sion our original 95% confidence limits for the whole sample (using all 21 criteria) was ± 14 days. When separated now into appropriate-for-dates and small-for-dates subgroups, the corresponding 95% confidence limits were ± 14.3 and ± 13 days respectively. With Parkin *et al.*'s criteria, the 95% confidence limits for our whole sample was ± 21 days (on a curvilinear regression), for the appropriate-for-dates infants ± 18.5 days, and for the small-for-dates infants 23.8 days (with a linear regression fitting the data better).

One other possible difference for these discrepancies may be that all Parkin's babies were examined between 12 and 36 hours whereas our data were collected within the first 5 days after birth. We think the skin colour is likely to be most affected by this difference in time of examination. We therefore did a further analysis on our data substituting plantar skin creases (which also had good predictive value in Parkin's analysis) for skin colour, with the following results: 95% confidence limits for the whole sample ± 18 days; for appropriate-for-dates infants ± 16.6 days, and for small-for-dates infants 21 days. A curvilinear regression best fitted the data for all three of these groups.

As originally pointed out by Farr and Mitchell (1967), the superficial criteria which they recommended (which are the ones on which Parkin *et al.*, and our assessments were based) are influenced by birthweight, giving a lower score in small-for-dates infants. We obtained similar results, but have also observed that neurological criteria tended to be influenced in the other direction in small-for-dates infants thus giving better overall correlation with a combination of neurological and superficial criteria (Dubowitz and Dubowitz, 1977).

This suggests that Parkin's selected criteria are satisfactory for term infants of appropriate weight, but give a poorer correlation for small-for-dates infants, and might also be less reliable for preterm infants.

Once the accuracy of a method drops to ± 21 days it is approaching the relative unreliability of using criteria such as birthweight or x-ray of the epiphyses.

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Dr. J. M. Parkin comments:

To suggest that a method of assessing gestational age is of practical value only in term and infants of appropriate weight is, in effect, to suggest that the technique is useless. We therefore are pleased to have the opportunity of replying to the letter of L. M. S. Dubowitz and her colleagues, and agree that there is a need to explain our differences.

The widening of the 95% confidence limits in the reanalyses of their original data to 21 days using our four external characteristics or to 18 days when skin colour is replaced by plantar skin creases, may have

occurred by chance. It is well known that the accuracy of a predictor is usually not as good in a new sample as in the original (Gardner, 1972). However, the findings in the two groups of babies studied by us at an interval of 2 years were very similar. This fact gives us confidence in the robustness of our conclusions and suggests that there is some other explanation for the differences in the results of the two studies.

We agree that the difference in ages of the babies at examination may be relevant; the assessment of skin colour may be affected by postnatal age, though we found no evidence of this during the first 48 hours of life. The fact that the earlier assessment appears to increase the accuracy of any gestational assessment is, of course, reassuring.

We deliberately avoided any assumption about there being any mathematical relation between gestational age and total score, and simply recorded the range of gestational age for each score. We lack sufficient data to analyse the accuracy of the score in very small babies, but, contrary to the assertion in the letter of Dubowitz *et al.*, the predicted accuracy of the score did not decrease with decreasing gestational age in babies of more than 30 weeks' gestation. In our data the accuracy of the score was only marginally affected by weight for gestational age at birth. Breast bud and ear cartilage development are both slightly retarded in babies who are light-for-dates at birth, but, nevertheless, the total score underestimated gestational age by an average of only 1.5 days in a group of babies of birthweight below the 10th centile and overestimated gestational age by 1.1 days in babies with birthweight above the 90th centile (Parkin, 1970).

We believe that the avoidance of any assumption regarding an underlying mathematical relation between gestational age and total score is the most important reason for the differences high-lighted by Dr. Dubowitz. We see no evidence that these differences are due to differences in the composition of the population studied and we remain confident that our method is valid in babies of short gestation and in babies of abnormal weight for gestational age at birth.

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