

Highly Cited Articles. 28.
Articles from Australian and
New Zealand Journals

Number 40

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Here is a list of the fifty-one most frequently cited Australian and New Zealand articles. We included fifty-one because the last two were cited the same number of times. This study follows up on our recent report on Australian and New Zealand journals.¹

The list we've published here differs from other lists of the type. Only ten journals are involved. Two of them published half the articles! The ten journals are listed in Figure 1 with the number of the highly cited articles each published. We also give the impact of the journals, and other relevant data. These are the Australian journals with highest impact. Journals that produce most cited articles tend to have higher impact.

Nine of the articles on this list came from the Walter and Eliza Hall Institute of Medical Research in Melbourne. All except three of the articles were written by scientists working in Australia and New Zealand. The three exceptions were botanists at English universities.

Of the 51 articles, two were published in the 1940s, ten in the 50s, 36 in the 60s, and three in 1970. The two oldest articles on the list are landmarks. The first is the 1947 paper of Burnet and Stone (number 46) on the receptor-destroying enzyme of the cholera vibrio. Two other articles (numbers 3 and 46) with Burnet as author or coauthor recall the contributions to immunology for which he is known. The second of the older papers (number 6) is by J.F.J. Cade. Its impressive citation count records the widespread interest during the past decade in the usefulness of lithium in treatment of certain mental disorders.

Among the articles published in the 60s, many concern immune phenomena. Notable among these articles are four (numbers 4, 15, 41 and 45) from a series of five articles published in consecutive pages of volume 42 of the *Australian Journal of Experimental Biology and Medicine*. One of the five (Nossal G J V et al. *Aust. J. Exp. Biol.*

A	B	C	D	E	F
13	Austral. J. Chem.	3453	658	654	1.006
13	Austral. J. Exp. Biol. Med.	1451	209	153	1.366
8	Austral. J. Phys.	1117	166	157	1.057
7	Austral. J. Biol. Sci.	1974	379	281	1.349
2	Austral. Ann. Med. (A/NZ J. Med.)	220	155	142	1.092
2	Austral. J. Agr. Res.	1171	148	196	0.755
2	Med. J. Australia	2895	805	1110	0.725
2	Proc. Univ. Otago Med. Sch.	85	20	65	0.388
1	Austral. J. Sci. (Search)	92	57	147	0.308
1	Austral. Vet. J.	887	185	245	0.755

Figure 1. Sources of the most frequently cited articles published in Australian and New Zealand journals. A = number of articles among the list in Figure 2. B = journal title (parenthesized titles are present titles of the journals). C = total 1974 citations. D = total 1974 citations of 1972 and 1973 articles only. E = number of articles published by the journal in 1972 and 1973. F = impact (average number of 1974 citations of articles published by the journal in 1973 and 1974).

Med. 42:283-94, 1966) was cited only 33 times and didn't make this list of the top 51. Taken as a whole, however, the five parts of the series "Antigens in Immunity" have been cited 415 times. Had they been published as one article, that number of citations would have put the paper at the top of the list in Figure 2.

The youngest articles are the three published in 1970 (items 9, 36, and 44): one on nonthermal galactic radio sources; one on production of poly-unsaturated milk fat in domestic ruminants, and the last on a new approach of glomerulo-vascular renal disease. On the

basis of 1976 citations, the first of these 1970 articles seems to have passed its citation peak. The other two will be cited an estimated 15-20 times in 1976, and so have not reached their citation peak.

As the list of source journals in Figure 1 indicates, the articles are predominantly biomedical (26), with chemistry claiming about a fourth (13), physics about a sixth (8), and agriculture and related sciences about a twelfth (4).

The articles are listed in Figure 2, in decreasing numerical order of their total citations during the period 1961-1975.

1. Garfield E. Journal citation studies. 27. Australian and New Zealand citers and citees. *Current Contents*[®] (CC[®]) No. 38, 20 September 1976, p. 5-10.

Figure 2. Highly cited articles published in Australian and New Zealand journals. The fifty-one articles listed below were cited more than 35 times during the period 1961-1975. Articles are listed in descending numerical order of times cited. A = item number. B = times cited 1961-1975.

