

CHEMICAL LITERATURE IN THE SOVIET UNION AND PROBLEMS OF SCIENTIFIC AND TECHNICAL INFORMATION ON CHEMISTRY

By V. V. KAFAROV

Chief of Sector of the "Referativnyi Zhurnal: Khimiya,"

Institute of Scientific and Technical Information, Academy of Sciences of the U.S.S.R., Moscow

In this brief report I wish to point out a problem connected with the chemical literature in the Soviet Union and the problem of information in the field of chemistry and chemical technology.

A well-known decision was issued by our Government about the development of chemistry of plastics and high polymers in May, 1958. The publication of chemical literature dealing with the problems of chemistry and technology of high molecular weight compounds will be developed in accordance therewith.

According to our calculations, our country has reached second place in world publications on chemical problems, and now approximately 14% of all the chemical publications in the world are those of the Soviet Union. This figure corresponds exactly to the calculations published in "Chemical and Engineering News" in June, 1958. The majority of the chemical journals are published by the Academy of Sciences of the U.S.S.R. They are

"Izvestiya Akademii Nauk S.S.S.R.,
Otdelenie Khimicheskikh Nauk"
(Bull. of the Academy of Sciences
U.S.S.R., Dept. of Chem. Sciences)
"Zhurnal Analiticheskoi Khimii"
(J. Anal. Chem.)
"Zhurnal Obshchei Khimii" (J. Gen.
Chem.)
"Zhurnal Prikladnoi Khimii" (J.
Applied Chem.)
"Zhurnal Fizicheskoi Khimii" (J.
Phys. Chem.)
"Kolloidnyi Zhurnal" (Colloid J.)
"Uspekhi Khimii" (Progress in
Chemistry)
"Zhurnal Nauchnoi i Prikladnoi
Fotografii i Kinematografii" (J.
Sci. & Applied Photography &
Cinema)

Additional articles dealing with chemical problems are published in the "Reports of the Academy of Sciences of the U.S.S.R." (Doklady Akademii Nauk S.S.S.R.) A series of chemical journals are published by the academies of sciences of the constituent republics and by local branches.

In the year 1958 the Ministry of Higher Education began to publish "Nauchnye Doklady Vysshei Shkoly" (Scientific Reports of the College) and "Izvestiya Vysshei Shkoly" (News of College) dealing with all the fields of knowledge, chemistry and chemical technology inclusive.

All the chemical higher institutes of learning publish scientific reports on chemical problems.

The All-Union Chemical Society, named after Mendeleev, has been publishing the journal "Chemical Science and Industry" (Khimicheskaya Nauka i Promyshlennost) since 1956. The Chemical Committee publishes two journals "Khimicheskaya Promyshlennost" (Chemical Industry) and "Kauchuk i Rezina" (Crude and Vulcanized Rubber). Four new journals were started in 1959: "Iskusstvennoe Volokno" (Synthetic Fiber), "Lakokrasochnye Materialy i Primenenie" (Varnishes, Dyes, & Paints), "Plasticheskie Massy" (Plastics), "Khimicheskoe Mashinostroenie" (Chemical Machine Building, or Chemical Apparatus & Process Industry Machinery). In the system of branch institutes of the Chemical Committee, a great number of bulletins are being published covering the problems of chemistry and chemical technology, and exchange of experience on new technology.

In this report it is not possible even to enumerate all the publications on problems of chemistry and chemical technology, or on problems which are closely connected with them.

The scientific and technical literature on chemistry and chemical technology published in our country and abroad is examined in the Soviet Union by the Institute of Scientific and Technical Information of the Academy of Sciences of the U.S.S.R. This work is carried out in various ways. First of all the "Referativnyi Zhurnal Khimiya" (Abstract Journal Chemistry) is published twice a month; furthermore, the Institute has organized an express-information series, that is, abstracts in booklet form issued shortly (usually within ten days) after the original article is received by the Institute. These abstracts cover the most important problems of chemistry and chemical technology. In addition, abstracts of separate articles on problems of chemistry and chemical technology are being made. The Institute of Scientific Information, besides the abstract journal "Khimiya," publishes also these abstract journals:

"Astronomiya i Geodeziya" (Astronomy and Geodesy)
"Biologiya" (Biology)
"Geografiya" (Geography)
"Geologiya" (Geology)
"Matematika" (Mathematics)
"Mashinostroenie" (Mechanical Engineering)
"Mekhanika" (Mechanics)
"Metallurgiya" (Metallurgy)
"Fizika" (Physics)

"Elektrotehnika" (Electrical Engineering)

Centralization of the abstracts journals dealing with various fields of knowledge in one organization allows the abstract journal "Khimiya" to cover the non-chemical literature, which is usually not read by chemists, but which sometimes publishes papers directly concerned with chemistry and chemical technology. This system is not only more economical, but it also increases the efficiency of our scientific effort in publishing the abstracts. It is also evident that this system simplifies the organization of auxiliary departments, such as libraries, the bibliography group, the transcription group, etc., since each of these departments serves simultaneously the whole Editorial Office.

