

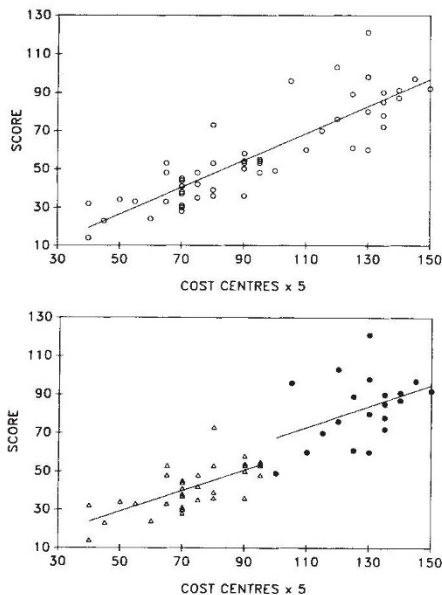
# UK university rankings

SIR—The recent university research rankings by the Universities Funding Council have been based upon percentage scores, in which each university's actual score is expressed as a percentage of the maximum score the university would have obtained had each of its "cost centres" scored a 5. To get a fuller picture, it is useful to plot the published data graphically. The upper graph in the figure shows each university as a point located by its actual score (vertical axis) and its potential score (horizontal axis). Such plots are frequently used in assessing biometric data, for example in examining the relation between the size of an animal's brain and its overall body weight.

The graph shows, unsurprisingly, a high correlation ( $r = 0.87$ ) between actual and potential scores. In other words, large institutions tend to have larger scores than smaller ones. Some universities lie conspicuously above the regression line: these are the ones picked out in newspapers as "the best". Others fall below the regression line: these are the "worst".

There is a visual impression from the graph that the universities may fall into two groupings (lower graph): a group of larger institutions (cost centres  $\times 5 > 100$ ) where the correlation between score and size is relatively weak ( $r = 0.40$ ), and a group of smaller ones where the correlation is stronger ( $r = 0.69$ ). The group of larger universities has scores greater than those expected from their size alone, as indicated by the slightly elevated position of their regression line.

It can, however, be a serious conceptual error to take position relative to the regression line as the sole measure of



Top, universities' actual score (y axis), compared to potential score (x axis), bottom.

merit. For example, if we do the same with the size of an animal's eye relative to its total size, we arrive at the incorrect conclusion that the eye of a sparrow is better than the eye of a horse. In fact, the best single indicator of the performance of an eye is its absolute, not its relative size. A small eye is adversely affected by diffraction and by poor magnification, no matter how minuscule the size of head in which it is lodged.

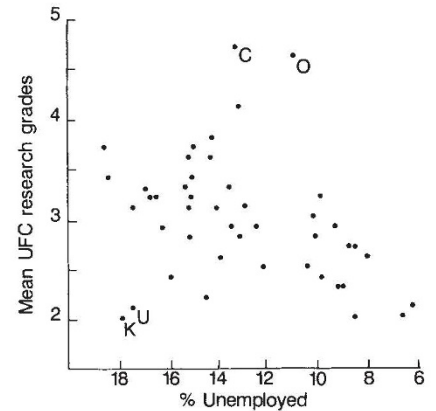
Something similar, it seems to me, might be true of universities. Reliance on percentage scores will put pressure on universities to close weaker departments and thus reduce their diversity. This could be disastrous, particularly in the case of universities that are already small. Deciding that particular universities should 'specialize' in key areas simply freezes the intellectual *status quo*. Who is to say that tomorrow's electrical engineers will not need to interact with tomorrow's geographers? The best indicator of merit (if we want one) ought to combine absolute size and relative performance. As an example, one could add the rank order of size to the rank order of distance above the regression line. Taking into account only the percentage score leads to the absurd conclusion that a university can somehow improve by closing down its weaker departments, or by amalgamating them all into a cost centre for epistemological investigations. A university that teaches no foreign languages, or which has no statistics department, might then come out as 'better' than one that teaches a reputable range of subjects. No doubt this is what the government is seeking to bring about, with the able assistance of the chief executive of the council: but there is no reason why academics should connive in destroying their own institutions.

MICHAEL J. MORGAN

28 Queens Avenue,  
Muswell Hill,  
London N10 3NR, UK

SIR—In the UK university system, activity in research is widely held to nurture good teaching, but supporting evidence is hard to come by. Teaching quality is difficult to assess directly but might be reflected in the employment record of graduates. In conjunction with the Universities Funding Council (UFC) research grades, employment records reported annually by the *Financial Times* provide some basis for evaluating the relationship between research and teaching performances at the level of the institution.

Far from the anticipated positive relationship between mean research grades and teaching quality, as indicated by the percentage of graduates unemployed or in short-term work, there is a negative



The relationship between mean research grades and percentage of graduates in 1988 unemployment or in short-term employment in 45 UK universities. Data published in the *Financial Times* on 26 August and 13 September 1989 respectively. Research grades for the colleges of the Universities of London and Wales were collated on the basis of numbers of departments assessed. Spearman's rank correlations for all universities and all universities except Oxford (O), Cambridge (C), Ulster (U) and Keele (K), are 0.400 ( $t = 2.860$ ,  $P < 0.01$ ) and 0.675 ( $t = 5.712$ ,  $P < 0.001$ ) respectively.

association (see figure). The relationship is stronger in the absence of Oxford and Cambridge, which are exceptional in terms of research performance and whose graduates are moderately successful in avoiding the dole queue, and the universities of Ulster and Keele, where research and teaching both fare badly using the present criteria. No university excels in both research gradings and graduate employment, and, in general, poor research gradings are associated with enhanced graduate prospects of gaining a foothold in the world of work.

The 1970s and 1980s have been traumatic decades for UK universities. The view, or rather the aspiration, that research and teaching quality is uniform throughout the system is no longer tenable. There are seemingly great disparities within the system, reflecting the relative importance placed on teaching and research in individual universities. It is possible that universities that have done badly in the recent UFC grading exercise have paid the penalty of over-investment in course development and teaching. Lack of time, equipment and manpower for research and the pursuit of funds from non-UFC sources ensure low research grades. Perhaps the major error of the under-achievers in research, however, is to put the interests of their students ahead of personal ambition in their chosen field of research.

W. I. MONTGOMERY

School of Biology and Biochemistry,  
David Keir Building,  
Queen's University of Belfast,  
Belfast BT9 5AG, UK