A	B	Bibliographical Data
1.	368	Bradley T R & Metcalf D. The growth of mouse bone marrow cells <i>in vitro</i> . <i>Austral. J. Exp. Biol. Med.</i> 44:287-300, 1966 (Dept. Physiol., Univ. Melbourne; Cancer Res. Unit, Walter & Eliza Hall Inst., Parkville, Victoria).
2.	292	Griffing B. Concept of general and specific combining ability in relation to diallel crossing systems. <i>Austral. J. Biol. Sci.</i> 9:463-93, 1956 (Div. Plant Industry, CSIRO, Canberra).
3.	225	Warner N L, Szenberg A & Burnet F M. The immunological role of different lymphoid organs in the chicken. 1. Dissociation of immunological responsiveness. <i>Austral. J. Exp. Biol. Med.</i> 40:373-88, 1962 (Walter & Eliza Hall Inst. Med. Res., Melbourne).
4.	200	Ada G L, Nossal G J V, Pye J & Abbot A. Antigens in immunity. 1. Preparation and properties of flagellar antigens from <i>Salmonella adelaide</i> . <i>Austral. J. Exp. Biol. Med.</i> 42:267-82, 1964 (Walter & Eliza Hall Inst. Med. Res., Melbourne).
5.	193	Bielschowsky M, Helyer B & Howie J. Spontaneous hemolytic anemia in mice of the NZB/BL strain. <i>Proc. Univ. Otago Med. School</i> 37:9-11, 1959 (Hugh Adam Dept. Cancer Res. & Dept. Pathol., Univ. Otago Med. School).
6.	181	Cade J F J. Lithium salts in the treatment of psychotic excitement. <i>Med. J. Australia</i> 2:349-52, 1949 (Med. Res. Dept., Kanematsu Mem. Inst., Sydney Hosp., Sydney).
7.	172	McKenzie H A & Wallace H S. The Kjeldahl determination of nitrogen; a critical study of digestion conditions; a temperature catalyst and oxidizing agent. <i>Austral. J. Chem.</i> 7:55-70, 1954 (Div. Food Preservation & Transport, CSIRO; Physico-Chem. Lab., Biochem. Dept., Univ. Sydney).
8.	127	Austin C R. Observations on the penetration of the sperm into the mammalian egg. <i>Austral. J. Sci. Res. B.</i> 4:581-96, 1951 (Div. Animal Health & Production, CSIRO, McMaster Lab., Sydney).
9.	126	Milne D K. Nonthermal galactic radio sources. <i>Austral. J. Physics</i> 23:425-44, 1970 (Div. Radiophysics, CSIRO, Epping, NSW).
10.	116	Chaston S H H, Livingstone S E, Lockyer T N, Pickles V A & Shannon J S. Thio derivatives of beta-diketones and their metal chelates. 1. Some monothio-beta-diketones and their nickel (II) chelates. <i>Austral. J. Chem.</i> 18:673-89, 1965 (School of Chem., Univ. NSW, Kensington)
11.	112	Barnes C S & Occolowitz J L. The mass spectra of some naturally occurring oxygen heterocycles and related compounds. <i>Austral. J. Chem.</i> 17:975-86, 1964 (Div. Org. Chem., CSIRO Chem. Res. Labs., Melbourne).

