·······current comments"

Journal Citation Studies. IV. The Literature Cited In Rheumatology Is Not Much Different From That Of Other Specialties.

August 2, 1972

Recently, Peter Thorpe of Geigy Pharmaceuticals in the UK did a citation study of the rheumatology literature.1 He counted citations of other journals in two leading journals in the field during 1970: Annals of the Rheumatic Diseases and Arthritis and Rheumatism. I have compared his results with comparable 1969 data from our Journal Citation Index2 and verified that the frequently cited journals in the field are indeed those listed by Thorpe. Table 1, taken from Thorpe's data, shows the top 24 journals cited by Ann. Rheum. Dis. and by Arthr. & Rheum. Thorpe could not, however, list the journals that most frequently cite the two rheumatology periodicals. I have given that information in Table 2.

The journals cited by Ann. Rheum. Dis. and by Arthr. & Rheum. (Table 1) are essentially the same; 19 journals are common to both lists of 24 most-cited journals from Thorpe's study. That is perhaps to be expected. More important to me, however, is the fact that these two lists of cited journals seem to confirm Garfield's Law3 that the list of journals most cited in any individual specialty is essentially the same for all specialties. With 4 exceptions,4 all of the 29 different journals on the two lists are among the 450 journals most cited by all journals from all fields processed for the Science Citation Index ®.5

As noted above, Table 2 shows in each case the top 24 journals which cite Ann. Rheum. Dis. and Arthr. & Rheum. most frequently. Again, these

two lists are remarkably similar; 16 journals are common to both. There are immediately apparent differences between the lists of cited journals in Table 1 and the lists of citing journals in Table 2. Both Ann. Rheum. Dis. and Arthr. & Rheum. cited literature more heavily and much more widely than the same literature cited them. Ann. Rheum. Dis. provided 1332 citations to 305 different periodicals; Arthr. & Rheum., 3165 citations to 387. In contrast, Ann. Rheum. Dis. was cited 1252 times by only 71 different periodicals; and Arthr. & Rheum. was cited 1660 times by only 103 different periodicals. The two journals confirm the Golden Rule in Bibliography, mentioned in a previous editorial.6 Arthr. & Rheum. cites more heavily and more widely than Ann. Rheum. Dis. and is in turn cited more heavily by more journals than Ann. Rheum. Dis. Finally, whereas all the journals in the lists of Table 1 are in the English language, several in French and German appear in Table 2. I suspect that major journals in other specialties will show similar characteristics; it is important to remember that the literature cited in research journals does not necessarily reflect all the literature of interest to clinicians, including residents and others who have a high interest in the current periodical literature.7 Perhaps this accounts for the difference between the lists of journals cited by the two subject journals and the lists of journals which cite them.

The presence of certain journals on all 4 lists is immediately suggestive. If I were a medical librarian fresh out of school and were asked to select the five or six most useful journals for a rheumatologist, I would be inclined to select, apart from the obvious general journals like J. Amer. Med. Ass., Brit. Med. J., Lancet, etc., the journals which appear on all four lists: Arthr. & Rheum., Ann. Rheum. Dis., Acta Med. Scand., Arch. Internal Med., J. Bone Joint Surg., Proc. Soc. Exp. Biol. Med.

It is particularly interesting to observe the prominence of the Journal of Experimental Medicine in this field, considering the previous study demonstrating its emphasis on immunological studies.8 Of particular interest to me, however, is Thorpe's conjecture that because 27 out of 32 "current (rheumatological) periodicals of world-wide origin" were not cited, this indicates some sort of language barrier. In spite of the fact that most such journals include English abstracts and that they are indexed by several abstracting and indexing services, these two leading specialty journals ignore them. Isn't it

possible that the 27 journals in question contain articles that just aren't worth citing? Surely the NIH might sponsor an experimental study that would answer the question, for it is an important one. Must we translate every mediocre article published in foreign languages "world-wide" in order to show that mediocrity is rarely improved by translation?

