

Number 46

Here is a list of highly cited articles published by eight of the East European journals discussed in a previous report.¹ Three of the journals in Figure 1 account for all but six of the twenty-five articles listed: Collection of Czechoslovak Chemical Communications (9 articles); Folia Biologica of Prague (6), and Studia Mathematica of Warsaw (4). Three articles were published in separate journals of the Hungarian Academy of Sciences in Budapest. Interestingly enough, the major emphasis in each of these countries is typified by these articles. Certainly the Poles are well-known for outstanding work in mathematics.

All of the articles were published in English, except three in German. The research they report was done in Czechoslovakia (14 articles), Poland (4), Hungary and the United States (3 each), and the Soviet Union (1).

Most of the articles (17) were published in the 1960s. One was published in 1948, six were published in the 50s, and one in 1970.

With the exception of the articles by Gaspar (10), Honzl and November 15, 1976

Rudinger (11), Koutecky (15), Lindenstrauss and Pelczynski (16), and Takatsy (22), citation totals for these articles are generally much lower than articles on similar lists from other regions. However, the figures are nearly comparable to those reported for highly cited French articles.²

It is important to note that except for the five papers mentioned above there are undoubtedly other East European papers that could have been selected. The reason they did not come to our attention in this study is simple. Only those articles which were cited at least ten times in a single year were considered. Obviously, had we lowered this threshold, other papers would have easily been selected. None of them, however, would have been cited 150 times in the 15-year period studied. Even a paper cited 135 times might have been missed if cited nine times each year for 15 consecutive years.

In future studies we shall report on other heavily cited articles from East European countries published 'abroad,' that is in other European,

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Figure 1. Sources of highly cited papers from East European journals. A = number of articles on list in Figure 2. B = journal's impact factor. A B Journal 1 0.795 Acta Biochim. Biophys. Acad Sci. Hung 1 0.229 Acta Microb Acad

	0.223	Acta Microb. Acau
		Sci. Hung.
1	0.286	Acta Phys. Acad. Sci. Hung.
2		Acta Phys. Pol.
9	0.791	Coll. Czech. Chem.
		Commun.
6	0.986	Folia Biol. (Prague)
1	0.622	Folia Microbiol.
4	0.491	Studia Mathematica

or Western, or Soviet journals.

In our East-European journal study,¹ we noted that the SCN[®] 's incomplete though heavy coverage of chemistry in the area may affect the makeup of such highly cited journal and article lists. It can be argued that if we covered most or all East European chemical and other journals, we'd find many more highly cited articles. Indeed perhaps some of them would have been published in languages other than English or German.

There doesn't seem to be a strong case for that argument. When we extended the list of journals cited by the East European journals we do cover, we found even fewer East European journals. If the East European journals that are not in our study are roughly similar in their citation practices to the ones we did cover, then we would expect them to cite the same set of highly cited journals. However, in given specialties, one might turn up some possibly interesting journals or even articles.

Twelve of the papers on the list are biological or biochemical, eight physical or physical chemistry, and five mathematical. Most of the papers could be called methods or technical papers, but they are methods papers of a highly sophisticated order.

The papers are listed alphabetically by first author. The list gives the total number of citations during the period 1961-1975, the average yearly citations during that period, and the citation count for 1975 alone. Comparison of the last two numbers gives a rough idea of where the paper is on its citation curve. If the 1975 count is appreciably larger than the yearly average, the paper has not reached its citation peak. The paper by Gaspar (10) is an interesting example. Though published in 1954, its yearly 1961-1975 citation average is 10.6, but its 1975 citation count was 18. Paper number 11 by Honzl and Rudinger is similar in this respect. Its average since publication in 1961 was 14.1, but its 1975 citation count was 31.