12. 112 **Rottendorf H & Sternbell S.** Spin-spin coupling between side-chain and ring protons and the effect of electron delocalization on allylic coupling. *Austral. J. Chem.* 17:1315-28, 1964 (Div. Coal Res., CSIRO, Chatswood, NSW).
13. 105 **Barker J A & Chem P.** Determination of activity coefficients from total pressure measurements. *Austral. J. Chem.* 6:207-10, 1953 (Div. Industrial Chem., CSIRO, Melbourne).
14. 104 **Shortman K.** The separation of different cell classes from lymphoid organs. 2. The purification and analysis of lymphocyte populations by equilibrium density gradient centrifugation. *Austral. J. Exp. Biol. Med.* 46:375-96, 1968 (Walter & Eliza Hall Inst. Med. Res., Melbourne).
15. 101 **Nossal G J V, Ada G L & Austin C M.** Antigens in immunity. 4. Cellular localization of iodine-125 and iodine-131 labelled flagella in lymph nodes. *Austral. J. Exp. Biol. Med.* 42:311-30, 1964 (Walter & Eliza Hall Inst., Melbourne).
16. 96 **Barker J A & Pompe A.** Atomic interactions in Argon. *Austral. J. Chem.* 21:1683-94, 1968 (Dept. Appl. Chem., CSIRO Chem. Res. Labs., Melbourne).
17. 96 **Day G A, Shimmins A J, Ekers R D & Cole D J.** The Parkes catalogue of radio sources; declination zone 0° to +20°. *Austral. J. Physics* 19:35-74, 1966 (Div. Radiophysics, CSIRO, Chippendale, NSW).
18. 95 **Finlay K W & Wilkinson G N.** The analysis of adaptation in a plant-breeding program. *Austral. J. Agr. Res.* 14:742-54, 1963 (Waite Agr. Res. Inst., Univ. Adelaide).
19. 90 **Bolton J G, Gardner E F & Mackey M B.** The Parkes catalogue of radio sources; declination zone -20° to -60°. *Austral. J. Physics* 17:340-72, 1964 (Div. Radiophysics, CSIRO, Chippendale, NSW).
20. 89 **Read D J C.** A clinical method for assessing the ventilatory response to carbon dioxide. *Austral. Ann. Med.* 16:20-32, 1967 (Dept. Med., Postgrad. Med. School, London & Dept. Med., Univ. Sydney).
21. 84 **Ferguson K A, Hemsley J A & Reis P J.** Nutrition and wool growth. *Austral. J. Sci.* 30:215-17, 1967.
22. 82 **Stanley E R & Metcalf D.** Partial purification and some properties of the factor in normal and leukaemic human urine stimulating mouse bone marrow colony growth in vitro. *Austral. J. Exp. Biol. Med.* 47:467-83, 1969 (Cancer Res. Unit, Walter & Eliza Hall Inst., Royal Melbourne Hosp., Victoria).
23. 80 **Ashton G C & Braden A W H.** Serum beta-globulin polymorphism in mice. *Austral. J. Biol. Sci.* 14:248-53, 1961 (Div. Animal Genetics, CSIRO, Cattle Res. Lab., Rockhampton, Queensland).
24. 76 **Desasande I S & Brand M J.** A simple isolated nerve-blood vessel preparation. *Austral. J. Exp. Biol. Med.* 43:639-56, 1965 (Dept. Human Physiol. & Pharmacol., Univ. of Adelaide).
25. 72 **Bradley T R & Sumner M A.** Stimulation of mouse bone marrow colony growth in vitro by conditioned medium. *Austral. J. Exp. Biol. Med.* 46:607-18, 1968 (Dept. Physiol. Univ. Melbourne, Parkville)

