Journals and Conference Proceedings of Chemical History, Education, and Documentation

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The appropriate sections of volumes 70 and 71 (1969) and 90 and 91 (1979) of *Chemical Abstracts* were searched to locate all papers and conference proceedings related to chemical history, education, and documentation. A tabulation was made of the number of items published in each area by journal and language of publication. A comparison was made of the changing patterns of publication.

The information explosion in the chemical literature that began after World War II appears to be continuing. The growth of the world chemical literature, as measured by the number of abstracts contained in *Chemical Abstracts* (*CA*), continues to be rapid. From 1962 through 1969 trends were noted in the number of articles and language of publication in journals related to the topics of chemical history, education, and documentation.[1]

The purpose of this paper was to compare the changes in the literature of chemical history, education, and documentation from 1969 to 1979. More specifically, the purposes of this paper were to compare (1) the number of articles published in journals and conference proceedings and (2) the languages in which items were published.

A search was made of section 1 of volumes 70 and 71 and section 20 of volumes 90 and 91 of *CA*, published, respectively, in calendar years 1969 and 1979, to locate abstracts of all articles related to chemical history, education, and documentation that had appeared in journals or published as a part of conference proceedings.[2] A tabulation was made by year, source, and area (history, education, or documentation) in which articles were written and the language in which they were originally published. All items, with the exception of those related to education and documentation of a news nature, i.e., the announcement of the presentation of an award, a discovery of significance to the profession as a whole, or similar items, were classified as history. Abstracts of books, reports, dissertations, and cross-references in *CA* were not included.

Abstracts of 1104 articles were published in section 1 of *CA* in 1969 and 2223 in section 20 of *CA* in 1979. In 1969 41.5% (458) were related to history, 38.5% (425) to education, and 20.0% (271) to documentation. In 1979 the percentage of articles related to history and education had increased, respectively, to 41.8% (930) and 48.3% (1073), and the percentage of articles related to documentation had decreased to 9.9% (220).

Table I contains a summary of the number and percentage of papers related to the history of chemistry in 14 publications. *Chemical and Engineering News* carried the greatest number of articles during each year under study, but it will be noted the percentage of articles decreased from 24.0% in 1969 to 9.2% in 1979. The remaining 13 publications accounted for an additional 17.7% in both 1969 and 1979. During 1969, 458 articles were contained in 181 publications, while in 1979 the number of articles increased to 930 and the number of publications to 386. This represented a 103.1% increase in the number of articles and a 113.3% increase in the number of publications. The overlap in publications between the two years was 27.1% or 49 publications.

Table II presents a summary of eight publications, in terms of number of articles published in 1969 and 1979, related to chemical education. The *Journal of Chemical Education* contained 34.6% and 26.5% of all articles related to chemical education in 1969 and 1979, respectively. Six journals accounted for 74.6% of all articles published in 1969, while eight journals accounted for only 53.1% of the articles published in 1979. During this period the number of articles abstracted per year increased from 425 to 1073, or 152.5%. The number of publications containing articles increased from 71 to 154, a 116.9% increase with an overlap of 20 publications.

Table III shows a summary of the number of papers published in 1969 and 1979, respectively, related to chemical documentation. In 1969 five publications contained 49.8% of all articles related to chemical documentation, whereas in 1979 five publications contained 53.6%. Only one journal was common to both lists, the *Journal of Chemical Information and Computer Sciences*. This publication contained 29.1% of all articles abstracted in 1979 and its predecessor, the *Journal of Chemical Documentation*, contained 28.1% of all articles abstracted in 1969. The total number of articles published in 1969 was 221 compared to 220 in 1979, a decrease of 0.5%. In contrast, the number of different publications increased from 72 to 82, or 13.9%, with an overlap of 10 publications.

Table I. Journals and Conference Proceedings of Chemical History

journal or proceeding	1969 no. of papers	1969 %	1979 no. of papers	1979 %
Chem. Eng. News.	110	24.0	86	9.2
J. Chem. Educ.	13	2.8	26	2.8
Khim. Shk.	16	3.5	0	0
Proc. Vol. Geol. Soc. Am.	12	2.6	0	0
Vopr. Istor. Estestvozn. Tekh.	10	2.2	0	0
Chem. Weekbl.	9	2.0	0	0
Stud. Conserv.	9	2.0	0	0
Chem. Br.	2	0.4	27	2.9
Perspect. Neuroendocr. Res.	0	0	24	2.6
Archaeometry	7	1.5	18	1.9
Ann. N.Y. Acad. Sci.	0	0	18	1.9
PACT (Rixenscert, Belg.)	0	0	17	1.9
Trends Biochem. Sci. (Pers. Ed.)	0	0	16	1.7
Adv. Chem. Ser.	3	0.7	20	2.2
other	267	58.3	678	72.9
total	458		930	

