

Journal Citation Studies. 29.
East European Journals

Number 45

November 8, 1976

The last regional study we reported covered Scandinavian journals.¹ Now we report on the 73 East European journals listed in Figure 1. East European here simply means Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and Yugoslavia.

Figure 1 gives for each journal its impact factor; the number of times it was cited in 1974; the number of times its 1972 and 1973 articles were cited in 1974; and the number of articles it published in 1972 and 1973. In Figure 1 the journals are ranked by impact--the average number of citations received by the average cited article.

There are 25 Hungarian Journals, 21 Czechoslovak, 20 Polish, 4 Romanian, 2 Yugoslav, and 1 Bulgarian. These 73 journals constitute just about 3% of the 2443 journals covered by the *SCI*[®] in 1974. Together they published 6316 articles, about 1.6% of the 400,971 items indexed that year. Of more than 5.245 million references processed in the indexing, these East European journals produced 73,163, or 1.4%. Thus, in terms of average articles in average journals, the East European journals are about half the size of most journals in number of articles. The articles have slightly more than half the usual number of references (8.6) instead of the international average of 13.

The 6316 articles from these journals were not all the articles produced by

East European research in 1974. Several thousand appeared in other journals covered by ISI[®] as well as journals we don't cover. We know from the *Current Contents*[®] (*CC*[®]) listings cumulated in ISI's *Who is Publishing in Science*[®],² that in 1974 at least 10,125 articles appeared in the scientific press with East European first-author addresses. Figure 2 shows a breakdown of that total by country. *SCI*-covered journals contained roughly only 50-75% of the East European research reports covered in *CC*. The low figure of 4.8% for Yugoslavia is due to the relatively larger number of articles published in international journals. Twenty to fifty percent of East European research reports covered in *CC* are published 'abroad' in Soviet and Western journals. Is the tendency to publish one's best work 'abroad' the reason why no journal on the list in Figure 1 has an impact as great as the world-wide average of 1.031?

Figure 3 shows the 50 journals most frequently cited by the East European group. Figure 4 shows the 50 journals that most often cited the East European group. Both these figures have columns giving the number of citations or references received or made by each listed journal, the number of citations or references received or made by the East European group, the number of self-citations, and columns for percentages

Figure 1. East European Journals indexed by the *Science Citation Index* in 1974. Journals are listed in descending order of impact factor. **A** = impact factor. **B** = number of times journal was cited in 1974. **C** = 1974 citations of articles published by the journal in 1972 and 1973. **D** = number of articles published by the journal in 1972 and 1973 ($A = C/D$). (A journal title is followed in parentheses by a letter indicating country of origin: *Bulgaria, Czechoslovakia, Hungary, Poland, Romania, Yugoslavia.*)

| | A | Journal | B | C | D |
|-----|----------|----------------------------------|----------|----------|----------|
| 1. | 0.986 | Folia Biol. (Prague) (C) | 598 | 140 | 142 |
| 2. | 0.959 | Photosynthetica (C) | 288 | 94 | 98 |
| 3. | 0.878 | Acta Biochim. Pol. (P) | 336 | 65 | 74 |
| 4. | 0.809 | Physiol. Bohemoslov. (C) | 621 | 123 | 152 |
| 5. | 0.795 | Acta Biochim. Biophys. (H) | 250 | 66 | 83 |
| 6. | 0.791 | Collect. Czech. Chem. Comm. (C) | 4040 | 831 | 1051 |
| 7. | 0.788 | Acta Virol. (C) | 475 | 119 | 151 |
| 8. | 0.735 | Acta Neurobiol. Exp. (P) | 173 | 83 | 113 |
| 9. | 0.634 | J. Radioanal. Chem. (H) | 515 | 234 | 369 |
| 10. | 0.622 | Folia Microbiol. (C) | 443 | 84 | 135 |
| 11. | 0.582 | Bull. Astron. Inst. Czech. (C) | 294 | 64 | 110 |
| 12. | 0.549 | Croat. Chem. Acta (Y) | 251 | 73 | 133 |
| 13. | 0.535 | J. Therm. Anal. (H) | 119 | 53 | 99 |
| 14. | 0.507 | Bull. Acad. Pol. Sci. Chim. (P) | 495 | 151 | 298 |
| 15. | 0.505 | Chem. Zvesti (C) | 416 | 102 | 202 |
| 16. | 0.505 | Biol. Plantarum (C) | 251 | 72 | 144 |
| 17. | 0.491 | Studia Mathematica (P) | 506 | 106 | 108 |
| 18. | 0.483 | Neoplasma (C) | 275 | 83 | 172 |
| 19. | 0.475 | Czech. J. Phys. (C) | 645 | 135 | 284 |
| 20. | 0.473 | Activ. Nerv. Super. (C) | 228 | 86 | 182 |
| 21. | 0.470 | Chem. Listy (C) | 515 | 95 | 202 |
| 22. | 0.453 | Rev. Roum. Biochimie (R) | 101 | 34 | 75 |
| 23. | 0.450 | Acta Chim. Acad. Sci. Hung. (H) | 904 | 195 | 433 |
| 24. | 0.450 | Bull. Acad. Pol. Sci. Terre (P) | 106 | 36 | 80 |
| 25. | 0.452 | Magy. Kem. Folyoirat (H) | 432 | 145 | 321 |
| 26. | 0.448 | Acta Pol. Pharmaceut. (P) | 269 | 87 | 194 |
| 27. | 0.427 | Roczniki Chemii (P) | 1138 | 235 | 550 |
| 28. | 0.417 | Rev. Roum. Chimie (R) | 593 | 209 | 501 |
| 29. | 0.409 | Acta Entomol. Bohemoslov. (C) | 79 | 38 | 93 |
| 30. | 0.408 | Endocrinol. Exp. (C) | 67 | 31 | 76 |
| 31. | 0.407 | Genetica Pol. (P) | 51 | 24 | 59 |
| 32. | 0.398 | Bull. Acad. Pol. Sci. MAP (P) | 399 | 144 | 362 |
| 33. | 0.346 | Rev. Roum. Physique (R) | 217 | 89 | 257 |
| 34. | 0.344 | Acta Morph. Acad. Sci. Hung. (H) | 147 | 21 | 61 |
| 35. | 0.328 | Postepy Biochemii (P) | 62 | 19 | 58 |
| 36. | 0.305 | Acta Sci. Math. (H) | 213 | 36 | 118 |
| 37. | 0.286 | Acta Phys. Acad. Sci. Hung. (H) | 386 | 38 | 133 |
| 38. | 0.276 | Kem. Kozlemenyek (H) | 52 | 24 | 87 |
| 39. | 0.275 | Bull. Acad. Pol. Sci. Biol. (P) | 237 | 84 | 305 |
| 40. | 0.271 | Acta Biol. Acad. Sci. Hung. (H) | 227 | 19 | 70 |