26. 71 Posener D W. The shape of spectral lines; tables of the Voigt profile. *Austral. J. Physics* 12:184-96, 1959 (Div. Electrotechnology, CSIRO, Chippendale, NSW).
27. 74 Perrin D D. Buffers of low ionic strengths for spectrophotometric pK determinations. *Austral. J. Chem.* 16:572-78, 1963 (Dept. Med. Chem. Inst. Adv. Studies, Austral. Univ., Canberra)
28. 59 Byrne J P, McCoy E F & Ross I G. Internal conversion in aromatic and N-heteroaromatic molecules. *Austral. J. Chem.* 18:1589-1603, 1965 (Dept. Phys. Chem., Univ. Sydney).
29. 58 Pitman M G. The determination of the salt relations of the cytoplasmic phase in cells of beetroot tissue. *Austral. J. Biol. Sci.* 16:647-68, 1963 (Botany Dept., Univ. Cambridge).
30. 55 Leach S J. The reaction of thiol and disulphide groups with mercuric chloride and methylmercuric iodide. 2. Fibrous keratins. *Austral. J. Chem.* 13:547-66, 1960 (Div. Protein Chem., CSIRO, Wool Research Labs., Parkville, Victoria).
31. 49 MacRobbie E A C. Metabolic effects on ion fluxes in *Nitella translucens*. 1. Active influxes. *Austral. J. Biol. Sci.* 19:363-70, 1966 (Botany Sch., Univ. Cambridge).
32. 48 Hudson B, Coghlan J, Dulmanis A, Wintour M & Ekkel I. The estimation of testosterone in biological fluids. 1. Testosterone in plasma. *Austral. J. Exp. Biol. Med.* 41:235-46, 1963 (Diabetic & Metabolic Unit, Alfred Hosp., Melbourne).
33. 48 Shannon J S. Studies in mass spectrometry. 1. Structures and reactions of ions from benzyl alcohol, ortho-, meta-, and parahydroxybenzyl alcohols, and their o-deuterated derivatives. *Austral. J. Chem.* 15:265-77, 1962 (Div. Coal Res., CSIRO, Chatswood, NSW).
34. 47 Barrs H D & Weatherby P E. A re-examination of the relative turgidity technique for estimating water deficits in leaves. *Austral. J. Biol. Sci.* 15:413-28, 1962 (Dept. Botany, Univ. Nottingham).
35. 47 Frahn J L & Mills J A. Paper iontophoresis of carbohydrates. 1. Procedures and results for four electrolytes. *Austral. J. Chem.* 12:65-89, 1959 (Div. Biochem. & Gen. Nutrition, CSIRO, Adelaide).
36. 47 Scott T W, Cook L J, Ferguson K A & McDonald I W. Production of poly-unsaturated milk fat in domestic ruminants. *Austral. J. Sci.* 32:291-3, 1970 (CSIRO, Div. Animal Physiol., Prospect, NSW).
37. 46 Burnet F M. The immunological significance of the thymus; an extension of the clonal selection theory of immunity. *Austral. Ann. Med.* 11:79-91, 1962.
38. 45 Adams D D & Purves H. Abnormal responses in the assay of thyrotrophin. *Proc. Univ. Otago Med. Sch.* 34:11-12, 1956 (Dept. Endocrinol. Res., Med. Res. College of NZ).
39. 45 Mills B Y, Slee O B & Hill E R. A catalogue of radio sources between declinations $+10^\circ$ and -20° . *Austral. J. Physics* 11:360-87, 1958 (Div. Radiophysics, CSIRO, Chippendale, NSW).

40. 44 Head A K. The computer generation of electron microscope pictures of dislocations. *Austral. J. Physics* 20:557-66, 1967 (Div. of Tribophysics, CSIRO, Univ. Melbourne).
41. 43 Ada G L, Nossal G J V & Pye J. Antigens in immunity. 3. Distribution of iodinated antigens following injection into rats via the hind foot-pads. *Austral. J. Exp. Biol. Med.* 42:295-310, 1964 (Walter & Eliza Hall Inst., Melbourne).
42. 42 Radford H M, Watson R H & Wood G F. A crayon and associated harness for the detection of mating under field conditions. *Austral. Vet. J.* 36:57-66, 1960 (Div. Animal Health & Production, CSIRO, Animal Health Res. Lab., Parkville, Victoria).
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46. 37 Burnet F M & Stone J D. The receptor-destroying enzyme of *V. cholerae*. *Austral. J. Exp. Biol. Med.* 25:227-33, 1947 (Walter & Eliza Hall Inst., Melbourne).
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49. 37 Nossal P M. A mechanical cell disintegrator. *Austral. J. Exp. Biol. Med.* 31:583-90, 1953 (Dept. Biochem., Univ. Adelaide).
50. 36 Hope A B & Walker N A. Ionic relations of cells of *Chara australis*. *Austral. J. Biol. Sci.* 14:26-44, 1961 (Plant Physiology Univ. Div. Food Preservation, CSIRO & Botany Sch., Univ. Sydney).
51. 36 Leach S J. The reaction of thiol and disulphuride groups with mercuric chloride and methylmercuric iodide. *Austral. J. Chem.* 13:520-46, 1960 (Div. Protein Chemistry, CSIRO Wool Res. Labs., Parkville, Victoria).