

Japanese education

Obsession with exam results

Tokyo

EARLIER this month the covers of many of Japan's national weeklies were not featuring the usual pictures of world leaders, or even film stars. Instead, beaming teenagers are seen literally jumping for joy (or being tossed into the air by a circle of their friends). The occasion? The *Sunday Mainichi* headline says it all: "Tokyo University-Kyoto University — the 6,000 successful candidates".

Given that entry to a famous university can guarantee a successful career for life, it is not wholly surprising that several best-selling weeklies see fit to print the names of every single successful candidate to the top two universities. But the obsession with educational results does not stop there. Inside the *Weekly Asahi* for example, there are twenty-five pages of examination results and analysis, including

pages and pages of statistics of the relative performance of the nation's high schools. This weekly has been building up to the Tokyo and Kyoto results with a series of detailed articles analysing results from other universities; before that, details of entrance examination papers and predictions of pass marks were carried. Several other magazines go into similar detail and they are not specialist educational magazines. The equivalent would be for *Time* or *Newsweek* to carry 30 or so pages of analysis of entrance requirements and results for Harvard and Yale.

The stages of the entrance examination are mirrored in the detailed articles that appear week by week. In one year, each student can apply to only one public university, for all hold their separate examinations on the same day. Early on, then, the emphasis is on predicting what the pass mark will be for any particular faculty so that the best bet can be selected. Students can measure their own ability easily enough at any of the companies offering mock examination services. Tiny shifts in probable pass marks are commented on in the press: a few points off an influential faculty's pass mark could put it within some anxious student's reach. Another faculty seems popular and its pass mark heads towards the sky.

At the end of January come the first real examinations, the part one "common examination" for all public universities. A great deal of attention is given to any new trends that may be apparent in the papers. Was it really reasonable to ask, for example, a question about the Mexican revolution when it occupies only a tiny corner of the textbook? "Good, orthodox questions" seems to be the ultimate compliment. With so much hanging on differences of a few points, nobody can bear to see even the tiniest change in the form of the game. And that is one reason why educational reform seems virtually impossible; however much it is called for, there is just too much at stake for those who have already begun training to permit any change.

The common entrance examination counts for only a part of the entrance score; the bulk of the marks come from the individual university examinations. So, after the part one is over there is still a chance to make up for a poor performance. Or is there? Series of articles will tell you. Using data collected from thousands of applicants' performances in part one, analysed according to previous trends, new predictions are made for the likely pass marks for all university faculties. From your own part one score, you can quickly look up your rank in the tables of probabilities that range from almost cer-

tain success to less than 20 per cent chance for recovery. For those in the latter categories, heroic efforts will be needed in the part two examinations.

The real flood of press coverage, however, does not begin until the results are announced a few weeks later. It is then that the entrants to every major university are listed according to high school — and the ability of schools to attract future students is determined. Even schools that send a single individual are in there. Closest attention goes to those who succeed in sending students to Tokyo and Kyoto Universities. For the past 20 years, the private school Nada, in Kobe, has dominated the rankings, always having taken the number one or two position. Nada is a unique private school. It succeeds in finishing the curriculum a year early so that an entire year can be given over to revision and mock entrance examinations. Other schools have tried to imitate it. Indeed, a quarter of all Tokyo University students come from just eight high schools, six of them private.

Interest extends right down to the 12-year-olds trying to enter elite middle schools. The efforts required for their examinations seem almost unbelievable: successful candidates to top schools average three hours each evening at cramming schools plus 2.5 hours home study. Not surprisingly, sleep often has to be sacrificed: one student studied for seven hours a day after school and slept for only six hours — and the university entrance examinations are six years away.

But time is still found for a prayer. Yushima Tenjin, a famous Shinto shrine close to Tokyo University, has more than 30 metres of high railings from which to hang *ema*, thin boards about 15 cm square on which a prayer can be written. In the examination season, the railings are hidden by tens of thousands of *ema*. "Please help me", "May I succeed", most say. By March, the top layer of *ema* come from those offering thanks for their success. Nearby schoolchildren who have yet to face the examinations can buy lucky Shinto charms to aid study and sets of pencils with inspirational slogans on them. "Effort, effort every day", "Success comes from your own labours".

Later in the year will come the articles that make clear the point of all this effort: those detailing where top ministries and companies recruit their staff: the Ministry of Finance, 89 per cent Tokyo University, the Ministry of Foreign Affairs, 76 per cent Tokyo University... and so it goes on. There is little doubt that the educational system has produced the diligent, untiring staff that government and industry have wanted. The question is whether they will be the right kind of people now that Japan is a world leader in search of originality. That question too is an endless source of magazine articles... **Alun Anderson**

US machine, UK chip

Washington

FLOATING Point Systems (FPS) of Oregon announced earlier this month what it claims to be the world's fastest super-computer, a massively parallel design based on hypercube architecture that employs the "transputer" chip made by Britain's Inmos. Among the first recipients of a Floating Point "T" series machine will be Cornell University, which earlier this year turned down on principle \$10 million of Department of Defense (DoD) funds for a large Floating Point machine because the grant had not been awarded through competitive merit review.

The machine that is going to Cornell is at the small end of the T series range — a 16-node T/20 worth just under \$1 million that can handle 256 million floating point operations per second. The university, which helped FPS develop the machine, has not found a grant to pay for it; a Floating Point spokesman said that if no grant could be found, the two sides would "sit down and talk about it". The top-of-the line T/40000, in contrast, offers a peak speed of 262,000 million floating point operations per second. There are still hopes at Cornell that DoD will soon conclude a merit review for the \$10 million it wants to spend on a large FPS machine and find in Cornell's favour, but some Cornell officials now believe that the university's stand on a point of principle may have cost it the deal; it is rumoured that DoD will put a giant FPS machine at Los Alamos National Laboratory instead and tie it to the University Research Initiative. Los Alamos will not confirm the story, saying only that putting the machine there is "a possibility".

Tim Beardsley