Recently it was reported9 that a Rumanian scientist had discovered insulin before Banting and Best repeated his work and findings. Does such a case really warrant the concern of the world's scientists having difficulty in keeping up with just the literature published in English, French and German? On the other hand, it might be reasonable for the NIH or a similar organization to assign the task of reviewing such literature to a small group of language specialists capable of selecting the more promising work for translation and wide dissemination. Such a system of "medical intelligence" might profitably emulate the methods of its political counterparts.

- 1. Thorpe, P. An evaluation of the rheumatology periodical literature used in Britain and the USA. Meth. Inform. Med. 11(2):119-121, 1972.
- Garfield, E. ISI's Journal Citation Index data base, a multi-media tool. Current Contents No. 16, p. 5-8, April 19, 1972.
- The mystery of the transposed journal lists; wherein Bradford's law of scattering is generalized according to Garfield's law of concentration. Current Contents No. 31, p. 5-6, August 4, 1971.
- 4. The 4 exceptions are: Acta Rheum. Scand., J. Path. Bact., Clin. Exp. Immunol., and Clin. Orthop.
- 5. Garfield, E. Citation analysis as a sociometric tool for journal evaluation and science policy studies. *Science*, in press.
- 7. Raisig, L.M. Statistical bibliography in the health sciences. Bull. Med. Libr. Ass. 50(3): 450-461, 1962.
- Garfield, E. Journal Citation Studies. III. Journal of Experimental Medicine compared with Journal of Immunology; or how much of a clinician is the immunologist? Current Contents No. 23, M1-4, June 7, 1972.
- 9. Anonymous. Who really isolated insulin? Medical World News 12(31):44, 1971.

Journals Cited by Journals Cited by **ARTHRITIS & RHEUMATISM** ANNALS OF RHEUMATIC DISEASES Title Abbreviation Times Cumulated % Times Cumulated % Title Abbreviation Cited of Citations Cited of Citations 211 15.8 *1. Arthr. & Rheum. 291 9.2 *1. Ann. Rheum. Dis. *2. Ann. Rheum. Dis. 188 15.1 *2. Arthr. & Rheum. 102 23.5 18.1 28.3 *3. J. Amer. Med. Assoc. 95 65 *3. Brit. Med. J. *4. New Engl. J. Med. 92 20.0 58 32.7 *4. Lancet 23.9 *5. J. Bone Joint Surg. 55 36.8 *5. Ann. Internal Med. 91 32 39.2 *6. J. Bone Joint Surg. 90 26.7 *6. J. Clin. Invest. 41.3 *7. J. Exp. Med. 81 29.4 31 *7. J. Exp. Med. *8. Lancet *8. Nature 28 43.7 81 32.0 27 45.7 *9. Brit. Med. J. 79 34.3 *9. Acta Rheum, Scand. 24 46.6 *10. Amer. J. Med. 36.8 *10. I. Amer. Med. Assoc. 39.0 *11. Ann. Internal Med. 23 49.2 *11. J. Clin. Invest. 70 22 50.9 *12. Nature 69 41.2 *12. Amer. J. Med 22 52.5 *13. Proc. Soc. Exp. Biol. Med. 67 43.3 *13. New Engl. I. Med. 22 54.2 *14. Acta Rheum. Scand. 62 45.3 *14. J. Immunology 56 20 56.0 15. Science 47.0 15. Proc. Roy. Soc. Med. 18 57.3 *16. J. Lab. Clin. Med. 47 48.5 *16. Proc. Soc. Exp. Biol. Med. 16 58.5 *17. J. Immunology 44 49.9 *17. Acta Med. Scand. *18. J. Lab. Clin. Med. 59.7 51.2 16 *18. Clin. Exp. Immunol. 13 60.4 19. Clin. Orthoped. 40 52.5 *19. Clin. Exp. Immunol. 61.3 *20. Arch. Internal Med. 39 53.7 *20. Arch. Internal Med. 12 62.2 27 54.6 21. J. Chronic Dis. 12 21. Canad. Med. Assoc. J. 55.4 22. Q. J. Med. 12 63.1 22. Fed. Proc. 26 64.0 23. Proc. Nat. Acad. Sci. US 56.2 23. Immunology 11 26 64.9 *24. Acta Med. Scand. 25 57.0 24. J. Path. Bact. 11 1360 100.0 All Other (281) 469 100.0 All Other (363) Total 3165 Total 1332

