

## **The Global Knowledge Economy Comes to Town:**

What does this mean for American higher education?  
Is it the end of the University as we know it?

Simon Marginson

University of Melbourne, Australia  
UCR Public Lecture 08 October 2008

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### **[1 INTRO] Introduction**

Deep thanks to my long-standing friend John Levin, one of the world experts on higher education and globalization, and especially non university higher education, who invited me to present this lecture at Riverside. Thank you also to Noemy Medina and previously, April Salas who helped to organize my visit. And thank you all, very much, for coming today. It is a real pleasure to be here!

### **Clark Kerr and *The Use of the University***

#### **[2 BOOK]**

The greatest of all the many twentieth century books on higher education is *The Uses of the University*, written by Clark Kerr. Some of you will have read it, especially the first three chapters that are the sharpest and were written when Clark Kerr was president of the University of California system. In part Kerr's book was seminal because the UC system was then the most advanced in the world. Timing is often decisive in the wider take-up of ideas. Trends then evident in the UC system were to become common to higher education everywhere a couple of decades later. But there is also a wonderful ease and clarity about the writing in Kerr's short book; and it is remarkable for its sagacity and forward thinking. Most of his argument is relevant today, 45 years on.

#### **[3 KERR ON TIME COVER}**

In fact in Clark Kerr's account in *The Uses of the University* there is little that we would disagree. Where the book is lacking as a guide to higher education today is not so much in what Kerr says but what he does *not* say. It is things Kerr left out of his account of higher education that will preoccupy me today in this

lecture. You might say that this lecture is a footnote on Kerr, albeit a rather extended footnote, and it is fitting that it should be given at a UC institution.

The paradigmatic form of higher education institution identified by Clark Kerr was the 'multiversity'. Kerr noted that institutions – he was primarily focused on research-intensive universities such as this one - had taken on a great range of public and private purposes, and had grown in size and internal complexity to match. His key conceptual point, anticipating the post-modern turn, was that higher education had no one single animating principle. It was multiple in its fields of study and forms of occupational preparation, multiple in the external communities and policy agendas it served, multiple in its internal purposes and constituencies – the various faculty, students and administrators.

Because higher education was multiple and it expanded freely to meet needs, because it tended to maximize both quantity and quality, it was *open-ended* in its potential, and it was uniquely fitted for modernity.

Modernity is incessant change, powered by desires for transformation and self-transformation at the deepest animations of the culture. The change that we desire, in our external circumstances and the world around us, in our private space and in our satisfaction with ourselves, in our appearance and capacities and career, is never as much as it promises to be. Sometimes there seems to be little change at all. We remain restless. We hunger for more. The relentless desire for transformation and self-transformation is driven by more than just market forces, by what economist Kenneth Galbraith, one of Kerr's contemporaries, called 'planned obsolescence' in consumption goods. It is closer to the desire to 'better oneself' that Adam Smith saw as endemic to the human condition. It does not stop there. It shows not just in finance and labour but in artistic creativity and architecture, in public administration and social programs, in military hardware, in science and technology, even in our gardens, and our ecological imagining of the earth as a garden. As *our* garden. All can be bettered. All can be extended. All can be grown. All can be improved. All can be remade. This is our task.

In *The Uses of the University* Kerr knew modernity intuitively and this enabled him to forecast the trajectory of higher education. He said that *new knowledge* had become the medium of economic and social development. Higher education had 'no living peers in the search for new knowledge'. 'The multiversity has demonstrated how adaptive it can be to new opportunities for creativity; how responsive to money; how eagerly it can play a new and useful role; how fast it can change while pretending that nothing has happened at all...' The research university, said Kerr, 'had no peers in all history among institutions of higher

learning in serving so many of the segments of an advancing civilization. Inconsistent internally as an institution, it is consistently productive’.

Kerr’s argument provides the best explanation so far for the extraordinary rise of these institutions of higher education and knowledge, to a central place in their society and time, a place that has become little less important than the places of the core modern institutions of finance, communications and government; and more important than those of the pre-modern institutions of church and military.

