

Perhaps the author should examine what criteria are used when cover art is selected by *JAMA* and make specific recommendations for evaluation. The statistics would have much more credibility if a larger base of examples (perhaps starting with the 1960s) was used, particularly if some type of trend was noticed.

The terminology of the paper could be better defined—what specifically are “stereotyped sex

images"? What would be a good or healthy ratio of such stereotyped images? (The paper cites 74% of the cover art depicting humans as presenting stereotyped sex images.) I would also recommend using pejorative adjectives only when each one conveys something significant and different and can be specifically evidenced.

1 The art of JAMA. *Science News Update*. 1996 Oct 30.

Alliteration in medicine: a puzzling profusion of p's

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Abstract

Problem Puzzling, progressive profusion of alliterative “p’s” in published papers.

Purpose To depict this particular “p” predominance with pinpoint precision.

Plan Periodic, painstaking perusal of periodicals by a professor of paediatrics.

Proposal The “p” plethora is positively perplexing and potentially perturbing.

Alliteration is a literary device consisting of repetition of the same starting sound in several words in a sentence.¹ Consider, for example, Shakespeare's playful parody of alliteration in Peter Quince's prologue in *A Midsummer Night's Dream*:

“Whereat with blade, with bloody blameful blade,
He bravely broach’d his boiling bloody breast.”

Alliteration has appeared frequently in the medical literature—for example: “Respiratory syncytial virus—from chimps with colds to conundrums and cures;”⁷² “The choreas: of faints, fevers, and families;”⁷³ “Coronary artery stents—gauging, gorging, and goug-ing;”⁷⁴ “Moschcowitz, multimers, and metalloprotease;”⁷⁵ “Alagille syndrome: a nutritional niche for Notch;”⁷⁶ “Theodor Billroth: success with sutures and strings.”⁷⁷

Perusing the medical literature with alliteration in mind, I have become perplexed by a peculiar propensity for the letter “p” to be placed in prominent positions. Consider for a moment the alliterative content of the *BMJ*, a prestigious periodical also published in Pakistani, Polish, and Portuguese. Perhaps the prime example is a piece entitled “A potpourri of parasites in poetry and proverb,”⁸ but the journal has presented articles addressing such topics as paracetamol poisoning,⁹ practitioners’ pressure to prescribe,¹⁰ physicians’ partnerships with patients,¹¹ partnerships for prevention in public playgrounds,¹² and pregnancy outcomes which have been persistently poor.¹³ Other topics have included patients’ priorities,¹⁴ the political process of puzzling out private versus public priorities,¹⁵ and the ponderous problem of whether the priorities in apportioning resources should be primarily pragmatic or principally principled.¹⁶

In pursuing this plethora of "p" further, it becomes apparent that this predominance extends past paper titles to many other aspects of medicine. The purpose of this paper is to point this puzzling phenomenon of "p" profusion to the attention of practising physicians.

Methods

I used no scientific search strategy but collected examples piecemeal over several years. I am a primary care paediatrician with a small private practice, so I have a natural penchant for perusing paediatric papers. Please pardon this paediatric predominance. Pathologists, pulmonologists, and other practitioners are invited to provide examples from their particular fields. I would prefer you to participate by post.

For the purposes of this paper, alliteration is defined as occurring when the same sound starts several words of a sequence. Internal alliteration is a “soundalike,” whereby the same sound starts syllables within a word (for example, polyposis or parapertussis). Visual alliteration is a “lookalike,” whereby successive words or syllables start with the same letter but with different sounds (for example, popliteal pterygium or pneumonic plague). This is only literally alliterative, but a pleasing abbreviation may be used, such as referring to a physician parent as a “PP.”¹⁷ Non-visual alliteration occurs when successive words or syllables start with the same sound but with a different letter (for example, nosocomial pneumonia or pseudocyesis). In compiling the list of two-p sequences, I excluded: single words with internal alliteration; two-word sequences with visual alliteration; and “impure” sequences in which two “p’s” were preceded, followed, or interrupted

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Two-p sequences (in alphabetical order)