Table 1. Journals most frequently cited by Ann. Rheum. Dis. and Arthritis & Rheumatism. Journals are listed in order of the frequency of their citation. Asterisks indicate journals common to both lists. (From Thorpe, Ref. 1.)

Total

Iournals That Cited Journals That Cited ANNALS OF RHEUMATIC DISEASES **ARTHRITIS & RHEUMATISM** Times Cumulated % Title Abbreviation Title Abbreviation Cumulated % Times of Citations Cited Cited of Citations *1. Ann. Rheum. Dis. 296 23.6 *1. Arthr. & Rheum. 9.6 160 *2. Arthr. & Rheum. 80 30.0 *2. Mayo Clin. Proc. 136 17.8 80 36.4 *3. Z. Rheumaforsch. *3. Amer. J. Med. 120 25.1 *4. Acta Med. Scand. 68 41.9 *4. Ann. Rheum. Dis. 29.6 76 *5. Mayo Clin. Proc. 64 47.0 *5. Med. Clin. N. Amer. 60 33.3 *6. Brit. Med. J. 49.8 *6. Acta Med. Scand. 56 36.6 *7. Amer. J. Med. 32 52.4 *7. Schweiz. Med. Wschr. 52 39.8 32 55.0 8. Q. J. Med. *8. Modern Treatment 48 42.7 32 57.5 *9. Schweiz, Med. Wschr. *9. Deut. Med. Wschr. 44 45.3 *10. Arch, Internal Med. 28 59.7 *10. Arch. Internal Med. 47.7 28 62.0 *11. Brit. Med. I. *11. J. Bone Joint Surg. 40 50.1 *12. Lancet 28 64.2 52.5 12. Clin. Exp. Immunol. 40 13. Amer. J. Epidem. 66.1 13. Ann. N. Y. Acad. Sci. 36 54.7 *14. Deut. Med. Wschr. 68.1 14. J. Amer. Med. Assoc. 36 56.9 15. Arch. Orthopäd. Unfallchir. 69.6 *15. J. Bone Joint Surg. 36 59.0 16. Biochem. Biophys. Acta 20 71.2 16. Rev. Fr. Et. Clin. Biol. 36 61.2 20 72.8 17. Experientia *17. Amer. J. Path. 32 63.1 18. Clin. Chim. Acta 74.1 18. Biochem. J. 32 65.1 *19. Med. Clin. N. Amer. 16 75.4 19. J. Immunol. 28 66.7 *20. Modern Treatment 16 76.7 *20. Proc. Soc. Exp. Biol. Med. 28 68.4 21. Amer. J. Clin. Pathol. 12 77.6 *21. Zschr. Rheumaforsch. 28 70.1 12 78.6 *22. Amer. J. Pathol. 22. Tohoku J. Exp. Med. 24 71.6 23. Biochem. Pharmacol. 12 79.6 23. Amer. J. Clin. Nutr. 72.5 16 *24. Proc. Soc. Exp. Biol. Med 12 80.5 *24. Lancet 16 73.5 All Other (47) 244 100.0 All Other (79) 440 100.0

Table 2. Journals which most frequently cite Ann. Rheum. Dis. and Arthritis & Rheumatism. Journals are listed in order of the frequency with which they cited the title in question. Asterisks indicate journals common to both lists.

Total

1660

1252