#### **[4 KERR AT LARGE MEETING]**

He tracks the elements of this growing role of higher education, halfway through the rise: the base role in American higher education of Lincoln’s Morrill Act of 1862 and the land grant university, with its mission to extend social access so as to facilitate agriculture and commerce; the equally important impact of federal research funding after world war two, and the motors of the federally funded research university; the growing R&D synergies between universities and industry in the Boston Corridor and the Bay Area; the growing engagement of higher education institutions with the communities around them; the professionalization of management, the fragmentation of the faculty and the rise of student-centred learning; and the dilemmas of fostering mass access and greater diversity, in a system also driven by competition and selectivity.

But I have said that there are things that Clark Kerr did not say, and it is these that I want to discuss today. There are two important dimensions missing from his reading of ‘the uses of the university’. By bringing these two matters into the centre of the frame, we can deepen our understanding of higher education.

The first omission is unsurprising. That is the impact of *globalization*, the implications of the partial global convergence and integration of knowledge and education for not just the American research university but higher education everywhere; and the role of higher education as one of the primary drivers of globalization, especially of knowledge. Clark Kerr cannot be blamed for this omission. Contemporary globalization is above all a product of the Internet and the cheapening of air travel. These are phenomena of the last two decades.

The second omission, which is more surprising because it was part of Kerr’s political culture, is the role of higher education in the fostering of *human freedoms as self-determination*. We might call this the ‘up-side’ of modernity.

#### **Higher education and freedoms**

### **[5 FREEDOM AS DECLARATION OF INDEPENDENCE]**

Let us start with the discussion of freedom. In talking about freedoms and higher education, especially as an outsider in an American setting, I am aware that I am on dangerous ground. Because America's distinctive practices of freedom as 'life, liberty and the pursuit of happiness' – even though they are as much honoured in the breach as the observance – are the highpoint of the American contribution to the human story. It is these practices – not the hubristic illusion that Americans are exceptional, superior or special people – that are at the heart of the extraordinary creativity of American public life, business, media, the arts and higher education institutions. It sometimes seems that the USA has the mortgage on modernity (though it must be said that others are catching up). The practice of freedom as self-realization fosters learning, universal enlightenment, knowledge and higher education; and opens the promise of democracy and human society based on universal respect, a promise that is yet to be realized.

But to talk about freedom is also dangerous in another sense. It is all too easily regarded as empty. In this cynicism we limit ourselves, but the error is readily understood. We might even say that 'freedom' has acquired something of a bad name in this country, especially recently. American freedom is denied by the racialization of social relations. It is too readily confined to the right to dubious marketing practices, or the right to pay less than a living wage in the workplace. It is defined as the right to bear arms, meaning the 'freedom' to practice an Old Testament justice writ large by weapons that obliterate not just liberty but life. Few other nations believe that liberty depends on the right to bear arms. And more recently than the second amendment, freedom been invoked to support dubious foreign ventures, which have entailed bringing so-called 'freedoms' to people of more ancient nations, by forcibly removing their self-determination in imperial fashion. Imperialism is *always* incompatible with life, liberty and self-respect. Self-determination is integral to any meaningful notion of freedoms.

### **[6 FREEDOM AS WATER]**

But I do not want to talk about freedom as empty rhetoric or even to emphasize the normative dimension. I want to understand it *sociologically*, as living breathing social practices. I believe that in the face of the limitations and distortions of human freedom, that I have outlined (and more will occur to you) we should not set it aside. We should recover, nurture and enlarge it. And here there are weighty forces on our side. We can ally ourselves with the positive tendencies of our time, not so much in political institutions as in the larger culture in which they are nested, that are enlarging the scope for freedoms. The pattern is uneven in time and place, but modernity has enlarged the scope for choice-making individuals and, more uncertainly, raised the bar for society.

Unfreedoms are more visible than ever, anywhere in the world. And in these changes higher education and knowledge have been powerful contributors.