| | | | | | |
|-----|-------|------------------------------------|-----|----|-----|
| 41. | 0.229 | Acta Math. Acad. Sci. Hung. (H) | 216 | 30 | 131 |
| 42. | 0.229 | Acta Microb. Acad. Sci. Hung. (H) | 215 | 22 | 96 |
| 43. | 0.224 | Acta Physiol. Pol. (P) | 181 | 51 | 228 |
| 44. | 0.220 | Silikaty (C) | 34 | 13 | 59 |
| 45. | 0.219 | Acta Biol. Cracov. Ser. Bot. (P) | 48 | 7 | 32 |
| 46. | 0.216 | Acta Physiol. Acad. Sci. Hung. (H) | 424 | 27 | 125 |
| 47. | 0.204 | Arch. Mechanics (P) | 43 | 34 | 167 |
| 48. | 0.203 | Period. Polytech. Chem. Eng. (H) | 23 | 15 | 74 |
| 49. | 0.201 | Colloq. Math. (P) | 212 | 40 | 199 |
| 50. | 0.195 | Acta Chir. Acad. Sci. Hung. (H) | 54 | 15 | 77 |
| 51. | 0.185 | Acta Vet Acad. Sci. Hung. (H) | 106 | 15 | 81 |
| 52. | 0.184 | Acta Microbiol. Pol. (P) | 118 | 26 | 141 |
| 53. | 0.168 | Przemysl Chem. (P) | 243 | 64 | 382 |
| 54. | 0.167 | J. Hyg. Epidem. Micr. Imm. (C) | 107 | 21 | 126 |
| 55. | 0.164 | Czech. Math. J. (C) | 123 | 18 | 110 |
| 56. | 0.151 | Period. Biologorum (Y) | 11 | 8 | 53 |
| 57. | 0.148 | Bull. Acad. Pol. Sci. Tech. (P) | 96 | 42 | 283 |
| 58. | 0.146 | Magy. Kem. Lapja (H) | 121 | 27 | 185 |
| 59. | 0.140 | Acta Biol. Cracov. Ser. Zool. (P) | 66 | 7 | 50 |
| 60. | 0.136 | Acta Physica et Chemica (H) | 28 | 11 | 81 |
| 61. | 0.131 | Sbornik Lekarsky (C) | 64 | 14 | 107 |
| 62. | 0.128 | Acta Zool. Acad. Sci. Hung. (H) | 34 | 6 | 47 |
| 63. | 0.120 | Acta Tech. Acad. Sci. Hung. (H) | 62 | 13 | 108 |
| 64. | 0.100 | Studii Cercet. Fiz. (R) | 63 | 17 | 170 |
| 65. | 0.091 | Acta Paed. Acad. Sci. Hung. (H) | 39 | 7 | 77 |
| 66. | 0.088 | Studia Geophys. Geodaet. (C) | 31 | 8 | 91 |
| 67. | 0.070 | Acta Agron. Acad. Sci. Hung. (H) | 43 | 8 | 114 |
| 68. | 0.056 | Acad Med. Acad. Sci. Hung. (H) | 105 | 5 | 90 |
| 69. | 0.047 | Period. Polytch. Elect. Eng. (H) | 12 | 3 | 64 |
| 70. | 0.038 | Dokl. Bolg. Akad. Nauk (B) | 78 | 32 | 846 |
| 71. | 0.036 | Cesk. Cas. Fys. (C) | 33 | 6 | 167 |
| 72. | 0.025 | Energ. Atomtech. (H) | 10 | 3 | 119 |
| 73. | 0.015 | Mech. Mies. Naukovo-Tech. (P) | 19 | 6 | 408 |

