Message for the Journal of the Japanese Association of Flow Injection Analysis

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The increase in qualitative and quantitative demands on analytical chemistry has shown an increasing slope since the 1950s.

The field of application of analytical chemistry has widened in all areas of life, and analytical tasks which some time ago arose only sporadically in agriculture, medicine or in different branches of industry have became everyday and urgent tasks recently.

Demands on analytical chemistry have changed in several respects recently. The amount of material to be analyzed or determined decreased from a few milligrams to micrograms, manograms, picograms and even below that. In respect of determinand concentrations, emphasis has shifted from percents to ppm, ppb and ppt levels. Requirements concerning reliability of the results have also increased, but the increase in the number of analyses, a few orders of magnitude, was dramatic.

Anticipating these demands in a number of fields, new techniques have been invented.

In solution analysis, Skegg introduced in the 1950s the segmented flow technique, in which even slow reactions may be used for analytical purposes.

In the early 1960s the special task of following the production of an electroactive compound in a tube reactor and controlling the process using analytical signals

has led us to devise a system suitable for the continuous measurement of the concentration of the electroactive component using a by-pass.
Later on, we have devised the injection method of analysis, in which the sample was injected into a stream of a background electrolyte necessary in voltammetric analysis. Our results in the field were published in the early 1970s.
In the middle of the 70s Ruzicka named the technique flow injection analysis /FIA/ which has been accepted internationally.
Contrasting with segmented flow analysis, this technique has been basically used in cases where the analytical reaction is fast.
By the middle of the 1970s we have developed two other techniques for flow analysis: the first being the so called triangle programmed titration, the second the continuous dilution technique. We have also developed further flow injection analysis to provide a means for carrying out analyses at a rate of 1000 samples/hr.

Our flow titration technique is suitable for carrying out precise analyses in flowing solutions, whereas the continuous dilution technique enables automatic calibration of ion selective electrodes. The technique offers special advantages in the calibration of microelectrodes with sizes in the μm range by eliminating the capacitive shock.

Ruzicka's activity in the field played an important part in making flow injection analysis an internationally accepted technique of analysis.

Several researchers were active in developing the theoretical fundamentals of the technique.
Mottola was one of them, whose reliable results served as basis for further research.

I think that both types of flow analytical techniques, segmented and continuous flow methods as well - among the latter flow injection, flow titration and flow dilution - have become basic techniques in modern analytical chemistry of solutions. Nevertheless, this did not reduce the importance of non-continuous methods or their combinations with flow methods.