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A more market-oriented system of higher education can do much better than the state-dominated model

WILLIAM JAMES had good reason to be nervous when he turned up, back in 1869, to be examined for his Harvard medical degree: he had spent most of the previous three years abroad. But as luck would have it, his examiner turned out to be Oliver Wendell Holmes, an old family friend. Dr Holmes asked the candidate a single question and, when young William answered it correctly, drew the event to a close: "That's enough! If you know that, you must know everything. Now tell me, how is your dear old father?"

For at least its first 200 years, Harvard was a finishing school for Boston 's-or at most New England's-elite. Eliots and Lowells held leadership positions continuously for more than two centuries, and Cabots and Lodges kept appearing on the school rolls in various permutations. But starting in the late 19th century, Harvard gradually transformed itself into a national university. Now the university is undergoing another dramatic transformation: from a national to a global university.

This is not to say that Harvard is losing its American roots entirely. America is, after all, the world's greatest marketplace for higher education, and Harvard's very Americanness is part of its attraction. All the same, the university is increasingly operating in a global labour market. Faculty searches are always worldwide; in some departments 40% of PhD students come from abroad; and the graduate and professional schools are truly multinational.

Harvard is not alone. The great universities of the 19th century were shaped by nationalism; the great universities of today are being shaped by globalisation. The world's higher-education system is increasingly dominated by a superleague of world-class universities competing with each other for talent and prestige.

There is nothing new about globalism in higher education, of course. Medieval scholars communicated in Latin and often studied at several universities in different countries. But for a long time many academics felt that their principal loyalty was to their university or college rather than to their

discipline. Universities were mainly schools for national bureaucrats and seminaries for nationalist ideas.

Today there are fewer restraints on universities' natural inclination towards internationalism. The top universities are citizens of an international academic marketplace with one global academic currency, one global labour force and, increasingly, one global language, English. They are also increasingly citizens of a global economy, sending their best graduates to work for multinational companies. The creation of global universities was spearheaded by the Americans; now everybody else is trying to get in on the act. The current vice-chancellor of Oxford, John Hood, hails from New Zealand, and his counterpart at Cambridge, Alison Richard, spent 30 years teaching at Yale.

Global universities do not have to have a physical presence abroad to be worthy of the name. Some of the world's best universities have been reluctant to set up campuses abroad, and some of the most enthusiastic offshorers, such as Webster University, which runs seven overseas campuses from its headquarters in Missouri, are hardly global in the sense of having world-class faculty and the pick of the world's graduate students. However, a growing number of the world's top universities are getting more enthusiastic about offshoring.

The most obvious reason for the rise of the global university is science's appetite for money and manpower. MIT's Lincoln Laboratory, for example, employs nearly 2,400 people and spends \$450m a year on research. Access to global labour markets is needed to put together first-rate teams of researchers. But policymakers have also begun to realise that world-class universities produce a disproportionately large share of cutting-edge ideas and research. Look at the University of Chicago's impact on economics, and hence on economic policy. Of the 55 economists who have won the Nobel prize since 1969, when economics was added to the roster, nine were teaching at the University of Chicago when they were awarded their prizes, and another 14 either trained at Chicago or had previously taught there.

World-class universities can also produce outsize economic benefits. The best-known example of this is Stanford, which helped to incubate Google, Yahoo!, Cisco, Sun Microsystems and many other world-changing firms. But there are plenty of others. The University of Texas at Austin has helped to create a high-technology cluster that employs around 100,000 people in some 1,700 companies. In 2000, the eight research universities in Boston provided a \$7.4 billion boost to the region's economy, generated 264 new patents and granted 280 licences to private enterprises.

Top universities are a valuable asset in the global war for talent too. America's great research universities enable it to recruit more foreign PhD students than the rest of the OECD put together. And a striking number of these people stay put: in 1998-2001, about two-thirds of foreigners who earned

American doctorates in science and engineering said they had "firm plans" to stay, up from 57% in 1994-97.

The benefits of having global universities are now so clear that governments around the world are obsessed with producing "Ivy Leagues". The British are introducing fees in part because they want their best universities to be able to compete with the best American ones. The German Social Democratic Party-traditionally a bastion of egalitarianism-has produced a plan to create German equivalents of Harvard, Princeton and Stanford. And the Chinese are hard at work trying to build world-class universities. Today "excellence" is taking over from "expansion" as the mantra of higher education.

But this academic revolution has only just begun, particularly in continental Europe. How can you create world-class universities if your academics are civil servants trapped in a national labour market? Only 2% of French academics are foreign-born. The comparable figure in Switzerland, which is much more successful at producing top universities, is 25%. Only 7% of newly hired professors in major American universities are alumni of the institutions where they teach. In France the figure is 50% and in Spain 95%. And how can you have world-class universities without proper resources? Hardly any continental European universities employ professional fund-raisers. Most do not even keep in touch with their alumni.