that relate these counts to each other. The last column in both figures gives the impact factor of each journal.

In 1974 the East European journals cited 10,272 different items a total of 75,532 times. The 50 journals listed in Figure 1 (0.5% of the total items cited) account for about 31% of the citations made by the East European journals in their references. The East European journals were *cited by* 1317 different

SCI-covered journals 20,660 times. The journals listed in Figure 4 (3.8% of the total citing items) accounted for 44.7% of the total citations of these journals--9,241 out of 20,660.

In using Figures 3 and 4, one must remember that the *SCI*'s coverage of East European journals, as with other regions, is of less scope and less depth than it could be. As Figure 1 shows, our coverage is heavily chemical and bio-

| Country | A | B | C |
|----------------|-------|------|-------|
| Bulgaria | 697 | 431 | 61.8% |
| Czechoslovakia | 3112 | 1898 | 61.0 |
| Hungary | 1959 | 1506 | 76.9 |
| Poland | 2684 | 2024 | 75.4 |
| Romania | 799 | 415 | 52.0 |
| Yugoslavia | 874 | 42 | 4.8 |
| Totals | 10125 | 6316 | 62.4 |

Figure 2. East European Journal articles and East European author addresses. A = number of senior authors' addresses from each country in the 1975 *WIPIS*. B = number of source items from each country's journals in the 1974 *SCI*. C = B/A x 100.

chemical. Nevertheless, Figures 3 and 4 offer some interesting data.

Of the 50 journals most cited by the East European group, only 9 are members of the group. Seven of the 9 are chemical journals. As a matter of fact, the whole list of 50 is heavily chemical. *Journal of the American Chemical Society* is at the top, where it usually is in these studies--and where it should be if East European journals are valid as a sample of the international literature. The emphasis on chemistry is evident in the percentages in column D of the figure. The East European journals produced about 1.4% of the total references and 1.6% of the total articles processed for the 1974 *SCI*, as noted above. If the group is perfectly representative of the international literature, or valid as a random sample of it, the percentages in column D should be 1.4 to 1.6%. In most cases they are near enough to that to forego argument. Whenever the percentage rises, the journal is either East European (when it rises to 34% or above), or it is chemical.

It is interesting that the only Russian journal on the list is the *Doklady*

Akademii Nauk SSSR. Even if we extended the list, not many Soviet journals would appear. There are only 5 among the first most-cited 100; 9 among the first 200; and 15 among the first 300.

You might think that if we had extended the list in Figure 3, more East European journals would turn up, and with increasing frequency as the list grows. Exactly the opposite is the case. Among the first 100, there are 20 East European journals (including the top fifty's 9); among the second hundred, 14; among the third, 11; among the fourth, 15; among the fifth, 13; among the sixth, 8; among the seventh, 12. The cumulative percentage of East European material cited by East European journals slowly but steadily *drops* from the first hundred's 20% to 13% for the first 700.

The journals that most *cite* the East European group (Figure 4) are also heavily chemical, and two-thirds of them are East European journals. The other third comprises 17 journals from the following countries: the Netherlands (5), the United States (5), the USSR (2), the United Kingdom (2), and one each from France, Japan, and West Germany. Again, this list is heavily chemical, and headed by the most cited of the journals in Figure 1, the *Collection of Czechoslovak Chemical Communications*. The chemical orientation of both lists is undoubtedly influenced by *SCI* coverage, and by the fact that chemical articles tend to have more references than those in other disciplines.

