

EDITORIAL

'If the end is lawful, then the means are lawful'

It has always seemed to me that this would form a very apt motto for analytical chemists if it were inverted, because the validity of many measurements, especially those of regulatory character, depends on the application of the approved or official method. Therefore, since the validity of the method used provides the justification for the validity of the measured value, truly 'the means justify the end'. On further reflection one could extend the applicability of this statement because, in virtually all scientific measurements, the confidence that one can place on a set of data, and the interpretations that one can make, depend very much on the validity of the methods of measurement used. The issue of validating methods and their performance is becoming increasingly important for the nutritional analyst at the present time, as the nutritional labelling of foods becomes more common and attracts more interest amongst consumers, advertisers and the enforcers of regulation.

My attention was drawn to the wider importance of the methods we use in nutritional studies as a whole, by two events. Firstly, by a Letter to the Editors, (which I hope to publish in the next number) on the descriptions given by authors for the methods that they have used to compute nutrient intakes. Secondly, as part of the preparations for the annual meeting of the Editorial Board, I was reviewing the 'Directions to Contributors' to consider where our experience over the past year has demonstrated the need for clarification or amendment.

In doing this, I was struck by the paucity of the attention given to guidance on experimental methods when compared with the guidance on how the results should be treated statistically. It was almost as if we, the Editors, were indifferent to the way in which the data were obtained provided that they were analysed statistically by the appropriate techniques. I hasten to add that this is not to say that the statistical analyses do not deserve their importance, but that the balance does appear to be incorrect; statistical analyses have much in common with computers in that 'garbage in leads to garbage out'.

One cardinal principle in describing the methods in a paper must be 'that sufficient detail should be given to enable a competent reader to repeat the experimental work'. This does not necessarily imply that one needs extensive descriptions of all methods, because much detail can be given by reference to the basic analytical, biochemical or physiological literature. Where, however, 'nutritional' techniques have been used, then clearly the *British Journal of Nutrition* should be the place where those techniques are fully described and validated.

This brings me back to the point raised by the correspondent regarding the need for better and more precise descriptions of the ways in which nutrient intakes in human studies are calculated. Here, in many papers, the descriptions of the nutritional databases and the software that have been used are often not adequate to permit a competent reader to repeat the work, nor an editor to assess the validity of the data! The same criticism can be made about the descriptions of the various methods used for the measurement of food intakes in human studies.

One issue that I believe deserves careful consideration in relation to these and many other

nutritional methods that are in use is the question of the validation of the methods themselves and, like the clinical and analytical chemists, we as nutritionists need to be more aware of the need to show that our methods do measure what they purport to measure.

D. A. T. SOUTHGATE