Palmar pustules (as in neonatal candidiasis ²⁰)	Pink puffer
Palpable purpura (Henoch-Schönlein purpura)	Pleuritic pain
Paradoxical pulse	Poison pen (see text)
Parakeratosa pustulosa (may include psoriatic pitting ²¹)	Polymorphous perverse
Paralytic (or postinoculation) poliomyelitis	Pool palms ²⁸ (see text)
Parapsoriatic plaques	Poor prognosis
Passion purpura ("hickey")	Popsicle panniculitis ²⁹
Paediatric Puzzler (see text)	The portable paediatrician ³⁰ (see text)
Paediatricians' perceptions ²²	Postsurgical pemphigus ³¹
Paediatrician presence ²³	Postural proteinuria
Pediculosis pubis	Practice parameter
Penile purpura (as manifestation of lichen sclerosis et atrophicus ²⁴)	Precocious puberty
Perianal pruritus (see text)	Prolapse paranoia (mitral valve ³²)
Periodic paralysis	Prone position
Periodic polyserositis (familial Mediterranean fever)	Prophylactic penicillin
Periumbilical purpura (as in disseminated strongyloidiasis ²⁵)	Prurigo of pregnancy ³³
Pes planus	Puffer poison (tetrodotoxin from puffer fish)
Piezogenic papules ^{26, 27}	Purulent pericarditis
	Pyrantel (or pyrinium) pamoate (see text)

by another letter (such as PPD, the purified protein derivative used for tuberculin skin testing).

The calculation of P values was considered using a non-parametric procedure. The proportions of pages occupied by "p" words in a general¹⁸ and medical¹⁹ dictionary are 0.07 and 0.11, so the approximate likelihood of any particular word starting with the letter "p" (the probability of a primary p, expressed as P_{pp}) is approximately 0.09. The precise probability of n successive words starting with the letter "p" can be expressed as P_{pp}^n .

Two-p sequences

Most examples of two-p sequences are straightforward (box), but a few explanatory comments are in order.

Firstly, "pool palms" refer to palms with red linear plaques resulting from contact with rough swimming pool surfaces.²⁸ Secondly, the presentation and proper treatment of enterobiasis are highlighted. In a paediatric patient with perianal pruritus, the prudent paediatrician should pursue the possibility of pinworms as the primary problem. If the presence of pinworms seems probable, a prescription for pyrantel pamoate or piperazine is appropriate. (Parenthetically, in years past, pyrinium pamoate, previously patented as Povan, was another popular option.) Finally, the "paediatric puzzler" and the "poison pen" are popular features in the monthly journal *Contemporary Pediatrics*. One "puzzler" was entitled "A tale of two pees—pink and purple urine,"³⁴ whereas the "pen" portrays the unhappy plight of paediatric patients who experience perverse physiological phenomena after partaking of pokeweed, pot, painkillers, and other potent pharmacological agents. Parenthetically, this popular periodical recently presented one article about a Pennsylvania paediatrician who perked up his practice with a parenting programme³⁵; a second article about an anti-smoking programme which proved practical for practice³⁶; and a third about how to put the principles of pregnancy prevention programmes into practice.³⁷ The journal's editor, Julia McMillan, penned *The*

Portable Paediatrician,³⁰ and also an editorial entitled "Pediatrician Presence."²³ The journal's creator, Frank Oski, edited the textbook *Principles and Practice of Pediatrics*,³⁸ propelling us to the next level of alliteration.

Three-p sequences

Several three-p sequences have been sighted. The Pasadena Prevention Project, for example, has examined ethnic variations in blood pressures among adolescents.³⁹ A papilloma of the bladder may cause haematuria that is profuse, periodic, and painless.⁴⁰

An article on the familial aggregation of Behçet's disease studied the parents of paediatric probands.⁴¹ An editorial about death rates from coronary disease was subtitled "Progress and a Puzzling Paradox,"⁴² and an article about diagnosing pulmonary embolism was subtitled "Pitfalls, Progress, Promises."⁴³ A historical essay about William Stokes was subtitled "Stoking the fires of prevention and pathophysiological patterns,"⁴⁴ and a paper about substance abuse in paediatric patients was subtitled: "Prediction, Protection and Prevention."⁴⁵ An article exploring the causes of paediatric behaviour problems was entitled "Promoting Parental Presence,"⁴⁶ and the periodical *Pediatrics* has recently proposed a process for post-publication peer review (P^3R).⁴⁷ Two recent articles pertained to substance P and the part it plays in pain pathogenesis. The first paper presented a procedure for the partial purification of this potent peptide,⁴⁸ whereas the second publication challenged whether the central questions in pain perception are peripheral.⁴⁹

Many other three-p sequences derive from dermatological conditions. Superficial staphylococcal infections in atopic children, for example, can produce pinpoint, pruritic pustules. Recent reports have described patients with perianal pseudoverrucous papules^{50, 51}; persistent papular plaques⁵²; pruritic purple plaques⁵³; painless, pruritic papules⁵⁴; persistent, painful plantar masses⁵⁵; progressive, pigmentary purpura⁵⁶; pruritic papular porokeratosis⁵⁷; and pedal erosions which were painful, plaque-like and pitted.⁵⁸ A final skin finding is a benign lesion of the penile corona known as pearly penile papules or pink pearly papules.⁵⁹ These lesions have occasionally been referred to as pink, pearly, penile papules, bringing us to the next level of alliteration. Parenthetically, since some parents refer to their son's penis as his "private parts" or "pee-pee," a further variation might qualify at an even higher level.