The new global universities are shaking up everything from academic funding to immigration laws. But they also manage to mix a large measure of conservatism with their radicalism. For the most part, they are still the children of the century-old marriage between the German research university and the British residential university. Most of them still try to combine teaching with research.

Over the past century, there have been various attempts to unbundle the two. The Chinese and Russians created pure research institutes. The French trained their elites in grandes écoles-professional schools that did not emphasise research. But for the most part these alternatives have failed.

A striking number of research universities have also preserved the idea of the academic village. A handful of hermits apart, most scholars prefer to live in a community of scholars in which academic and social life are melded together, preferably in beautiful surroundings. James Watson's account of a walk in Cambridge after he and Francis Crick discovered the double helix of DNA makes the point perfectly:

European universities these days are given to nostalgia. Professors reminisce about an age when public money was plentiful, governments left them alone and academics were part of the ruling class. Students remember when the government picked up the tab for tuition and living costs. And almost everybody complains

that quality has declined.

In reality, though, that golden age was never quite as wonderful as it is now made out to be. The public universities were never as democratic or egalitarian as they seemed. The justification of offering free higher education is that nobody should be denied it on cost grounds. But in practice the children of the privileged have long been much more likely to get into university than the children of the poor. The result was perverse: in the name of equality, all taxpayers were forced to subsidise the privileged.

These public universities often spiced de-facto elitism with anti-business snobbery. Many universities were not just reluctant to be "knowledge factories"; they were antagonistic to the capitalist economy. Oxford and Cambridge long resisted the study of practical subjects such as business or engineering; instead, they specialised in turning the sons of businessmen into educated gentlemen. This anti-business bias reached its apogee in the 1960s, when many of the current generation of dons got their jobs.

In the long run, the universities' deal with the state proved to be a bargain with the devil. In the days when universities were restricted to elites, the bargain worked well enough for the few; hence the nostalgia. But the moment that academia embarked on massification, this gentlemanly bargain broke down. Universities were forced to do more with less because the government faced lots of competing demands for funds. And academics were increasingly treated like other public servants-and held accountable for their use of public money.

The more market-oriented model of higher education that has been pioneered in the United States, and is gradually spreading to much of the rest of the world, has four big advantages over the public model. First, it is better at combining equity with excellence. America sends a higher proportion of poor school-leavers to college than, say, Germany, which justifies its free universities by claiming they offer universal access. Second, it is better at producing a diverse system that stretches from the Ivy League to community colleges. Governments can engineer differentiation in higher education, but state-sponsored differentiation tends to degenerate into academic apartheid. Third, the market model is much more sustainable than the public-sector model. Putting all your eggs in one basket is never very sensible; it is particularly silly if you belong to an elitist institution that comes low in the pecking order for public resources. Fourth, serving many masters gives universities much more control over their own destiny than being beholden to a single patron.

That is not to say that the transition to a more market-oriented system will be easy. Countries will have to solve the problem of social justice by allowing students to borrow against their future incomes. They will also have to cope with a host of new problems that come along with newly liberated markets. How do you prevent the erosion of the intellectual commons (for example, by companies

preventing "their" scholars from publishing commercially sensitive material)? How do you regulate foreign universities? How do you deal with differences in national standards? How do you prevent outright cheating, such as selling degrees? These are serious problems. But they pose far less of a threat to universities than the slow starvation that accompanies public funding.

There are two other big reasons to be optimistic about universities. The first is the way they are increasingly regarded as the engines of the knowledge economy. This means that all sorts of people—from governments to companies to students—have a big incentive to keep investing in them. The second is that universities—particularly global research universities—have achieved such striking successes in advancing knowledge. To be sure, their recent record in the humanities has been decidedly mixed; but the sciences have never been healthier. For the people who are mapping the genome or looking for a cure for cancer, arguably the golden age of the university is now.

Noel Annan, the very embodiment of the British academic establishment, once said that universities "exist to cultivate the intellect. Everything else is secondary." The most precious gift that universities can offer is to live and work among books and laboratories, he argued; and the most important lesson they can teach is how to use the intellect:

Three cheers to that. There are plenty of justifications for the revolution that is sweeping through higher education, most notably in the United States. It is giving students more control over where they get educated. It is giving millions of youngsters a chance to spend their formative years abroad. It is throwing up colleges that can teach managerial and technical skills. It is reconnecting academics with the wider knowledge economy. But the most important justification of all is that it is freeing resources for intellectual activity. It is filling libraries with books. It is stocking laboratories with equipment. And it is giving more researchers than ever before a chance to produce order out of chaos.

Von Humboldt's university with its emphasis on research was one of the transformative institutions of the 19th century. The emerging global university is set to be one of the transformative institutions of the current era. All it needs is to be allowed to flourish.