By ‘freedom’, I mean freedom in both the negative and positive sense. Freedom from constraint by the state and other external pressures, the negative freedom that underpins nineteenth century English liberalism. And also freedom in the positive sense as effective freedom, the capacity for action. There is broad agreement across the political spectrum about the right to freedom from external constraints, providing that we respect the freedoms of others. There is less agreement about the conditions necessary for positive freedom, such as income. But there is growing recognition, worldwide, that the right to education is one of the essential conditions of the capacity for self-determining action.

This ground is familiar to us. In addition, the economist and political philosopher Amartya Sen makes the further point that both aspects of freedom, negative and positive, are in turn grounded in *agency freedom*. Agency freedom takes in identity, confidence and the scope for self-realization. Our agency freedom is integral to our imagination; and hence to our capacity for conceiving and sustaining projects of social action and of personal transformation. This component of individualism enables universal modernity, and is continually reproduced by it. It is essential to creative work in intellectual fields and the arts, especially to the capacity to make radical breakthroughs in knowledge. We make such breakthroughs not so much because we are paid to do so (though money is often an essential condition) but to make social change, and to realize ourselves.

#### **[7 KERR SPEAKING]**

What then does Clark Kerr say about higher education and freedoms? He notes the turn to forms of freedom was often at the heart of the mediaeval university. Leiden University in the Netherlands, which is the finest scholarly setting I have experienced, was created in 1575 ‘in the search for freedom and more enlightened forms of government in the State of Holland’. Later, in the early nineteenth century the Humboldtian research university in Germany foregrounded two distinctive kinds of academic freedom. The freedom to teach, *Lehrfreiheit*, and the freedom of students to learn, *Lernfreiheit*. The Humboldtian university was based on science and philosophy. It was translated into the American setting with the foundation of Johns Hopkins in 1876 as a graduate school of education and research. Thus began the US research university, which quickly developed into the institution analysed by Kerr less than a century later.

There Clark Kerr’s discussion of higher education and freedom stops. He defines its contribution in terms of an *aggregated* modernity – his term is ‘economic and

social development' – but not the self-determining *individual* that was becoming the subject of modernity. At bottom he sees students and graduates as raw materials for workplace and profession, and for science. He does not clearly see students as self-determining individuals, let alone as contributors to a collective project for the enlargement of human freedoms. Perhaps this was why his otherwise 20:20 vision was unable to make sense of the student revolt of the late 1960s. We can do better. Knowing what we know, we can develop a larger conception of higher education, research and knowledge in the evolution of human freedoms. In which reflexive self-forming human and natural life are not the means to something abstract, such as economic prosperity, but the end we seek. And this too is one of the clues to the dilemmas and problems of ecology, multiplying almost as fast as the problems of finance, and more decisive.

### [8 RIVERSIDE AT NIGHT]

For me, it has become important to rethink higher education and knowledge, moving beyond human capital theory and beyond Sen's discussion of capability and democratic agency, to this larger discussion of freedoms. It is a work in progress. I will not take it much further today. But it has several dimensions.

- There is higher learning itself as a process of free self-development, in which we choose what we want to know, and what we want to become.
- There is the continual creation of knowledge, or the plural 'knowledges', on the basis of free inquiry, knowledges with their varied mindsets, that form and empower us, and open our potentials in differing ways.
- There is central importance of higher education and knowledge-intensive activity, in fashioning human subjects as *reflexive self-producing* subjects, people who work on themselves, change themselves, and so change each other and their common social, economic, political and cultural conditions.
- Putting it more simply, these freedoms together are the freedoms, provided by higher education, to be *creative*, individually and socially. We can judge higher education by whether or not it fosters the freedom to create.
- Of course there is the role of teaching and research in higher education in preparing us for free *economic production and exchange* and in building economic outputs, stability and prosperity in localities and the world.
- There is the contribution of teaching and research to improving and enlarging the *ecology*, which is our condition of free natural existence.
- There is the contribution of higher learning to *political democracy*, to the open and ethical conduct of its institutions and personnel, and to the shaping of each one of us as aware and responsible citizens.
- There is the potential of higher education to examine and solve the larger problems that beset humanity, thereby, freeing us from necessity in a thousand ways. These problems cross borders, such as epidemic disease,

and poverty, and shortages of food and water, and war. Putting it simply, this is the potential of higher education and research to produce the local and global *public good*. We can judge higher education by the extent to which it contributes to common goods, which in turn creates conditions of freedom; and we can judge individual institutions of higher education at every level by their willingness to collaborate to achieve common goods.