Four-p sequences

Many sequences have attained the four-p level. An editorial described "Preventive Pediatrics: the Promise and the Peril,"⁶⁰ and an article provided psychological perspectives on paediatric pain.⁶¹ Several examples derive from the dermatological literature, including: painful, piezogenic, pedal papules⁶²; puzzling palmar and plantar papules⁶³; porokeratosis punctata palmaris and plantaris⁶⁴; and the "impure" sequence of pruritic, urticarial, papules and plaques of pregnancy (PUPPP).⁶⁵ Managers of physician practice plans now apply the four p's of marketing to the medical marketplace: product, price, placement, and promotion.⁶⁶ Finally, the internal alliteration in "A Potpourri of Parasites in Poetry and Proverb" is particularly powerful,⁸ pushing us to the next level.

asked if I now plan 25 similar articles honouring the other letters of the alphabet. Positively not. My "p" collection has provided a pleasant pastime, but I encourage others to complete the series.

One can only ponder what the authors' possible purposes may have been for repeating "p" in particular passages. In some instances, the prose is ponderous, and the "p" predominance is clearly contrived. Referring to hypertension as "pressure of blood rises," for example, was presumably done for the specific purpose of completing a long list of "p's." In other instances, however, the passages' style and polish provide pure poetic pleasure, and it seems plausible to propose that the authors were potentially unaware of their "p" proclivity and the powerful and poignant "p" presence in their papers.

Some proponents of the "publish or perish" paradigm have proposed that my primary purpose in preparing this paper for publication was a promotion. This is pure poppycock. Such a premise is perfectly preposterous. As a professor with permanence (tenure), I have reached the pinnacle of my profession. My purpose has been to pay proper and profound homage to my predecessors with a peculiar p-preoccupation. P's on earth to men of good will.