On the other hand, there is something extremely interesting about the columns of percentages in Figure 4. Note that column E shows that the percent of self-citingness is low. In only two cases (*Bull. Astron. Inst. Czech.* and

Figure 3. Journals that were Cited by East European Journals. Journals are listed in order of their citation by the East European group. A = total citations by all journals. B = total citations by East European journals. C = self-citations. D = B/A (East European citations in terms of total citations). E = C/A (self-citations in terms of total citations, the self-cited rate). F = C/B (self-citations in terms of East European citations). G = impact factor.

| Journal | A | B | C | D | E | F | G |
|----------------------------------|-------|------|------|------|------|------|-------|
| 1. J. Amer. Chem. Soc. | 98995 | 2642 | — | 2.7 | — | — | 4.383 |
| 2. Coll. Czech. Chem. Commun. | 4040 | 1396 | 1106 | 34.6 | 27.4 | 79.2 | 0.791 |
| 3. Biochim. Biophys. Acta | 51491 | 1091 | — | 2.1 | — | — | 3.120 |
| 4. J. Biol. Chem. | 81354 | 1074 | — | 1.3 | — | — | 5.843 |
| 5. J. Chem. Physics | 62041 | 1025 | — | 1.7 | — | — | 2.918 |
| 6. Nature | 59206 | 943 | — | 1.6 | — | — | 3.636 |
| 7. J. Chem. Soc. | 19955 | 906 | — | 4.5 | — | — | — |
| 8. Physical Review | 50828 | 672 | — | 1.3 | — | — | — |
| 9. Analyt. Chem. | 18190 | 656 | — | 3.6 | — | — | 3.291 |
| 10. Biochem. J. | 31563 | 583 | — | 1.8 | — | — | 3.627 |
| 11. Roczniki Chemii | 1138 | 563 | 474 | 49.5 | 41.7 | 84.2 | 0.427 |
| 12. J. Org. Chem. | 20539 | 544 | — | 2.6 | — | — | 1.495 |
| 13. Proc. Nat. Acad. Sci. USA | 46917 | 542 | — | 1.2 | — | — | 8.989 |
| 14. J. Phys. Chem. | 18086 | 535 | — | 3.0 | — | — | 2.031 |
| 15. Chem. Berichte | 12629 | 522 | — | 4.1 | — | — | 1.493 |
| 16. Science | 47505 | 444 | — | 0.9 | — | — | 5.412 |
| 17. J. Inorg. Nucl. Chem. | 5761 | 370 | — | 6.4 | — | — | 0.962 |
| 18. Acta. Chim. Acad. Sci. Hung | 904 | 362 | 190 | 40.0 | 21.0 | 52.5 | 0.450 |
| 19. Dokl. Akad. Nauk SSSR | 10072 | 358 | — | 3.6 | — | — | 0.353 |
| 20. Tetrahedron Letters | 16509 | 355 | — | 2.2 | — | — | 1.777 |
| 21. Biochemistry | 27080 | 346 | — | 1.3 | — | — | 4.711 |
| 22. Biochem. Biophys. Res. Comm. | 23220 | 333 | — | 1.4 | — | — | 3.744 |
| 23. J. Bacteriology | 18375 | 323 | — | 1.8 | — | — | 2.727 |
| 24. J. Molecular Biol. | 24209 | 314 | — | 1.3 | — | — | 2.502 |
| 25. J. Chromatography | 7928 | 308 | — | 3.9 | — | — | 2.173 |
| 26. Bull. Soc. Chim. France | 8183 | 298 | — | 3.6 | — | — | 1.001 |
| 27. Magy. Kem. Folyoirat | 432 | 296 | 156 | 68.5 | 36.1 | 52.7 | 0.452 |
| 28. Canan. J. Chem. | 9142 | 283 | — | 3.1 | — | — | 1.396 |
| 29. Tetrahedron | 8903 | 283 | — | 3.2 | — | — | 1.576 |
| 30. Arch. Biochem. Biophys. | 14968 | 279 | — | 1.9 | — | — | 2.881 |
| 31. Helv. Chim. Acta | 7117 | 277 | — | 3.9 | — | — | 1.649 |
| 32. Acta Chem. Scand. | 8803 | 276 | — | 3.1 | — | — | 1.042 |
| 33. Rev. Roum. Chimie | 593 | 273 | 252 | 46.0 | 42.5 | 92.3 | 0.417 |
| 34. J. Physiology | 22520 | 254 | — | 1.1 | — | — | 4.495 |
| 35. Plant Physiology | 8835 | 254 | — | 2.9 | — | — | 2.580 |
| 36. Physiol. Bohemoslov. | 621 | 251 | 207 | 40.4 | 33.3 | 82.5 | 0.809 |
| 37. Trans. Faraday Soc. | 8857 | 250 | — | 2.8 | — | — | — |
| 38. J. Appl. Physics | 19277 | 249 | — | 1.3 | — | — | 1.558 |
| 39. Amer. J. Physiology | 21519 | 248 | — | 1.2 | — | — | 2.414 |
| 40. Bull. Acad. Pol. Chim. | 495 | 246 | 177 | 49.7 | 35.8 | 72.0 | 0.507 |
| 41. Bull. Acad. Pol. Sci. MAP | 399 | 246 | 203 | 61.7 | 50.9 | 82.5 | 0.398 |
| 42. Bull. Chem. Soc. Japan | 7941 | 245 | — | 3.1 | — | — | 0.932 |
| 43. Proc. Soc. Exp. Biol. Med. | 18171 | 245 | — | 1.3 | — | — | 1.471 |
| 44. Annalen Chemie J. Liebig | 6177 | 244 | — | 4.0 | — | — | 1.024 |
| 45. Chem. Zvesti | 416 | 244 | 176 | 58.7 | 42.3 | 72.1 | 0.505 |
| 46. Proc. Roy. Soc. London. A. | 12224 | 244 | — | 2.0 | — | — | 2.215 |
| 47. Analyt. Chim. Acta | 4005 | 235 | — | 5.9 | — | — | 2.093 |
| 48. Phys. Rev. Letters | 29275 | 224 | — | 0.8 | — | — | 5.059 |
| 49. Eur. J. Biochemistry | 11427 | 223 | — | 2.0 | — | — | 3.874 |
| 50. Inorg. Chem. | 14310 | 221 | — | 1.5 | — | — | 2.457 |