- In more familiar sociological terms, there is the provision of *social opportunity* in and through higher education, and the social research that supports this; and the potential contribution of higher education to more egalitarian patterns of human achievement, which brings new freedoms to those who have been disenfranchised and excluded; though this social role of higher education is always in tension with the role of higher education in the distribution of social status and the fostering of hierarchies.
- Finally, there is the manner in which higher education and especially communities of knowledge brings us engagement with *cultural difference*, and opens the prospect of equal cultural respect, and the free shaping and exercise of diverse identities; not just at home but around the world; and so contributes to human understanding and community. Equal cultural respect is a primary general condition for enlarging democratic freedoms and for the democratic accessing of not just private but public goods.

That brings me, by a round about route, to the question of globalization, which is the second element missing from Clark Kerr's *The Uses of the University*. There is a connection between the two elements. Globalization has enlarged the potential contribution of higher education to agency freedom, on the world scale.

## **Higher education and globalization**

### **[9 EARTH FROM SPACE]**

What does Clark Kerr say about the international dimension and the role of American higher education within it? Like most of my American colleagues in higher education studies today, he is vitally interested in *US* higher education, but his focus on the rest of the world is fleeting and incidental. He rightly says that the American university has outgrown its British and German antecedents. 'By the end of this period', he says, there will be a truly American university, and institution not looking to other models but serving, itself, as a model for universities in other parts of the globe. This is not said in boast. It is simply that the imperatives that have moulded the American university are at work around the world'. And he remarks that not only will the American university become 'even more essential to American society' in future, 'how central the American research universities have become to worldwide academic life at the highest

levels'. And he is right about that. American higher education has become the model for reform of higher education everywhere; or rather, a reified and idealized version of American higher education, based on a mixed public-private and for-profit system system, with an Ivy League and a University of Phoenix, has become the model; though strictly speaking it is impossible to replicate.

What Kerr misses is the global transformation of worldwide higher education, in which American institutions are closely implicated, and in turn, though more slowly and in less spectacular fashion, are being affected themselves.

What do I mean by 'global' and 'globalization'? 'Global' refers to elements and processes occurring at the worldwide or planetary scale. 'Global' means spaces, systems, relations, agents and identities constituting and constituted by the world as a whole or large parts of the world in pan-national regions, such as Europe.

### **[10 GLOBAL FLOWS]**

It includes global flows in communications, transport and financial systems, and in cross-border movements of people; and the common global system of knowledge in scientific research. 'Global' in that sense does not necessarily include every national and local element, only those elements that are part of the constitution of the world as an integrated world. It does not subsume or displace the nation and the locality, though it connects them to everywhere else. We become more global, while we go on being 'national' and 'local'.

'Globalization' refers to the making or the enhancement of global spheres of human action. It is the process of greater engagement, integration and convergence on the world scale. David Held and his collaborators define globalization in short as 'the widening, deepening and speeding up of world wide interconnectedness'. In this process the local/national and the global dimensions become more intermeshed: local events can be transmitted everywhere, distant events have a magnified impact and we share a common set of conditions of existence. We see this all too clearly in the spread of financial crisis, in which both the problem and its future solutions are global in character.

Globalization is about more than economics, about world markets and trade, foreign investment and the cross-border movement of people and production. More important and certainly more globalized than the economy is the convergence of communications, language and research knowledge, and the part globalization of human culture. The essence of globalization in this era is that it is a *symbiosis* of economic and cultural changes.