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- 1 Harris WH, Levey JS, eds. *New Columbia encyclopedia*. 4th ed. New York: Columbia University Press, 1975:71.
- 2 Hall CB, McBride JT. Respiratory syncytial virus—from chimps with colds to conundrums and cures. *N Engl J Med* 1991;325:57-8.
- 3 Schoenberg DG, Schoenberg BS. The choreas: of faints, fevers and families. *South Med J* 1977;70:1465-6.
- 4 Topol EJ. Coronary artery stents—gauging, gorging and gouging. *N Engl J Med* 1998;339:1702-4.
- 5 Moake JL, Moschowitz, multimers and metalloprotease. *N Engl J Med* 1998;339:1629-31.
- 6 Sokol RJ. Alagille syndrome: a nutritional niche for Notch. *J Pediatr* 1999;134:136-8.
- 7 Schoenberg DG, Schoenberg BS. Theodor Billroth: success with sutures and strings. *South Med J* 1979;72:1590-1.
- 8 Burns DA. A potpourri of parasites in poetry and proverb. *BMJ* 1991;303:1611-4.
- 9 Routledge P, Vale JA, Bateman DN, Johnson GD, Jones A, Judd A, et al. Paracetamol poisoning. *BMJ* 1998;317:1609-10.
- 10 Greenhalgh G, Gill P. Pressure to prescribe. *BMJ* 1997;315:1482-3.
- 11 Richards T. Partnerships with patients. *BMJ* 1998;316:85-6.
- 12 Sibert JR, Mott A, Rolfe K, James R, Evans R, Kemp A, et al. Preventing injuries in public playgrounds through partnership between health services and local authority. *BMJ* 1999;318:1595.
- 13 Simmons D. Persistently poor pregnancy outcomes. *BMJ* 1997;315:263-4.
- 14 Richards T. Patients' priorities. *BMJ* 1999;318:277.
- 15 Klein R. Puzzling out priorities. *BMJ* 1998;317:959-60.
- 16 Klein R. Priorities and rationing: pragmatism or principles? *BMJ* 1995;311:761-2.
- 17 Dusdieker LB, Murph JR, Murph WE, Dunghy CI. Physicians treating their own children. *AJDC* 1993;147:146-9.
- 18 *The Merriam-Webster dictionary*. Springfield, MA: Merriam Webster, 1994.
- 19 *Stedman's medical dictionary*. 25th ed. Philadelphia, PA: Williams and Wilkins, 1990.
- 20 Resnick SD, Greenberg RA. Auto-inoculated palmar pustules in neonatal candidiasis. *Pediatr Dermatol* 1989;6:206-9.
- 21 Tosti A, Peluso AM, Zucchielli V. Clinical features and long-term follow-up of 20 cases of parakeratosis pustulosa. *Pediatr Dermatol* 1998;15:259-63.
- 22 Gray D, Golden M, Ingersoll G, Hibbard R, Langefeld C. *Pediatricians' perceptions of multidisciplinary diabetes care*. McLean, Virginia: Ambulatory Pediatric Association abstract, 1990.
- 23 McMillan JA. Pediatrician presence. *Contemp Pediatr* 1999;16:9.
- 24 Barton PG, Ford MJ, Beers BB. Penile purpura as a manifestation of lichen sclerosus et atrophicus. *Pediatr Dermatol* 1993;10:129-31.
- 25 Kalb RE, Grossman ME. Periumbilical purpura in disseminated strongyloidiasis. *JAMA* 1986;256:1170-1.
- 26 Van Straaten EA, Van Langen IM, Oortuys JWE, Oosting J. Piezogenic papules of the feet in healthy children and their possible relation with connective tissue disorders. *Pediatr Dermatol* 1991;8:277-9.
- 27 Laing VB, Fleischer AB Jr. Piezogenic wrist papules. *J Am Acad Dermatol* 1991;24:415-7.
- 28 Blauvelt A, Duarte AM, Schachner LA. Pool palms. *J Am Acad Dermatol* 1992;27:111.
- 29 Craig JE, Scholz TA, Vanderhooft SL, Etheridge SP. Fat necrosis after ice application for supraventricular tachycardia termination. *J Pediatr* 1998;133:727.
- 30 Markel H, Oski J, Oski F, McMillan J. *The portable pediatrician*. St Louis, MO: Mosby Year Book, 1992.
- 31 Mehregan DR, Roenigk RK, Gibson LE. Postsurgical pemphigus. *Arch Dermatol* 1992;128:414-5.
- 32 Kessler KM. Prolapse paranoia. *J Am Coll Cardiol* 1988;11:48-9.
- 33 Nurse DS. Prurigo of pregnancy. *Aust J Dermatol* 1968;9:258-67.
- 34 Olk DG, Glenn RE, Tunnessen WW Jr. Pediatric puzzler: A tale of two pees: pink and purple urine. *Contemp Pediatr* 1992;9:63-8.
- 35 Werner JH Jr, Mindell JA. Perking up your practice: parenting classes that work. *Contemp Pediatr* 1994;11:57.
- 36 Epps RP, Manley MW. A quick practical antismoking program for your practice. *Contemp Pediatr* 1994;11:24.
- 37 Kirby D. Reducing adolescent pregnancy: approaches that work. *Contemp Pediatr* 1999;16:83-94.
- 38 Oski FA, DeAngelis CD, Feigin RD, McMillan JA, Warshaw JB, eds. *Principles and practice of pediatrics*. 2nd ed. Philadelphia: Lippincott, 1994.
- 39 Hohn AR, Dwyer KM, Dwyer JH. Blood pressure in youth from four ethnic groups: the Pasadena Prevention Project. *J Pediatr* 1994;125:368-73.
