Correspondence

Sir,

A recent paper in *The Computer Journal* [1] describes the extension of the Peano curve to higher numbers of dimensions. This is a straightforward extension which appears to have been known at least since 1968 [2].

We are surprised that this re-discovery was allowed to appear in *The Computer Journal*, and the attachment of a new name "The Millar Polyhedron" to the three-dimensional Peano curve (which is not a polyhedron in any case) seems to be a potential source of confusion. We feel that *The Computer Journal* should make an effort to counter the propagation of this unnecessary neologism.

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REFERENCES

[1] R. J. Millar, M. E. C. Hull and J. H. Frazer, The Millar Polyhedron and its use in the construction of octrees, *The Computer Journal* **36**, pp. 186–194 (1993).

[2] E. A. Patrick, D. R. Anderson and F. K. Bechtel, Mapping multidimensional space to one dimension for computer output display, *IEEE Transactions on Computers* **C-17**, pp. 949–953 (1968).

Reply

Sir,

We would comment as follows on the above letter by Bowyer, Martin and Woodwark.

Our refereed paper describes the extension of Hilbert curve to three dimensions and not the Peano curve as stated by Bowyer *et al.* The name "The Millar Polyhedron" is intended neither as a claim to discovery of the curve (which has been known since 1891 and is clearly referenced in our paper) nor to its computing applications, rather it is a label for a particular instance of the three-dimensional curve together with the tabular implementation described in the paper. For this reason, we do not accept that use of the term is neologism.

The main thrust of our paper is the use of the curve in the construction of octrees and the advantage, in doing so, of an easy parallel implementation in occam2. As such, our paper is not a duplication of the work by Patrick, Anderson and Bechtel as suggested by Bowyer *et al.*

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Sir,

Sale's classification algorithm for FORTRAN 66 (*Computer J.* **14** (1971) pp. 10–12) was updated for FORTRAN 77 by Slape and Wallis as Algorithm 127 (*Computer J.* **34** (1991) pp. 373–376). Sale comments in his discussion of his algorithm that "a DO statement cannot contain any parentheses", a fact crucial to the algorithm's fourth termination condition. Unlike FORTRAN 66, FORTRAN 77 allows arbitrary expressions as bounds in a DO statement. In particular, a bound could be an array element name. Thus a FORTRAN 77 DO statement may contain parentheses. Apparently Slape and Wallis overlooked this point, so Algorithm 127 is wrong: it will classify a DO statement with an array element bound as an assignment statement.

If the statement labeled "33" is replaced by the following sequence of two statements, the algorithm will correctly classify a DO statement containing parentheses:

```
33   IF (ISW) 36,36,335
335  IF (JEQ) 34,34,36
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