

## Correspondence

DEAR EDITOR,

In his otherwise excellent Note, *Math. Gaz.* **83** (November 1999) p. 483, Nick Lord writes 'it is not known whether a base-10 individual digit extraction formula for  $\pi$  exists'. But at the time such a formula was known to exist. On the webpage about Bailey-Borwein-Plouffe formulas, [www.mathsoft.com/asolve/plouffe/plouffe](http://www.mathsoft.com/asolve/plouffe/plouffe), in the postscript dated 1/12/97, there is a link to Simon Plouffe's page [www.lacim.uqam.ca/plouffe/Simon/articlepi.html](http://www.lacim.uqam.ca/plouffe/Simon/articlepi.html) on the calculation of the  $n$ th digit of  $\pi$  and other constants in any base.

Yours sincerely

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DEAR EDITOR,

### *Fourier-analysed Gazette*

An appeal of the *Gazette* has been its cycles of varying periods in a variety of properties, some editor-generated and some about as explicable as English weather.

Define 'side' to be the degree of swank deployed by contributors. At the peak of the cycle were the outrageous 'it-is-easily-seen-that', the snooty or beastly rude correction to a note; at the trough there was the generous modesty of people like C. W. Kilmister who had lots to swank about but didn't. Side was blatant in *Gazettes* of the past, and makes entertaining reading today.

The pure/applied ratio was an early disappointment: it has always cycled between large and infinite. In the days when our national aspirations seemed to require support for science it seemed disgraceful that there was so much agreeable mathematics confined to science lessons. The maths might not be hard, but the science pupils suffered because maths teachers appeared too communally egocentric to give a hand.

The frontier-dispatches cycle has depended on editors. It has been said that hard times have diverted mathematicians from university teaching to schools. But there must be many capable maths teachers who would prefer not to be called mathematicians. Under the present regime the *Gazette* has made book reviews an effective tool for keeping such readers in touch. It is also good when researchers report from the frontiers for the *Gazette*. Over the years we've been greatly blessed.

Strategy/tactics. Some editors have been more interested in the details of articles; others have allowed space for the presentation of major teaching issues, often against the background of history.

Dumpers. Fortunately there have been few times when contributions have done more to serve someone's publication count rather than inspire the teaching of mathematics.

The cycles must be affected by the readership. Who reads the *Gazette*? Vith-form teachers? Dons who see the importance of pedagogy? Dumpers? Schoolteachers keeping in touch? (I'd hope we were well represented.) Retired warriors? 'Dumper' would never include kindly major-leaguers at play, the responsible and often distinguished mathematicians who value teaching, enterprising students and friendly contributors from other countries.

The present *Gazette* has an attractive Fourier profile. I blame our profession more than the *Gazette* for the fact that because this or that bit of mathematical science is arbitrarily excluded from Applied Mathematics, we exclude it from the *Gazette*.

One cycle-independent complaint: that we don't have past *Gazettes* (plus index) on CDs. Or perhaps we do? If not, couldn't the scanning job be shared amongst reader volunteers?

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DEAR EDITOR,

#### *MacDonald Numbers*

While researching the origins of children's counting games and rhymes I came across a startling discovery in Opie and Opie [1]. In discussing the sources of nursery favourite 'Old MacDonald', they relate the tale of the eponymous nineteenth century American farmer and amateur mathematician, whose ruminations on the values of complex powers of complex numbers gave rise to the children's song (popularised via his schoolteacher wife, Flora Spoil) which is his only surviving legacy. Sadly, he was unable to evaluate his most famous discovery,

$$e^i e^{i^0}$$

which readers of the *Gazette* might like to investigate. A full treatment may be found in either [2] or [3].

#### *References*

1. Peter and Iona Opie, *Dixon Test Thesis*, OUP, 1977.
2. Doreen Snipvent, *All is proof*, Everyman Press, 1921.
3. Otis Denver Penn and Ernest Ovid Penn, *Complex Numbers*, Princeton, 1899.

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DEAR EDITOR,

My attention has recently been drawn to the Obituary of Sir Wilfred Cockcroft 1923-1999 in Vol. 84, No. 499 of the *Mathematical Gazette* (March 2000, p. 123). Please allow me to correct one aspect of the Obituary where it is stated that, 'as Vice-Chancellor', Sir Wilfred established 'the New University of Ulster in Coleraine in 1976'.

The New University of Ulster had two campuses, one at Coleraine and one at Magee College in Londonderry. The founding Vice-Chancellor was Dr Alan Burges, who came to Northern Ireland from the University of Liverpool in 1966. He served as Vice-Chancellor until 1976 and was succeeded by Sir Wilfred Cockcroft.

Yours sincerely

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DEAR EDITOR,

In your first quotation from my letters to you [1, p. 93] the expression ' $N \rightarrow \infty$ ' should be replaced by ' $N_\alpha \rightarrow \infty$ '. Also, can I add that I believe the *only* non-trivial distribution of the counted elements that satisfies the conjecture in its abstract form is the one marked out by the primes. If I am right about this, then [1] notices a 'property of balance' that the primes, as a unity, uniquely possess.

Reference

1. Paul Thompson and Steve Abbott, A conjecture on prime number races, *Math. Gaz.* **85** pp. 91–93 (March 2001).

Yours sincerely,

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DEAR EDITOR,

*More Mathematical Gazettes*

My note [1] in the November 2001 issue prompted some response. I would like thank those who got in touch, especially Richard Kirby for his offer to help extend the on-line version of the *Gazette Index*. I had one query about finding the *Index*. It can be reached via the MA web site [www.m-a.org.uk/](http://www.m-a.org.uk/) then Periodicals then The Mathematical Gazette then Index and then Index (again!!). Or, [www.bill.r.ukgateway.net/gazette](http://www.bill.r.ukgateway.net/gazette) is a more direct route.

Quite recently I had time to spare in Cambridge so I decided to check the state of their *Gazettes*. The main university has a good collection. The bound volumes are complete up to 1998. These are all in South Front 4. The first six issues, bound together, have the reference P348.b.42 and the rest are P348.c.43. (The first six issues had a bigger page size hence the

distinction.) The more recent, unbound issues are in the West Room in Pigeon Hole J120. This was easy to find but only March and July 1999 had been received – which is being looked into. All this can be verified by a web search. Start with [www.lib.cam.ac.uk](http://www.lib.cam.ac.uk) and then search for ‘list of serials’ and then for ‘Mathematical Gazette’. The following *Gazette* references appear: Education Library from 1922 to date; Girton College 1912 to date; Homerton College 1989 to date; St Johns 1896 to date; Kings College 1953 to 1958; The Moore Library 1953 to date; New Hall 1974 to 1992 and, finally, the Scientific Periodicals Library 1913 to 1994. The only one of these which I tried to check was The Moore Library which is adjacent to the new mathematics building. This collection could not be found, so presumably it is still *en route* from the old mathematics building.

### Reference

1. Bill Richardson, *The Mathematical Gazette*, *Math. Gaz.* **85** pp. 517–518 (November 2001).

Yours sincerely,

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