On one hand globalization rests on the roll out of world-wide markets creating private goods, operating in real time via automated processes and underpinned by a new world-wide system of financial exchange and growth rates of foreign direct investment far exceeding economic growth as a whole. On the other hand globalization rests on new world-wide systems of communications, information, knowledge and culture, tending towards a single community or ‘global village’ as Marshall McLuhan predicted. Extending networks based on travel, mobile phones, broadband Internet and other technologies are creating new kinds of one-to-one human association, with magnified scale and amazing flexibility of identity; spanning cities and nations with varied cultures and levels of economic development; and enabling the complex data transfers essential to knowledge-intensive production. Economic globalization and cultural globalization feed each other. World-wide communications, knowledge and culture are the medium for world markets and instant financial decisions. In turn economic competition and accumulation power the roll out of communications and the standardization of knowledge and cultural forms across the world, not least in higher education.

### **[11 EMERGING GLOBAL PERSPECTIVE]**

We are slowly lurching forward, by fits and starts, towards some constituents of a world society and a sense of common purpose and shared fate. The human mentality is becoming more global; and more so in higher education, research, science and technology than in most other fields. The first images of earth from space helped us to see ourselves as inhabitants of one world. Climate change and now the financial crisis are reinforcing the sense of interdependence. Worldwide brands and products, sports events and the shopping malls that look the same all over the world are markers of an increasingly common cultural space. It is already a more integrated world than the world of Clark Kerr in 1963.

### **[12 GLOBAL, NATIONAL, LOCAL]**

What then does globalization mean for higher education? Higher education now operates in three dimensions: global, national, and city and local. And higher education, from UC Berkeley to the community colleges, is complicit in globalization. Though universities and colleges see themselves as *affected by* global convergence, they are among its primary agents.

In global cities such as Los Angeles, research universities are at the heart of the action, key sites for the concentration of what Richard Florida (2004) calls the ‘creative class’ which leads innovation and knowledge-intensive production. The skills and reflexivities that enable people to operate globally are formed in higher education, there is a growing traffic of foreign students across the world, and of

course universities lead the ever-more-important global research system. And some community colleges are marketing themselves globally too.

Meanwhile higher education institutions are themselves being transformed by economic and cultural globalization. Higher education is swept up in global marketization. It trains the executives and technicians of global businesses; the largest student growth is in globally mobile degrees in business studies and computing; the sector is shaped by economic policies undergoing partial global convergence, and global higher education markets have emerged in first degrees, graduate schools, doctoral education and in knowledge itself. Even larger changes are happening on the cultural side. Cross-country research collaboration and scholarly mobility are increasing. While higher education is a second level player in the circuits of capital and direct creation of economic wealth, it is a first level player in research and knowledge, and constitutive in global language convergence, information systems and cross-cultural encounters. The Internet facilitates world wide databases and has greatly stimulated global collaboration between academic faculty, and also cross-border e-learning. At the same time higher education institutions remain sensitive to local communities and industries and to their national mission. In this more global era institutions are increasingly essential to the strategies of governments, in both worldwide economic competition, and international cooperation. The nation is now a global competition state. Institutions are pulled between national and global mentalities.

### **[13 COMPUTERS]**

Research universities have become arranged in a global competition, a kind of world-wide university conference, by global rankings that are very influential outside the United States, especially the Shanghai Jiao Tong University ranking. It is easy for us to imagine the world as a single global competition. That is how our nation-state politics have trained us. At the same time, most cross-border dealings between higher education institutions are not so much competitive as cooperative, and take the form of the open source exchange of knowledge and information, which has vastly expanded through the medium of the Internet, and is much larger than trade in knowledge as intellectual property. Once creation has occurred, knowledge has been disseminated, and any first mover advantage has been lost, knowledge becomes a natural public good in economic terms. It is non rivalrous and non excludable. It retains its use value for all, and it becomes impossible to exclude anyone with the right intellectual resources from access to it. This fact of knowledge as a global public good is powering the global spread of knowledge-intensive production and the immense outpouring of free data.

### **[14 RESEARCH COLLABORATION GRAPH]**

There has been much growth in cross-border research collaboration. And this is one of the keys to the expanding potential of higher education to augment our freedoms; its potential to contribute to the solution of common global problems, and to international understanding, and in spreading the attributes of creativity.