- 40 Shipman JJ. Mnemonics and tactics in surgery and medicine. 2nd ed. Chicago: Year Book Medical Publishers, 1984.
- 41 Kone-Paut I, Geisler I, Wechsler B, Ozen S, Ozdogan H, Rozenbaum M, et al. Familial aggregation in Behçet's disease: high frequency in siblings and parents of pediatric probands. *J Pediatr* 1999;135:89-93.
- 42 Levy D, Thom TJ. Death rates from coronary disease: progress and a puzzling paradox. *N Engl J Med* 1998;339:915-7.
- 43 Moser KM. Diagnosing pulmonary embolism: pitfalls, progress, promises. *J Respir Dis* 1992;13:1037-49.
- 44 Schoenberg DG, Schoenberg BS. William Stokes: stoking the fires of prevention and pathophysiologic patterns. *South Med J* 1978;71:956-7.
- 45 Belcher HME, Shinitzky HE. Substance abuse in children: prediction, protection and prevention. *Arch Pediatr Adolesc Med* 1998;152:952-60.
- 46 Green M. Promoting parental "presence." *Contemp Pediatr* 1999;16:118-38.
- 47 Anderson KR, Lucey JF. A new capability: postpublication peer review for *Pediatrics*. *Pediatrics* 1999;104:106.
- 48 Fehder WP, Ho WZ, Campbell DE, Tourtelotte WN, Michaels L, Cutilli JR, et al. Development and evaluation of a chromatographic procedure for the partial purification of substance P with quantitation by an enzyme immunoassay. *Clin Diagnostic Lab Immunol* 1998;5:303-7.
- 49 Pasternak GW. The central questions in pain perception may be peripheral. *Proc Natl Acad Sci USA* 1998;95:10354-5.
- 50 Tamaki T. Diaper dermatitis and perianal pseudoverrucous papules. *Arch Dermatol* 1992;128:1277-80.
- 51 Cano LR, Briones VGP, Jove RP, Rodellas AC. Perianal pseudoverrucous papules and nodules after surgery for Hirschsprung's disease. *J Pediatr* 1994;125:914-6.
- 52 Fahrner LJ, Solomon AR. Persistent papular plaques on the face. *Pediatr Dermatol* 1989;6:254-5.
- 53 Yalisoze BL, Berzin M, Williams CM. Multiple pruritic purple plaques. *Arch Dermatol* 1991;127:721.
- 54 Dixon TC, Meselson M, Guillemin J, Hanna PC. Anthrax. *New Engl J Med* 1999;341:815-26.
- 55 Anders KH, Leshner JL. Persistent painful plantar masses. *Arch Dermatol* 1992;128:105.
- 56 Abeck D, Gross GE, Kuwert C, Steinkraus V, Mensing H, Ring J. Acetaminophen-induced progressive, pigmentary purpura (Schamberg's disease). *J Am Acad Dermatol* 1992;27:123-4.
- 57 Kanzaki T, Miwa N, Kobayashi T, Ogawa S. Eruptive pruritic papular porokeratosis. *J Dermatol* 1992;19:109-12.
- 58 Shah AS, Kamino H, Prose NS. Painful, plaque-like pitted keratolysis occurring in childhood. *Pediatr Dermatol* 1992;9:251-4.
- 59 Neinstein L, Goldenring J. Pink pearly papules: an epidemiologic study. *J Pediatr* 1984;105:594-5.
- 60 Eisenberg L. Preventive pediatrics: the promise and the peril. *Pediatrics* 1987;80:415-22.
- 61 McGrath PJ, McAlpine L. Psychologic perspectives on pediatric pain. *J Pediatr* 1993;122:S2-S8.
- 62 Kahana M, Levy A, Ronnen M, Cohen M, Schewach-Millet M. Painful piezogenic pedal papules on a child with Ehlers-Danlos syndrome. *Pediatr Dermatol* 1985;3:45-7.
- 63 Solis J, Sau P, James WD. Puzzling palmar and plantar papules. *Arch Dermatol* 1991;127:1219-24.
- 64 Lestringant GG, Berge T. Porokeratosis punctata palmaris and plantaris: A new entity? *Arch Dermatol* 1989;125:816-9.
- 65 Weiss R, Hull P. Pruritic, urticarial, papules and plaques of pregnancy. *J Am Acad Dermatol* 1992;26:715-7.
- 66 Maibach E. Communication strategies for expanding and sustaining immunization. Children's Vaccine Initiative Consultative Group Meeting; Geneva, Switzerland, November 1998. Geneva: World Health Organisation, 1998.
- 67 Detsky AS, Redelmeier DA. Measuring health outcomes: putting gains into perspective. *N Engl J Med* 1998;339:402-3.
- 68 Virginia Chapter of the American Academy of Pediatrics. A potpourri of practical pediatrics plus politics. *Virginia Pediatrics* [the Chapter newsletter], Summer 1994.
- 69 American Academy of Pediatrics. *Presenter promises potpourri of pearls for the practitioner*. Elk Grove Village, Illinois: AAP Highlight, April 1994:1.
- 70 Gebauer KA, Navaratnam TE, Holgate C. Pruritic, pigmented papules posing permanent problems. *Arch Dermatol* 1992;128:105.
- 71 White KP, Rothe MJ, Milanese A, Grant-Kels JM. Perniosis in association with anorexia nervosa. *Pediatr Dermatol* 1994;11:1-5.
- 72 Frankenburg WK. Preventing developmental delays: is developmental screening sufficient? *Pediatrics* 1994;93:586-93.