Figure 4. Journals that Cited East European Journals.

Journals are listed in order of their citation of the East European group. **A** = total citations of all journals. **B** = total citations of East European journals. **C** = self-citations. **D** = B/A (East European citations in terms of total citations.) **E** = C/A (self-citations in terms of total citations, the self-citing rate). **F** = C/B (self-citations in terms of East European citations). **G** = impact factor.

| Journal | A | B | C | D | E | F | G |
|---------------------------------|-------|------|------|------|------|------|-------|
| 1. Coll. Czech. Chem. Commun. | 6558 | 1249 | 1106 | 19.0 | 16.9 | 88.6 | 0.791 |
| 2. Roczniki Chemii | 3337 | 582 | 474 | 17.4 | 14.2 | 81.4 | 0.427 |
| 3. Analyt. Chem. | 27658 | 485 | — | 1.8 | — | — | 3.291 |
| 4. Acta Chim. Acad. Sci. Hung | 2154 | 294 | 190 | 13.6 | 8.8 | 64.6 | 0.450 |
| 5. Chem. Zvesti | 1514 | 284 | 176 | 18.8 | 11.6 | 62.0 | 0.505 |
| 6. J. Electroanalyt. Chem. | 6769 | 285 | — | 4.2 | — | — | 1.567 |
| 7. Bull. Acad. Pol. Sci. MAP | 1122 | 278 | 203 | 24.8 | 18.1 | 73.0 | 0.398 |
| 8. Rev. Roum. Chimie | 2645 | 270 | 252 | 10.2 | 9.5 | 93.3 | 0.417 |
| 9. Magy. Kem. Folyoirat | 1562 | 259 | 156 | 16.6 | 10.0 | 60.2 | 0.452 |
| 10. Physiol. Bohemoslov. | 1489 | 237 | 207 | 15.9 | 13.9 | 87.3 | 0.809 |
| 11. J. Radioanal. Chem. | 1976 | 222 | 176 | 11.2 | 8.9 | 79.3 | 0.634 |
| 12. Bull. Acad. Pol. Sci. Chim. | 1722 | 221 | 177 | 12.8 | 10.3 | 80.1 | 0.507 |
| 13. Bunseki Kagaku | 12285 | 196 | — | 1.6 | — | — | 0.384 |
| 14. Przemysl Chem. | 1343 | 188 | 152 | 14.0 | 11.3 | 80.9 | 0.168 |
| 15. Chem. Listy | 3634 | 172 | 69 | 4.7 | 1.9 | 40.1 | 0.470 |
| 16. Czech. J. Physics | 1788 | 169 | 147 | 9.5 | 8.2 | 87.0 | 0.475 |
| 17. Acta Pol. Pharmaceut. | 992 | 166 | 138 | 16.7 | 13.9 | 83.1 | 0.448 |
| 18. Bull. Astron. Inst. Czech. | 726 | 164 | 158 | 22.6 | 21.8 | 96.3 | 0.582 |
| 19. Bull. Acad. Pol. Sci. Biol. | 1212 | 158 | 111 | 13.0 | 9.2 | 70.3 | 0.275 |
| 20. J. Chromatography | 11520 | 156 | — | 1.4 | — | — | 2.173 |