At the same time, the global distribution of capacity in higher education and research is highly uneven, limiting its potential to contribute to human freedoms. As patriotic Americans you might be pleased to learn that higher education in the United States is far and away the dominant system in the world, as Clark Kerr forecast. For example almost half of all research activity in the science-based disciplines takes place in the United States. As a non-American less concerned about the supremacy of his own country than about the worldwide sector, I am uncomfortable about this. It reduces our common freedoms, and I believe it should change. Let's look briefly at the worldwide patterns in higher education.

#### **[15 SPENDING GRAPH]**

In 2005 the United States spent about 360 billion dollars on higher education. That was *seven times* as much as the next country, Japan. From time to time annual budgets are cut, but the nation has the greatest higher education system in the world in outputs, because it is overwhelmingly dominant in inputs.

#### **[16 JIAO TONG TOP 100]**

In terms of research performance, 54 of the top 100 research universities in terms of publication, citations and Nobel Prizes, are located in the United States. This includes 17 of the first 20 research universities, with Harvard the clear world leader. But the whole United States research system is a global player. UC Riverside is the tenth university in California terms of research aggregate but is located in the top 150 research universities in the world, on par with a major national player like UNAM, the national university of Mexico, and the National University of Singapore, which is the most globally active university in Asia.

#### **[17 GLOBAL DEGREE MARKET]**

Almost one quarter of the world's cross-border students enter higher education in the United States. More important is the fact that institutions in the United States recruit the lion's share of the best and brightest students at the doctoral level and later as post-doctoral faculty. About 100,000 foreign doctoral students enter American institutions each year, two thirds supported by scholarships or other subsidies. They play a key role in the US knowledge economy as graduate research and teaching assistants, and about half of them migrate to the United States after graduation, boosting national capacity here, while weakening it in other nations. The United States provides a relatively open and flexible labour

market and a larger field of professional and social opportunity than other nations. In the outcome all other nations have a net brain drain to the USA, though there is growing movement back and forth. Brain drain is less of a problem for Western European nations, and for the emerging science powers in Asia where return rates are shooting up, than for the developing nations.

### [18 INDONESIA COMPARISON]

It is important to keep global comparisons in perspective. Research rankings create the illusion of an open competition in which everyone is free to succeed, like a football conference. But we are not comparing like with like. US supremacy in higher education and research is not simply a function of 'superior' faculty or university presidents. As I noted before it is a function of national wealth, and the historical outcome also of American global leadership in all other spheres including economic, technological, cultural, political and military. Compare the United States with Indonesia. Indonesia is the fourth largest nation in the world and the largest Muslim nation. Its population is about three quarters that of the United States. There the resemblance stops. Indonesia is culturally and ecologically rich – it has 300 larger language groups – but materially poor. The level of investment in higher education is low. The science system is embryonic, publishing 200 papers a year in English compared to 200,000 in the US. But it is in *no-one's interest* for Indonesian higher education to languish. This cannot contribute to human freedoms in Indonesia and nor does it augment global stability, mutual development and freedoms everywhere else.

This raises the question of how the United States, the hegemonic global leader in higher education, might develop its global role. Whether the nation seeks to maximize American freedoms at the expense of the rest of the higher education world, or in concert with the rest of the world. One of the curious aspects of American dominance in higher education is that global flows between the USA and the world are often one way. Many students travel to the USA for education but relatively few move from the USA to institutions elsewhere, although there are many outstanding institutions outside the country. I know this because I have conducted case studies in some of them. Knowledge flows also tend to be one way. American research is read throughout the world. But American scholars are less likely to use scholarly work from other countries. One cross-country Carnegie survey found that about half of all US scholars in all disciplines accessed *only* American scholarship. The nationally insular group was twice as large, as a proportion of US scholars, as the average for all other countries.

### [19 LANGUAGES]

There is also the more general problem that English language work is overly dominant. Many articles and books are translated from English into other languages. There are few translations from other languages into English. Other cultures are not treated with equal respect. This diminishes not only the freedoms of researchers and scholars working outside English, it weakens the global knowledge base. For example scholars in English language countries are largely ignorant of the immense outpouring of work in the humanities and social sciences from Spain, Portugal and Latin America, aside from a few stellar global figures. Yet scholars in the Iberian world are well aware of the work in English.