Many papers seem to be on a plateau. For example, numbers 6, 13, 14, 23, 24, and others show a

A = item number. B = total citations 1961-1975. C = average yearly citations 1961-1975. D = citations in 1975 only.					
A	B	С	D	Bibliographic Data	
1.	103	6.9	10	Bessaga C & Pelczynski A. On bases and unconditional conver- gence of series in Banach spaces. Studia Mathematica 17:151-64 1958 [Warsaw]	
2.	102	8.5	5	Brondz B D. Interaction of immune lymphocytes in vitro with normal and neoplastic tissue cells. Folia Biol. Prague 10:164-75, 1964 [Immunol. & Oncol. Data Companya Inst. Acad. Mad. Sci. USSR]	
2.	61	7.6	10	Brondz B D. Complex specificity of immune lymphocytes in allo- geneic cell cultures. Folia Biol. Prague 14:115-81, 1968 [Lab. Virol. & Immunol., Gamaleya Inst. Acad. Med. Sci. USSR]	
4.	91	7.6	3	Calderon A P. Intermediate spaces and interpolation; the com- plex method. Studia Mathematica 24:113, 1964 [Univ. Chicago]	
5.	103	6.9	1	 Cerny V, Joska J & Labler L. On steroids. 59. Application of thin-layer chromatography without binder for rapid analytical and preparative separation of steroids. Coll. Czech. Chem. Comm. 26:1658-68, 1961. [Inst. Org. Chem. & Biochem., Czech. Acad. Sci., Prague] 	
6.	113	9.4	10	Exner O. On the enthalpy-entropy relationship. Coll. Czech. Chem. Comm. 29:1094-1113, 1964. [Polaro- graphic Inst., Czech. Acad Sci., Prague]	
7.	102	10.2	7	Exner O. Studies on the inductive effect. 5. Separation of induc- tive and mesomeric effects in meta and para benzene deriva- tives. Coll. Czech. Chem. Comm. 31:65-89, 1966 [J. Heyrovsky Inst. Polarography, Czech. Acad. Sci., Prague]	
8.	120	9.2	15	Feynman R P. Quantum theory of gravitation. Acta Physica Pol. 24:697-722, 1963. [Based on tape of lecture at Conf. Relativistic Theories of Gravitation, Jablonna]	
9.	77	5.9	1	Franek F & Nezlin R S. Recovery of antibody combining activity by interaction of different peptide chains isolated from purified horse antitoxins. Folia Microbiol. 8:128-30, 1963.	
10.	159	10.6	18	Gaspar R. Ueber eine Approximation des Hartree-Fockschen Potentials durch eine universelle Potentialfunktion (On an ap- proximation of the Hartree-Fock potential by means of a uni- versal potential function). Acta Phys. Acad. Sci. Hung. 3:263-85, 1954. [Zentralforsch Inst. Physik Abt. Theoret. Phys. Budabest]	
11.	212	14.1	3 1	Honzl J & Rudinger J. Amino-acids and peptides. 33. Nitrosyl	

Figure 2. Highly cited articles from East European journals still cited in 1975.

chloride and butyl nitrite as reagents in peptide synthesis by the

azide method; suppression of amide formation.

Coll. Czech. Chem. Comm. 26:2333-44, 1961 [Inst. Org. Chem. & Biochem., Czech. Acad. Sci., Prague]

- 72 4.8 3 Kalousek M. A study of reversibility of processes at the dropping mercury electrode by changing discontinually the polarising voltage. Coll. Czech. Chem. Comm. 13:105-15, 1948. [Physico-Chem. Inst., Charles Univ., Prague]
- 13. 122 8.1 8 Koryta J. Ueber den Einfluss der Farbstoffe der Eosingruppe auf die reversible Oxydo-reduktion an der Quecksilberelektrode On the effect of eosin dyes on the reversible oxydo-reduction at the hanging-drop mercury electrode).
 Coll. Czech. Chem. Comm. 18:206-13, 1953 [Polarographis-

ches Zentralinst., Prague] 14. 56 5.6 4 Kotanski A. Diagonalization of helicity crossing matrices. Acta Physica Pol. 29:699-711, 1966 [Inst. Physics, Jagellonian Univ., Cracow]

15. 243 24.3 20 Koutecky J. Theorie langsamer Elektrodenreaktionen in der Polarographie und polarographisches Verhalten eines Systems, bei welchem der Depolarisator durch eine schnelle chemische Reaktion aus einem elektrodenaktiven Stoff ensteht (Theory of slow electrode reactions in polarography, and the polarographic characteristics of a system in which the depolarizer originates in a rapid chemical reaction from an electrodereactive substance).

