

Sir,

It was heartening to see five papers recognising that we should judge an IT system by how well it serves the needs its users perceive themselves to have. The objectivity of bits and the logic of algorithms may provide comforting refuges for technologists, but lay users value fuzzier, more subjective qualities.

Rzevski (par. 3.6) lists nine such; may I, as once a commercial user, bring the number up to twenty by adding:

- Novelty (stale news is no news),
- Exclusiveness (what is broadcast gives me no advantage),
- Credibility (authenticity, authority and contextual fit),
- Adequacy (completeness or, at least, sufficiency),
- Probable error (accuracy is never absolute).
- Precision ('above zero' may be accurate, but 13 °C is more informative),
- Durability (obsolescence decay constant),
- Significance (importance, uniqueness, priority),
- Comprehensibility (freedom from obscurity and ambiguity),
- Connectivity (correct level to match my existing knowledge),
- Conciseness (freedom from irrelevancy and redundancy).

These twenty qualities suggest that the pragmatic appraisal of IT systems will continue for quite some time.

Yours faithfully

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Sir,

What an interesting seminar on 'Towards a Theory of Information'; the contributors deserve congratulations. But I do not think that one can let pass without comment the fact that there is no reference to the moral and theological aspect of the matter. It is well illustrated by G. G. Scarrott's contribution, which talks of information as 'The Life Blood of Organisation', but says (of a Natural Organised System) that two examples are 'a

nest of social insects or a co-operating group of people' thus equating ants and men.

There is a fundamental difference; men have free will, and Christianity claims that this is God-given. There is an important practical consequence, often forgotten in systems design; men are inherently capable of sin and so do not always act logically (as systems designers find to their regret). More important, however, one must not assume that information theory can provide logically for every situation, and one must say so.

Logically, bees dispose of the surplus drones from their organised system from time to time. People should not; although I have ample information to recommend doing so for several of my friends! To be serious, the caveat, that moral issues not susceptible to information processing must be remembered, should be stated. To be fair, Frank Land admits that 'modes of thinking' affect real world practice, but this does not go far enough. After processing information one must ask oneself 'What would God say, do, think of this?' At our peril we forget to do so.

Yours faithfully

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Gordon Scarrott replies:

Certainly as Mr Ferraby implies men are not the same as ants, but I did not equate them, I bracketed them. This is surely legitimate since people and ants are both observable features of nature so that at a sufficiently abstract classification level they should be regarded as members of the same class.

The behaviour of both people and ants can be observed to be partly ordered by genetically defined instinct, and partly disordered, giving the opportunities for the exercise of 'free will'. I do not doubt that people have far more opportunity to use 'free will' than ants, but the proposition that people have no instinctive drives and ants have no 'free will' does not stand up to examination.

At the practical level I agree with Mr Ferraby's assertion that system faults arising from human error are inevitable. Consequently the primary objective of sound system design should not be to achieve functional perfection but to prevent the spread of imperfection. In colloquial terms bugs are unavoidable, but they can and should be prevented from breeding.

Editor's comments:

Whilst the *Journal* is pleased to accept letters referring to papers previously published, potential contributors should remember that the *Journal* publishes material concerned only with research in computer science or new applications of computing. It is not a journal of philosophy and, especially in view of the current delay in publication, it is not proposing to accept for publication any papers whose content is philosophical rather than technical.

A Note on the Postage Stamp Problem

Sir,

With reference to W. F. Lunnon's article (this *Journal*, vol. 12, p. 377), I should like to report the solution $V(8, 4) = 229$, not 221 as reported by B. P. Phillips in his letter (this *Journal*, vol. 19, p. 93). The unique set of stamp denominations obtained was 1, 3, 8, 19, 33, 39, 92, 102.

K. Fleischmann, a student of Professor Hofmeister in Mainz, recently discovered a set of stamp denominations with value 226. This prompted me to a closer investigation. My solution was found by scanning the universe of possible sets of stamp denominations. The run, using techniques developed in my work (S. Mossige, Algorithms for computing the h-range of the postage stamp problem, *Mathematics of Computation*, vol. 36, pp. 575-582) took 24 c.p.u. hours on the Univac 1100/82 at the University of Bergen.

Yours faithfully

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