

Forecasting the demand for Higher Education in the 1990's.

Last summer, Professor Jones, Chairman of the USC mathematical sciences sub-committee produced a report 'Whither Mathematics?' which predicted that the demand for mathematical education in universities would decline by approximately 36% between 1983 and 1997. He recommended in his report that mathematics between ages 35 to 45 should be compulsorily retired.

Many critical comments were made of this report and the USC decided to drop it. A couple of newspaper cuttings are reproduced overleaf together with the summary of a paper titled 'Hither Mathematics', written by Atam Vetta, (Oxford Polytechnic, Oxford OX3 0BP). The paper is to appear in the New Universities Quarterly.

Vetta's paper will be of interest to Rad Stats members because many of us are concerned about the future of higher education and because the paper highlights the problems of forecasting numbers of this area. The arguments put forward in the paper would be applicable to most subjects taught in universities. In his paper, Vetta criticises Jones's report for not questioning the accuracy of the data on which his predictions were made and for not discussing other factors which could invalidate the predictions. He goes on to show that some of the data used by Jones is inaccurate, and questions the assumptions underlying the predictions. The paper gives alternative estimates to be 'treated with great caution' which indicate the need for a major expansion in mathematics in higher education.

Jenny Head

Maths lecturers aged 35 to 45 should go, says UGC report

by Paul Flather

A new report prepared for the University Grants Committee on the future of mathematics recommends that lecturers aged 35 to 45 should be compulsorily retired to deal with the expected drop in students over the next 15 years.

The report, by Professor Douglas Jones, professor of mathematics at Dundee University, and chairman of the UGC mathematical sciences sub-committee, is currently being circulated to universities, colleges, and education bodies for comment.

The report is a study in manpower planning based on a "macroscopic" survey of the expected demand for mathematics lecturers. It discloses that on current demographic trends there will be a 36 per cent fall in mathematically trained students entering universities between 1983 and 1997.

The report predicts that there will be 6,000 to 7,000 engineering students in 1998, down from a peak of 10,000 in 1983; 6,000 physics students, down

from a 9-10,000 peak, and just 2,500 mathematics students, down from a peak of 4,000.

The best way to cope with these demographic changes, is the "compulsory retirement of the members of the 35-45 group," the report says. It assumes current/student staff ratios: "Opposition would come from many quarters, but perhaps it is preferable to any scheme which the Government might devise and enforce," it adds. The 34-page report includes 26 tables, but none outlining the age structure of maths lecturers.

The report also calls for a new classification of university maths departments so that they can perform two distinct functions: produce specialist statisticians and computer scientists, and "service" students following other careers.

In future all universities should have "service departments", accorded high status, with high quality staff free to do serious research, but only a few should retain Honours departments and post graduate schools.

Professor Jones, commenting on his report, said: "The point is that natural wastage just does not remove enough people to meet current demographic trends. So you have to look where the big bulge occurs and act on this static age group."

He said it would no longer be possible to sustain all the maths honours departments, so some had to be "regraded". "We must realise further education maths teaching is very important. We must make the community literate as well as numerate."

Professor John Kingman, professor of maths at Oxford University and new SERC chairman, did not want to comment on the report. "It is right that people in our educational system ought not to escape learning maths. That is a bad feature of the present system."

The Cockcroft Committee, set up by the Government in 1978, is also looking into maths teaching and is expected to report this autumn.

**Whither Mathematics, a University Grants Committee report by Professor D. S. Jones (May 1981).*

UGC drops mathematics report

by Paul Flather

The University Grants Committee is to take no further action over a controversial report on the future demand and deployment of mathematics lecturers in universities.

The report has attracted a significant body of comments in recent months, many criticizing strongly a recommendation that lecturers aged 35 to 45 should be compulsorily retired to deal with a projected fall in student demand over the next 15 years.

A UGC spokesman said this week that the exercise had been very useful. "The report together with comments will be taken into account for any future decisions by the UGC. But there are no plans to act on this report."

He said the UGC would be working with the Department of Educa-

tion and Science to get better statistical data on expected future university placings linked to population changes.

He said the report had highlighted the serious problems caused by the bulge in the 35 to 45 age group. This reflected the boom in recruitment in the 1960s and had occurred in most subjects.

Without some action here there would be no promotion for young lecturers. He admitted in retrospective the report should have included data on the age structure of mathematics lecturers.

The report, *Whither Mathematics*, was written by Professor Douglas Jones, professor of mathematics at Dundee University, in his role as chairman of the UGC mathematical sciences committee, and circulated widely for comment.

The report concludes the best way to cope with projected 36 per cent

fall in mathematically trained students entering universities between 1983 and 1997 was the "compulsory retirement of the members of the 35-45 group." It admits opposition would come from many quarters.

The Association of University Teachers immediately sent out a letter to all mathematics departments urging them to criticize the report. It did not explain why it picked on one age group, did not explain the effects on teaching and research, and did not consider the cost and means of forcing such retirements, said the A.U.T.

Critical comments came from Queen's University, Belfast, Edinburgh and East Anglia among others. Dr Alan Vetta, senior lecturer in statistics at Oxford Polytechnic, sent in a 15-page report *Hither Mathematics*, challenging the statistical basis and doom and gloom of the report.

HITHER MATHEMATICS

ATTAM VETTA

OXFORD POLYTECHNIC

TO APPEAR IN NEW UNIVERSITIES QUARTERLY

Summary

Professor D.S. Jones in his report "Whither Mathematics?" circulated by the UGC argues that the decline in the numbers entering universities to read Mathematics in the next 18 years, expected by him, requires that compulsory retirement should be aimed at University Mathematics teachers aged between 35 and 45 years. He defines Age Participation Rate with reference to the 18 year old age group only but uses DES data which takes account of the 17, 19 and 20 year olds as well. His assumption that the proportion of 18 year olds passing A-level Mathematics will remain constant at 4% (or 3.5%) has no statistical or logical basis. Moreover, he ignores the increasing contribution made by the Further Education sector to universities (and polytechnics). He also ignores the mature applicants to universities. These deficiencies of his report lead him to deep and unremitted gloom. An alternative interpretation of data presented here indicates the need to convince the government and the public to plan for the increased numbers entering universities (and HE) in the next 18 years.

