

time savings on the average, for $N = 32$, are 9.4, 34.4, 40.6* and 56.2 by the first, second, third and fourth types, respectively. The last figure represents a very remarkable saving in machine time, the middle two are well worth consideration, whilst even the first saving would be useful, particularly in calculations involving a predominance of multiplication time.

* Tocher (*loc. cit.*) shows for large N a direct saving of digits of 33% of digits and a corresponding direct decrease in multiplication time; the further decrease is due to the optimal strategy employed in positioning the next instruction.

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Forthcoming Publication of the Proceedings of the 1960 PICC Symposium, Rome

A *Symposium on the numerical treatment of ordinary differential equations, integral and integro-differential equations* took place during the week of 20-24 September 1960 at the Mathematical Institute of the University of Rome. This Symposium was organized by the Provisional International Computation Centre (PICC).

The Symposium opened with a report delivered by Professor Walther of Darmstadt (Germany) on the methods presently employed in the treatment of integral and integro-differential equations. The different methods are classified in categories according to the nature of the problem, the type of solution desired, and the numerical and/or electronic techniques available. Dr. Genuys (Paris) then presented a second report, also very complete, on the methods of treating ordinary differential equations. Like Professor Walther, Dr. Genuys examined each method in relation to the practical possibilities of processing by modern electronic computers.

After this introduction, more than 50 specialists, divided into three study groups (Section I: Ordinary differential equations; Section II: Integral and integro-differential equations; Section III: Applications), spoke on the particular problems with which they dealt and how the practical and theoretical difficulties which they encountered had been overcome.

The Symposium was attended by about 200 mathematicians from the following countries: Austria, Belgium, Czechoslovakia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, the Netherlands, Poland, Rumania, Sweden, Switzerland, United Kingdom, United States of America, Yugoslavia.

Of a more general and philosophic nature was the lecture delivered by Professor Lanczos (Dublin) on the possibilities offered by modern electronic computers, closely allied with a penetrating criticism of approximation processes and convergence caprices.

The final session was devoted to an outstanding speech by Professor R. Courant of New York, who explained his personal conclusion on the requirements of scientific research in this highly technical century, and the problems of training, at the highest level, young specialists in the field of automatic computation.

The Symposium, on the whole, presented a fairly complete picture of the actual state of this important section of mathematical sciences. Its success was largely due to the careful preparatory work furnished by the Italian representative to the PICC, Professor Aldo Ghizzetti, Rome.

The *Proceedings* (about 700 pages) will be published by Birkhäuser Verlag (Basel/Stuttgart) early in 1961.