| 21. Folia Biol. | 979 | 155 | 147 | 15.8 | 15.0 | 94.8 | 0.986 |
| 22. Bull. Acad. Pol. Sci. Tech. | 485 | 148 | 94 | 30.5 | 19.4 | 63.5 | 0.148 |
| 23. Uspekhi Khimii | 12319 | 147 | — | 1.2 | — | — | 1.079 |
| 24. J. Org. Chem. | 21976 | 141 | — | 0.6 | — | — | 1.495 |
| 25. Colloq. Math. | 826 | 140 | 95 | 16.9 | 11.5 | 67.9 | 0.201 |
| 26. J. Amer. Chem. Soc. | 46267 | 140 | — | 0.3 | — | — | 4.383 |
| 27. Acta Virol. | 1024 | 135 | 115 | 13.2 | 11.2 | 85.2 | 0.788 |
| 28. Folia Microbiol. | 1428 | 132 | 117 | 9.2 | 8.2 | 88.6 | 0.622 |
| 29. Talanta | 3454 | 126 | — | 3.6 | — | — | 1.787 |
| 30. Biologia Plantarum | 1025 | 125 | 96 | 12.2 | 9.4 | 76.8 | 0.500 |
| 31. Activ. Nervos. Super. | 701 | 114 | 93 | 16.3 | 13.3 | 81.6 | 0.473 |
| 32. J. Chem. Soc. Perkin | 20327 | 107 | — | 0.5 | — | — | 1.348 |
| 33. J. Organomet. Chem. | 22699 | 103 | — | 0.5 | — | — | 2.392 |
| 34. Acta Physiol. Pol. | 1180 | 101 | 86 | 8.6 | 7.3 | 85.1 | 0.224 |
| 35. Analyt. Chim. Acta | 4111 | 100 | — | 2.4 | — | — | 2.093 |
| 36. Biochim. Biophys. Acta | 45366 | 97 | — | 0.2 | — | — | 3.120 |
| 37. Trans. Amer. Math. Soc. | 3084 | 93 | — | 3.0 | — | — | 0.488 |
| 38. Tetrahedron | 13059 | 93 | — | 0.7 | — | — | 1.576 |
| 39. Studia Mathematica | 410 | 91 | 68 | 22.2 | 16.6 | 74.7 | 0.491 |
| 40. Kem. Kozlemenyek | 1557 | 90 | 9 | 5.8 | 0.6 | 10.0 | 0.276 |
| 41. Studii Cerecet. Fiz. | 1216 | 90 | 41 | 7.4 | 3.4 | 45.6 | 0.100 |
| 42. Magy. Kem. Lapja | 1004 | 88 | 42 | 8.8 | 4.2 | 47.7 | 0.146 |
| 43. Bull. Soc. Chim. France | 11102 | 86 | — | 0.8 | — | — | 1.001 |
| 44. Acta Biochim. Pol. | 1054 | 84 | 64 | 8.0 | 6.1 | 76.2 | 0.878 |
| 45. Acta Math. Acad. Sci. Hung | 303 | 84 | 74 | 27.7 | 24.4 | 88.1 | 0.229 |
| 46. Acta Biochim. Biophys. | 761 | 82 | 57 | 10.8 | 7.5 | 69.5 | 0.795 |
| 47. Neoplasma | 1422 | 82 | 62 | 5.8 | 4.4 | 75.6 | 0.483 |
| 48. Dokl. Akad. Nauk SSR | 13013 | 86 | — | 0.7 | — | — | 0.353 |
| 49. Synthesis | 4649 | 75 | — | 1.6 | — | — | 1.342 |
| 50. Rev. Roum. Physique | 1059 | 73 | 55 | 6.9 | 5.2 | 75.3 | 0.346 |