Finally, a uniform network of abstracts journals enables us in each of these journals to determine its confines with more precision, making them narrower, which, in turn, makes it possible to increase correspondingly the scope of each abstract.

However, it should be noted that such a narrowing of the confines does not imply that any precise demarcation between separate series (e.g., chemistry and physics, or chemistry and biology) is possible. The mutual penetration of knowledge in modern science very urgently demands that between various series of abstracts journals there should exist broad fields of knowledge overlapping each other.

Thus, one of the guiding principles in the organization of our abstract journals is their completeness. The reader who is a chemist, must find in his particular abstract journal all the works which are of interest to a chemist.

At present the Institute of Scientific and Technical Information receives about 13,000 foreign and 2000 Soviet periodical and serial publications each month. Some 5500 of them are examined, and abstracts are published in the abstract journal "Khimiya."

The Institute has an international book-exchange department which exchanges literature with 836 scientific organizations in 60 countries and receives from them approximately 3500 titles of journals.

In addition to that, the largest publishing offices of the world (Prentice-Hall, Masson, Dunod, Wiley and Sons, Akademie-Verlag, Oldenbourg, Georg Thieme, and others) send us their books free of charge to review. Abstracts of these books appear in our abstract journal, thereby aiding their publicity and distribution throughout the world. For some of these publishing companies we organize exhibitions of their books in the House of Scientists in Moscow and in some other cities of the Soviet Union (in October, 1958 — Prentice-Hall; November — Pergamon Press; December — Dunod).

This department sends abroad for the book exchange about 1500 copies of all the series of

the abstract journals and 400 other Soviet journals.

In accordance with a mutual agreement with Dr. E. J. Crane, then editor of "Chemical Abstracts," we use some abstracts from "Chemical Abstracts" because of a shortage of originals. In its turn, "Chemical Abstracts" takes about 8 per cent of all the Russian literature in form of abstracts from our abstract journal "Khimiya."

Beginning in 1958, in addition to the complete abstract journal "Khimiya," we are publishing it also in five separate parts:

First — General chemical problems, physical chemistry, complex compounds, cosmic chemistry, geochemistry, hydrochemistry, analytical chemistry, laboratory equipment, and instruments

Second — Organic chemistry

Third — Chemical engineering, chemical technology of inorganic substances

Fourth — Chemical technology of organic substances. Chemistry of high-molecular-weight compounds

Fifth — Biological chemistry

This system allows a broader circle of readers to subscribe to the necessary parts of journals, reduces sharply the cost of subscription, and also increases the circulation of the journal.

The sections on chemical engineering processes and apparatus and control and measuring instruments are broader in the abstract journal "Khimiya," making them different from the abstract journals "Chemisches Zentralblatt" and "Chemical Abstracts." Cuts are widely used in these sections. We consider these sections the most important for chemical industry.

The Editorial Office of the abstract journal "Khimiya" prepared, for a broad discussion at the All-Union Mendeleev Conference which took place in December of 1958, a nomenclature of organic compounds, which will be the base for making a systematic index. This index is supposed to be issued along with the author and subject indices.

We experienced great difficulties while preparing the indices to the abstracts journal, as we had no experience in this kind of work, but we hope that soon these difficulties will be over. The subject and systematic indices for 1953 and 1954 will be issued in November of 1958, and those for 1955-1956 at the beginning of 1959.

It might be interesting to compare the quantities of abstracts published in "Chemical Abstracts" and in our Journal, which was founded in 1953. The attached chart shows that the curve for our journal has gone sharply upward. In 1955 it reached the quantity of abstracts published by "Chemical Abstracts." In 1956 we published still more abstracts and overreached "Chemical Abstracts" in this

respect. In 1957, in spite of the fact that the "Metallurgiya" was made a separate publication, the quantity of abstracts contained in our journal continued to grow. It is most probable that in the next two or three years the number of abstracts published in both "Chemical Abstracts" and the "Khimiya" journal of our Institute will be equal.

In conclusion I wish to point out that our abstract journal "Khimiya" is very young and,

of course, it is not perfect. Your criticism and your comments will be highly appreciated because they will serve for further improvement of information in the field of chemistry and chemical technology. We would like to arrange for the mutual exchange of books and journals with a large number of organizations. This will strengthen friendly relations between our countries.

