooperation between the research groups provides an excellent basis for mutual support and interaction. Access to practical applications through cooperation with industrial groups provides vital stimuli.

Recently the government has increased its support of the information sciences, and in this framework computer science at the CWI has expanded considerably. The aim is to let the CWI become a 'centre of exellence' in this field. At the same time however the Board of Trustees of the CWI is cautious to maintain at the institute a balance between research in mathematics and computer science, in the conviction that the flourishing on one needs the support of the other. Only the future will learn if we will succeed in realising our ideals. We are convinced we will.