Coll. Czech. Chem. Comm. 18:597-610, 1953 [Lab. Phys. Chem. Tschechoslovak. Akad. Wissenschaft]

16. 142 17.8 14 Lindenstrauss J & Pelczynski A. Absolutely summing operations in Lp-spaces and their applications.

Studia Mathematica 29:275-326, 1968 [Jerusalem & Warsaw]

 58 6.4 13 Ovadi J, Tibor S & Elodi P. Spectrophotometric determination of histidine in proteins with diethylpyrocarbonate. Acta Biochim. Biophys. 2:455-58, 1967. [Inst. Biochem., Hung. Acad. Sci., Budapest]

- 18. 100 6.7 10 Pelczynski A. Projections in certain Banach spaces. Studia Mathematica 19:209-28, 1960 [Warsaw]
- 54 9.0 3 Rychlikova M, Demant P & Ivanyi X. The predominant role of the K-end of the H-2 locus in lymphocyte transformation in mixed cultures. Folia Biol. Prague 16:218-21, 1970 [Inst. Exp. Biol. & Genetics, Czech. Acad. Sci., Prague]
- 86 10.8 16 Snell G D. The H-2 locus of the mouse; observations and speculations concerning its comparative genetics and its polymorphism. Folia Biol. Pague 14:335-58, 1968 [Jackson Lab., Bar Harbor, Maine]

21.	83	5.5	2	Svoboda J. The tumorigenic action of Rous sarcoma in rats and the permanent production of Rous virus by the induced rat sarcoma XC. Folia Biol. Prague 7:46-60, 1961 [Inst. Biol., Dept. Exp. Biol. & Genetics, Czech. Acad. Sci., Prague]
22.	287	19.1	10	Takatsy G. The use of spiral loops in serological and virological micromethods.
				Acta Microb. Acad. Sci. Hung. 3:191-202, 1955.
23.	97	10.8	9	Warner N L. The immunologic role of the avian thymus and
				bursa of Frabricius. Folia Biol. Prague 13:1-17, 1967. [Dept. Pathol., New York Univ. Sch. Med.]
24.	44	4.4	5	Zemlicka J. Chladek S, Holy A & Smrt J. Oligonucleotide com-
				pounds. 14. Synthesis of some diribonucleoside phosphates us-
				ing the N-dimethylamino-methylene derivatives of 2',2'-O- ethoxymethylene ribonucleosides.
				Coll. Czech. Chem. Comm. 31:3198-3211, 1966 [Inst. Org.
				Chem. & Biochem., Czech. Acad. Sci., Prague]
25.	85	1.4	3	Zuman P. Quantitative treatments of substituent effects in polarography. 1. General equation for the relation between polarographic half-wave potentials and the effects of substitu- ents. Coll. Czech. Chem. Comm. 25:3225-43, 1960. [Polaro- graphic Inst., Czech. Acad. Sci., Prague]

1961-1975 average and 1975 citation count that differ little. Still other papers are on the decline; for example numbers 2, 4, 5 and 9.

Apart from the important role of retrospective retrieval of information, the *Science Citation Index*[®] has enabled us to do studies of this kind so that 'classical' papers from the past can be identified. This capability is important to the historian of science. Unfortunately, when one is interested in studying the history of science for the period 1900-1960, the absence of the SCI for those years limits our ability to identify what was important or significant at the time--or for that matter to identify what is now recognized as 'pre-mature' science. This is why ISI[®] hopes to compile the SCI for 1900-1960 in the future. Please let me have your thoughts on this.

REFERENCES

1. Garfield E. Journal citation studies. 29. East European journals. Current Contents[®] (CC[®]) No. 45, 8 November 1976, p. 5-12.