Table II. Journals and Conference Proceedings of Chemical Education

journal or proceeding	1969 no. of papers	1969 %	1979 no. of papers	1979 %
J. Chem. Educ.	147	34.6	284	26.5
Khim. Shk.	68	16.0	100	9.3
Sch. Sci. Rev.	50	11.8	46	4.3
Chem. Szk.	22	5.2	19	1.8
Chem. Sch.	14	3.3	20	1.9
Educ. Chem.	16	3.8	38	3.5
Prax. Naturwiss., Chem.	0	0	37	3.5
Biochem. Educ.	0	0	26	2.4
other	108	25.4	503	46.9
total	425		1073	

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Table III. Journals and Conference Proceedings of Chemical Documentation

journal or proceeding	1969 no. of papers	1969 %	1979 no. of papers	1979 %
J. Chem. Inf. Comput. Sci.[3]	62	28.1	64	29.1
Tr. Vses. Konf. Inf.-Poisk. Sist. Autom. Obrab. Nauchno-Tekh. Inf., 3rd	23	10.4	0	0
Adv. Chem. Ser.	14	6.3	0	0
Commun. Sci.: Doc. Autom., Symp.	11	5.0	0	0
Nauchno-Tekh. Inf., Ser.	0	0	17	7.7
ACS Symp. Ser.	0	0	13	5.9
Kagaku Sosetsu	0	0	8	3.6
Vopr. Inf. Teor. Prakt.	0	0	16	7.3
other	111	50.2	102	46.4
total	221		220	

Table IV. Percentage of Articles in Various Languages

	history		education		documentation		total	
language	1969	1979	1969	1979	1969	1979	1969	1979
English	60.7	56.7	64.5	53.7	62.4	62.7	62.5	55.8
Russian	17.9	11.0	17.9	16.4	19.0	20.0	18.1	14.5
German	6.1	12.6	5.4	13.8	6.8	4.1	6.0	12.3
Japanese	1.1	3.8	0.5	3.1	0.9	5.0	0.8	3.6
French	4.1	4.8	0.2	1.7	3.2	0.5	2.4	2.9
other	10.1	11.1	11.5	11.3	7.7	7.7	10.2	10.9

Data derived from combining the current study with the study published in 1971[1] led to the conclusion that the literature of chemical history was doubling about every 9 years and chemical education every 6.5 years. It appeared the literature of chemical documentation will experience a modest growth in the total number of articles abstracted in the next 10 years. Overall, it was concluded that during the next decade, *CA* will abstract 18 250 articles related to chemical history, education, and documentation.

A summary of the number of papers published in English, German, Russian, French, Japanese, and other languages is presented in Table IV. English was the dominant language of publication for all three areas. However, a comparison across the 10-year period indicated a slight decrease in the total percentage of articles being published in English. During the period 1962–1965, 70.8% of all articles related to the areas under study was published in English.[1] The percentage in 1979 dropped to 55.8%. Increases in total percentage of papers published in Russian, German, and Japanese were noted, while there appeared to be a decrease in French. The percentage of articles being published in other languages increased during this period from 8.0% to 10.9%. This was due in part to the emergence of other countries as producers and consumers of scientific work. For example, during the period 1962 through 1969, no articles were abstracted that were originally published in Chinese. However, in 1979 6 articles were published related to chemical education and 17 to history. Chinese was the language of communication in 1.0% of all articles related to chemical history, education, and documentation. As the world's political and economic situation changes over the next decade, it is quite possible that some of the languages of Third World countries will emerge as significant avenues of communication in the chemical literature of the world.

This current study tended to support the conclusions of the work reported in 1971.[1] There was a growing tendency for authors of papers related to chemical history, education, and documentation to publish their papers in a wider variety of journals and conference proceedings. It further appeared that a greater number of papers were being published in a wider variety of languages.

REFERENCES AND NOTES

(1) J. B. Ayers, "The Journals of Chemical History, Education and Documentation", *J. Chem. Doc.*, **11**, 12–13 (1971).
(2) Abstracts of publications related to history, education, and documentation were contained in section 1 of *CA* in 1969, while the corresponding materials were contained in section 20 of *CA* in 1979.
(3) Name of journal changed in 1975 from *J. Chem. Doc.*