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|--------------------------------|------|
| COLLECT CZECH CHEM C----- | 6558 |
| .79 COLLECT CZECH CHEM C | 1106 |
| 4.38 J AM CHEM SOC----- | 686 |
| J CHEM SOC | 251 |
| 1.49 J ORG CHEM----- | 187 |
| 2.91 J CHEM PHYS | 167 |
| 1.49 CHEM BER----- | 156 |
| 5.84 J BIOL CHEM | 100 |
| 1.77 TETRAHEDRON LETT----- | 99 |
| 1.64 HELV CHIM ACTA | 84 |
| 1.00 B SOC CHIM FR----- | 74 |
| 2.03 J PHYS CHEM-US | 74 |
| 1.57 TETRAHEDRON----- | 73 |
| 1.39 CAN J CHEM | 60 |
| .47 CHEM LISTY----- | 57 |
| 1.02 ANN CHEM JUST LIEB | 54 |
| 3.29 ANAL CHEM----- | 52 |
| 3.12 BIOCHIM BIOPHYS ACTA | 52 |
| 4.71 BIOCHEMISTRY-US----- | 48 |
| 1.04 ACTA CHEM SCAND | 42 |
| .60 CHEM IND-LONDON----- | 42 |
| 2.45 INORG CHEM | 42 |
| 2.09 J CHEM SOC CHEM COMM----- | 41 |
| .93 B CHEM SOC JAPAN | 40 |
| 3.62 BIOCHEM J----- | 39 |
| .96 J INORG NUCL CHEM | 39 |
| 2.02 THEOR CHIM ACTA----- | 38 |
| .76 ZH OBSCH KHIM* | 38 |
| 11.15 CHEM REV----- | 37 |
| .35 DOKL AKAD NAUK SSSR | 36 |
| J CHEM SOC C----- | 35 |
| 8.98 P NAT ACAD SCI USA | 34 |
| J CHEM SOC B----- | 32 |
| 1.94 ANGEW CHEM | 30 |
| .50 CHEM ZVESTI | 30 |
| T FARADAY SOC | 30 |
| .96 ATICHE J-AM INST CH E----- | 28 |
| CHEM PRUM | 28 |
| 1.31 CARBOHYD RES----- | 27 |
| J CHEM SOC A | 27 |
| 1.01 Z ANORG ALLG CHEM----- | 27 |
| 3.63 NATURE | 26 |
| .94 CHEM ENG SCI----- | 25 |
| 2.17 J CHROMATOGR | 24 |
| .73 J PRAKT CHEM----- | 24 |
| 2.40 CHEM PHYS LETT | 23 |
| 1.08 MAKROMOL CHEM----- | 23 |
| RECL TRAV CHIM PAY B | 23 |
| 2.09 ANAL CHIM ACTA----- | 22 |
| IND ENG CHEM | 22 |
| 1.44 J MED CHEM----- | 22 |
| 7.50 J MOL BIOL | 22 |
| 2.39 J ORGANOMET CHEM----- | 22 |
| COMPTES RENDUS | 21 |
| IZV AKAD NAUK SSSR C----- | 21 |
| 1.60 J CATAL | 21 |
| .93 CHEM PHARM BULL----- | 20 |
| 3.87 EUR J BIOCHEM | 20 |
| .49 ZH NEORGANICH KHIMII----- | 20 |
| 3.74 BIOCHEM BIOPH RES CO | 19 |
| 1.78 TALANTA----- | 19 |
| ACTA CRYSTALLOGR | 18 |
| 1.43 J MOL STRUCTURE----- | 18 |
| 1.33 SPECTROCHIM ACTA A | 18 |
| .33 ZH FIZ KHIM* | 18 |
| ARK KEMI----- | 17 |
| 1.00 AUST J CHEM----- | 17 |
| 2.02 BIOCHEM PHARMACOL | 17 |
| 1.34 J CHEM SOC PERKIN----- | 16 |
| 1.69 PURE APPL CHEM | 16 |
| REAKTS SPOSOBNOST OR----- | 16 |
| Z ELEKTROCHEMIE | 16 |
| 3.04 FEBS LETT----- | 15 |
| J POLYMER SCI | 15 |
| 2.21 P ROY SOC LOND A MAT----- | 15 |
| MH | 14 |
| .55 MONATSH CHEM----- | 14 |
| SPECTROCHIM ACTA | 14 |
| 2.49 BIOPOLYMERS----- | 13 |
| .90 ELECTROCHIM ACTA | 13 |
| .58 J CHEM ENG DATA----- | 13 |
| 3.78 MOL PHARMACOL | 13 |
| 2.33 MOL PHYS----- | 13 |
| ALL OTHER (717) | 1638 |

