FROM THE EDITOR-IN-CHIEF

Analytics—Doctors of Sciences

DOI: 10.1134/S1061934809050013

In spite of the threatening calls of Westernizers, especially in the 1990s, to liquidate the doctoral degree in Russia, it survived and will, probably, live for a long time. Why should we destroy the existing system, what advantages will this give? Doctoral dissertations are not only being prepared and defended, the number of dissertations defended in the last few years is, probably, even greater than in the Soviet years. However, it is hardly probable that only well-recognized experts, whose scientific contribution is well-known and a priori casts no doubts, become doctors of sciences. Medium-quality, routine and, unfortunately, simply weak dissertations have also been defended. The number of dissertation councils in analytical chemistry in Russia has increased, but not all of them can ensure an adequately high standard level. More importantly, many good, first-rate dissertations are defended, whose authors are worthy, promising scientists, experts who developed up-to-date methods and approaches and obtained original results.

Separately, very few dissertations were devoted to the general problems of analytical chemistry. Thus, B.L. Mil'man (All-Russia Mendeleev Research Institute of Metrology, St. Petersburg) has generalized the results of his metrological studies. I.V. Pletnev from the division of analytical chemistry of Moscow State University has defended a dissertation devoted to the creation of the selective organic reagents and extractants and some theoretical problems of complex formation; he also studies ionic liquids.

A relatively big group of the dissertations relates to the separation and concentration methods used for the subsequent determination of components. S.V. Kachin (Krasnoyarsk University) defended his dissertation "Sorption Environmental Analytical Systems in the Analysis of Water and Air" in the form of a scientific lecture. V.N. Losev (Kristall Research and Development Center, also in Krasnoyarsk) studied silicas modified by sulfur-containing groups and applied them to the separation, concentration, and subsequent determination of precious and non-ferrous metals. E.R. Oskotskaya in the Orel University developed separation and concentration methods using complexing adsorbents. Doctoral dissertations in the extraction of organic compounds were defended by researchers from the division of analytical chemistry of Voronezh Technological Academy S.I. Niftaliev and P.T. Sukhanov, and also by N.Ya. Mokshina, who prepared her work at the Voronezh State University.

Quite a few dissertations were devoted to chromatography. O.B. Rudakov (Voronezh Technological Academy) has developed an expert system for liquid chromatography. O.V. Rodinkov (division of analytical chemistry of St. Petersburg State University) has defended a dissertation on "Liquid-Gas chromatography and the Chromatomembrane Mass-Exchange Process in the System Liquid-Gas." A.V. Pirogov (division of analytical chemistry of Moscow State University) used polyelectrolyte complexes in ion chromatography and capillary electrophoresis. The work of O.N. Obrezkov (Moscow State University) was also devoted to ion chromatography. The dissertation of P.S. Fedotov (Vernadsky Institute of Geochemistry and Analytical Chemistry of the Russian Academy of Sciences) dealt with countercurrent liquid chromatography. Thin-layer chromatography in new versions was developed by E.G. Sumina (Saratov State University). Slightly before that, a dissertation on liquid chromatography was defended by the then researcher of the Department of Chemistry of Moscow State University, E.M. Basova.

Many dissertations were devoted to determine methods, such as spectroscopic, mass spectrometric, biochemical, and others. A.B. Volynskii, worked for many years at the Vernadsky Institute of Geochemistry and Analytical Chemistry of the Russian Academy of Sciences, and has defended a dissertation on electrothermal atomic absorption spectrometry. M.Yu. Burylina's recent dissertation from Kuban State University (Krasnodar) was devoted to the same method. I.Yu. Goryacheva (Saratov State University) has made a contribution to the use of luminescence in chemical analysis. G.I. Romanovskaya (Vernadsky Institute of Geochemistry and Analytical Chemistry of the Russian Academy of Sciences) worked in the same direction. I.A. Burylev (Siberian Division of the Russian Academy of Sciences, Novosibirsk) has developed a new version of ion mobility spectrometry. M.A. Proskurnin (Moscow State University) has developed new methods of thermal lens spectroscopy. A.L. Finkel'stein (Irkutsk) and B.D. Kalinin working for the Spektron Corporation defended dissertations in X-ray fluorescence analysis. E.S. Brodskii (Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences) has generalized his works in the determination of organic compounds in environmental objects by chromatography-mass spectrometry.

E.N. Kalmykova (Lipetsk Technical University) has developed useful immunoassay methods. S.S. Babkina's

(Kazan University), S.A. Eremin (Moscow State University) and S.Yu. Garmonov's (Kazan Technological University) dissertations were also devoted to biochemical methods.

A number of the dissertations were defended in electrochemical methods of analysis. These are works by G.B. Skripchenko and S.V. Romanenko from Tomsk Polytechnical University, Yu.M. Kulyako from Moscow (Vernadsky Institute of Geochemistry and Analytical Chemistry), A.I. Kulapina from Saratov, and N.Yu. Stozhko from Yekaterinburg (Academy of Economy).

Flow-injection methods of analysis were developed in at least two doctoral dissertations, by E.I. Morosanova (Moscow State University) and A.L. Moskvina (St. Petersburg). In the dissertation by E.I. Morosanova, the main attention was paid to the development of test methods of analysis.

V.P. Kolotov (Vernadsky Institute of Geochemistry and Analytical Chemistry of the Russian Academy of Sciences) has defended a doctoral dissertation in two specialties, radiochemistry and analytical chemistry. The title of his work was "Theoretical and Experimental Approaches to Solving Problems of Activation Analysis, Gamma Spectrometry, and the Creation of Weakly Activated Materials." Among those who became doctors of sciences in the last few years are R.N. Isaev and V.K. Chebotarev from the Altai University (Barnaul). Isaev's work was devoted to the analytical chemistry maleimides and Chebotarev's work, to the use of sulfur-containing reagents.

Yu.M. Evtushenko's dissertation (Sergiev Posad, Moscow oblast) presented the results of the development of methods for analyzing polymeric materials; it

was one of only a few purely applied theses, for which the main concentration is on the object and associated tasks. T.S. Papina (Institute of Water and Ecological Problems of the Siberian Division of the Russian Academy of Sciences, also Barnaul) studied the distribution of heavy metals in aquatic ecosystems of the Ob' River basin; she also defended dissertation in two specialties, ecology and analytical chemistry. I.A. Tolokonnikov, the developer and manufacturer of instruments for X-ray spectrochemical analysis, became Doctor of Geological and Mineralogical Sciences.

In 2004–2008, some other dissertations were also defended in analytical chemistry.

However, it is well-known that mature serious scientists, who have made a significant essential and well-recognized contribution to a certain science, often do not defend dissertations for various reasons. Some of them cannot force themselves to make generalizations, others are very busy (or consider themselves to be occupied) with everyday work, and some researchers simply do not place emphasis on the importance of the doctoral degree and do not consider it necessary to waste both time and nerves in preparing and defending dissertations. It is easy to find examples; the author of this paper could name at least three colleagues. We can explain and justify everything, but we must not forget that the defense of a doctoral dissertation is not only a private affair of a scientific researcher or a teacher. The team where the potential doctor works, the branch of science to which it belongs, and analytical chemistry as a whole are often also interested in the growth of the number of doctors of sciences.

Yu. A. Zolotov