In dealing with the rest of the higher education world, American institutions, presidents and faculty still have a choice. They can operate as a global power that places value only on its own products, and contributes to the building of education and research in other nations through a 'trickle down' effect. Or they can engage actively, with curiosity about the insights and achievements of others, and on a more equal basis. I say 'still have a choice', because global higher education is changing. In the longer term it will be impossible to ignore the growing weight of systems beyond the border. Global capacity in higher education and research will always be unequal, but it is becoming more plural. We are moving into a post-Clark Kerr era in which the United States will remain the strongest higher education system, especially in the science-based disciplines, but two other centres of global knowledge power are on the rise.

## **[20 EUROPE]**

The first of these is Europe. The strongest institutions are in Northwestern Europe: the low countries, Germany, Austria and Switzerland, Scandinavia and (if it gets its higher education act together again) France. But the significant development is that continental Europe as a whole is becoming a coherent entity through the Bologna process of the harmonization of systems and degree structures, and the creation of the European Research Area. There is a high level of inter-European staff and student mobility, so that some young people identify primarily as European, as regional rather than national; and each nation has pledged to raise the level of national investment in R&D, as a proportion of GDP, to near American levels. Already the EU as a whole produces more science each year than the USA; though perhaps we should leave London out of the comparison, as it has a tepid commitment to Europeanization.

Do not be misled by the popular American (and Australian) perception of Western Europe as economically sclerotic, overly bureaucratic, lacking the capacity for change and innovation; in other words, less capable in the practices of human freedom. Arguably, the cultural climate in the leading knowledge cities

in Europe, such as Copenhagen, Amsterdam, Stockholm and Munich more open and exciting than in most English-speaking cities. These are fecund zones of modernization across the whole of science, technology, the arts and policy. Finland is one of the world's standout nations, in global economic markets and public goods. There is a concentration of brilliant research in Switzerland, way out of proportion to its size. Recent EU economic indicators have been strong. Where European nations are limited, is that aside from the UK they find it difficult to accept and incorporate immigrants, much more difficult than does the USA; and most European universities have little interest in East Asia.

### **[21 ASIA-PACIFIC]**

Yet it is in Asia-Pacific that the second set of important developments is taking place. This is the rise of higher education and science in China, especially important because of its size and economic dynamism, and also Taiwan, Korea and Singapore. (India may follow but its research universities have been slow to reform). In all four East nations, the rate of growth of investment in R&D and in the output of scientific papers has been extraordinary.

### **[22 GROWTH SCIENCE PAPERS]**

In China, between 1995 and 2005, the number of scientific papers multiplied by *four and a half times*. Between 1998 and 2005, in only seven years, the number of students enrolled in all tertiary education *multiplied by 4.1 times*, the quality of institutions was overhauled, a great program of new institution building and site renovation was implemented. There was major growth in English language learning. China is rapidly constructing a global system of higher education.

### **[23 CHINA R&D]**

China already has the largest student enrolment in the world, it is the second largest investor in research after the United States, and it has nine of the top 100 engineering schools compared to 48 in the USA. Over the next few years a growing number of universities in China will enter the world's top 200.

### **[24 WORLD 1720]**

Taking a longer-term view the emergence of the Asian knowledge economies should not surprise us. In the eighteenth century, before the industrial revolution, the demographic weight of China and India ensured that they produced half of world GDP between them.

### **[25 WORLD 1978]**

By 1978 they had been left way behind by the rapid economic development of Europe, the United States and also Japan in Asia, producing only a tenth of world GDP.

### **[26 WORLD 2030]**

By 2030 it is expected that China and India will have resumed their historic weight and china will be the largest single economy in the world. Education, research and science and technology in Asia are going to become primary factors in the shaping of the world and its capacity for and practices of freedom. Education and research will transform those nations, and in turn global education and research will be shaped by China and India, alongside the USA and Europe.