Figure 5. Journals cited by *Collection of Czechoslovak Chemical Communications* in 1974. The top line gives *CCCC's* total citations of other journals. Each entry line shows the cited journal's impact factor, where available; title abbreviation; and times cited by *CCCC* in 1974.

Figure 6. Journals that cited *Collection of Czechoslovak Chemical Communications* in 1974. The top line gives *CCCC's* total citations by other journals. Each entry line shows the citing journal's impact factor, where available; title abbreviation; and times it cited *CCCC* in 1974.

| | |
|--------------------------------|------|
| COLLECT CZECH CHEM C----- | 4040 |
| .79 COLLECT CZECH CHEM C | 1106 |
| 1.56 J ELECTROANAL CH INF----- | 172 |
| 3.29 ANAL CHEM----- | 110 |
| 1.49 J ORG CHEM----- | 91 |
| .50 CHEM ZVESTI | 82 |
| 4.38 J AM CHEM SOC----- | 80 |
| 1.34 J CHEM SOC PERKIN | 60 |
| 2.17 J CHROMATOGR----- | 54 |
| 2.39 J ORGANOMET CHEM | 54 |
| 1.00 B SOC CHIM FR----- | 52 |
| .47 CHEM LISTY | 48 |
| .38 BUNSEKI KAGAKU----- | 47 |
| 1.07 USP KHIM* | 47 |
| 1.57 TETRAHEDRON----- | 46 |
| 1.64 HELV CHIM ACTA | 43 |
| 1.31 CARBOHYD RES----- | 38 |
| 2.09 ANAL CHIM ACTA | 37 |
| .93 CHEM PHARM BULL----- | 37 |
| 1.77 TETRAHEDRON LETT | 35 |
| .93 B CHEM SOC JAPAN----- | 34 |
| .40 INDIAN J CHEM | 31 |
| .76 ZH OBSCH KHIM* | 31 |
| 1.39 CAN J CHEM | 30 |
| .54 Z CHEM----- | 30 |
| .64 ZH ORG KHIM* | 30 |
| .90 ELECTROCHIM ACTA----- | 28 |
| 1.10 PHYTOCHEMISTRY | 28 |
| .42 ROCZ CHEM----- | 27 |
| 1.78 TALANTA | 27 |
| 1.49 CHEM BER----- | 25 |
| 3.75 COORD CHEM REV | 25 |
| J CARB-NUCLEOS-NUCL----- | 24 |
| 1.52 RADIAT RES REV | 23 |
| 1.12 EUR POLYM J----- | 22 |
| NUCL ACID RES | 21 |
| .45 MAGY KEMIAI FOLYOIR----- | 20 |
| 1.44 J MED CHEM | 19 |
| .16 J SYN ORG CHEM JAP----- | 19 |
| .24 AN QUIM | 18 |
| .73 J PRAKT CHEM----- | 18 |
| .67 PHARMAZIE | 18 |
| .93 ZH ANAL KHIM*----- | 18 |
| 1.94 ANGEW CHEM | 17 |
| .86 ANGEW MAKROMOL CHEM----- | 17 |
| 4.71 BIOCHEMISTRY-US----- | 17 |
| .94 CHEM ENG SCI----- | 16 |
| .51 CR ACAD SCI SER C | 16 |
| 1.05 J ELECTROCHEM SOC----- | 16 |
| .96 J INORG NUCL CHEM | 16 |
| .63 J RADIOANAL CHEM----- | 16 |
| .47 KHIM GETEROTSIKL | 16 |
| .49 ZH NEORGANICH KHIMII----- | 16 |
| 1.04 ACTA CHEM SCAND | 15 |
| 3.12 BIOCHIM BIOPHYS ACTA----- | 15 |
| 2.91 J CHEM PHYS | 15 |
| 1.02 ANN CHEM JUST LIEB----- | 14 |
| .64 GAZZ CHIM ITALIAN | 14 |
| ALL OTHER (265) | 999 |

Acta Math. Acad. Sci. Hung.) is the percentage as high as or higher than the usual average of 20%. In most cases it is extraordinarily low. Next note that the percentages in column D (East European citations in terms of total citations) don't differ much from those in column E, while those in column F (self-citations in terms of East European citations) are extraordinarily high. What this means is this: these journals are not really journals that cite East European journals very much. In most cases the individual journal cites a particular East European journal--itself. Otherwise, East European journals cite very widely outside their own region.

As an example, I've chosen to show detailed citing and cited lists for *Collection of Czechoslovak Chemical Communications* (CCCC) from ISI's *Journal Citation Reports*®.³ The lists are reproduced in Figures 5 and 6.

Figure 5 shows the journals that CCCC cited most often. Among the 81 journals listed, only four--including itself--are East European. Including its own less-than-average self-citingness of 16%, these four journals account for 18.6% of its citation of the 81 journals listed, while the listed journals account for 75% of everything CCCC cited in 1974.

Figure 6 shows the journals that cited CCCC most often. The 56 journals listed accounted for 75% of all citations

of CCCC. Including itself, again only four East European journals appear. Including CCCC's own self-citedness of 27.4% (36.4% of the 56 journals shown), the four East European journals account for 42% of the citations represented by the 56 journals that cited CCCC most. As noted in connection with Figure 4, it is self-citation that accounts for most of this 'East-European citation' by this particular East European journal, and of the others as well. (I've previously explained the difference between self-citingness and self-citedness--it's a matter of the base chosen, references or citations.)⁴

To sum up, the study shows that East European journals cite widely and heavily outside their own region. Their citation of East European journals is mainly accounted for by the self-citation of the individual journals, not by their heavy citation of other journals in the group. While these journals are undoubtedly of national origin and character, most have an international outlook. Thirty-two of the 73 publish their articles in one of two or three languages, one of which is always English, while 29 use English exclusively. Only 12 publish exclusively in their own languages. The language barrier may exist for this small part of East European work, but I suspect it is primarily of local interest--not unlike 'provincial' science publications elsewhere.

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1. Garfield E. Journal citation studies. 28. Scandinavian journals. *Current Contents (CC)* No. 41, 11 October 1976, p. 5-11.
2. ISI's *Who is Publishing in Science, 1975 Annual; An International Directory of Scientists and Scholars in the Life, Physical, Social and Applied Sciences*. (Philadelphia, Institute for Scientific Information, 1975). p. 8 ("Statistical summaries of author address frequency by geographical distribution.")
3. Garfield E. *Journal Citation Reports; a Bibliometric Analysis of References Processed for the 1974 Science Citation Index*. Science Citation Index 1975 Annual, vol. 9. (Philadelphia: Institute for Scientific Information, 1976).
4. -----, Journal citation studies. 17. Journal self-citation rates--there's a difference! *CC* No. 52, 25 December 1974, p. 5-7.