The rise of higher education in China constitutes a ‘challenge’ to US higher education, but not a challenge as it is often understood. It is *not* necessarily a threat to American higher education; and still less to American research which will remain the largest and most creative knowledge system for the foreseeable future. Nor does it indicate a ‘decline’ of the American knowledge economy. The absolute quality of American higher education is not in question. Rather, the rise of Asian higher education is a welcome development in the process of global modernization. It spreads global capacity in higher education on a major scale and it thereby extends and pluralizes the capacity for human freedoms. Universities play a key role in China as a site of innovation and a civil society in which conversation is more open than in the public and political arenas outside. The challenge for US higher education is to engage constructively with higher education in China on the basis of exchange, collaboration and equal respect. An American sector thus engaged would be more globally effective not less.

In sum, globalization suggests a new set of tasks for the Californian and American higher education institutions to which Clark Kerr dedicated his life. It suggests new roles in four domains. One: institutions in the United States are called on to contribute to the solution of common global problems, collaborating with institutions across the world, on the basis of first among equals. i.e. global public goods. Two: higher education in all countries has a role to play in the development of cross-cultural understanding and in bringing forward knowledge in languages other than English. Three: higher education in all countries has a role to play in the evolution of the architecture of global harmonization and governance, which has lagged behind the globalization of knowledge, culture and the economy, to our detriment. Fourth and finally, but perhaps most important, because here we can do most good, the United States and countries such as my own have a crucial contribution to make to capacity building in higher education and research, in developing nations such as Indonesia.

## **Conclusion**

Today I have talked about the need to supplement and revise Clark Kerr's account of higher education in two respects. First, we might more explicitly consider the production of human freedoms, individual and collective, in higher education and research. And develop strategies for more consciously, more effectively augmenting those freedoms. Second, we English speakers, and especially you my American colleagues, might move beyond Kerr's imaging of higher education as a national system bound by its own horizon, and enter the global relational space. The rest of the world is well aware of the example of American higher education, which in material terms constitutes half the global research system. The rest of the world is already thinking globally in higher education. We can hope that American institutions begin to do the same.

Thinking globally, looking at the whole global picture, the unequal distribution of resources in higher education becomes seen not as a sign of some 'natural' American superiority, and still less as the unequal distribution of wisdom or the potential for freedom, but as the outcome of history and the starting point for a more collaborative evolution. And it would be wise to be open to a wide range of possibilities here. Not only are other regions on the rise; in the global higher education setting the rules are still emerging, and will always be loose, contingency plays a larger role than in the national setting, and there is more opportunity for essays in strategy-making. In short there is more freedom for individual, institutional and systemic action. Resources remain crucial, especially in the sciences. But arguably, there is greater scope for the imagination.

I think that the task of the times is to extend higher education and research, and their fecund potentials for modernization, agency-building and human freedoms, across the whole surface of the earth. The task is not worldwide Americanization of higher education, which is hardly desirable, and will not happen. Still less is the task the worldwide exploitation of educational under-development by the English-speaking countries. We can all do better than that. Much will depend on our choices in the next period, on whether we rise to our potential. It was Abraham Lincoln that first talked about 'the better angels of our nature'.

In the longer term, it may be that higher education institutions will become less important to human endeavour. Maybe information and communications are nurturing a new system of human association and of continuous knowledge building and self-transformation. But today, the worldwide influence of higher education and university-codified research, though they are still under-recognized

in the culture, might be near the peak of what they are destined to achieve in the long account of history. As Clark Kerr foreshadowed, higher education and knowledge are now placed right at the centre of the human condition. There they will stay, until 'the uses of the university' have been exhausted.

It has been a delight to share these thoughts with you. I am active in my own country, in East and Southeast Asia, in OECD and Western Europe, as well as North and Latin America. I may not return to Riverside. But then again I may.

Today I have provided not simply an analysis of higher education, and still less a program of action, but a perspective, a *vision* of building human freedom and global capacity in and through the higher education sector. I find this vision to be motivating, powerfully so. I want to involve you in the project it entails, because each of us can make a difference. I commend the project to you, and I wish you very well.