

Some Thoughts, Experiences and Reflections – and some facts about CHINA

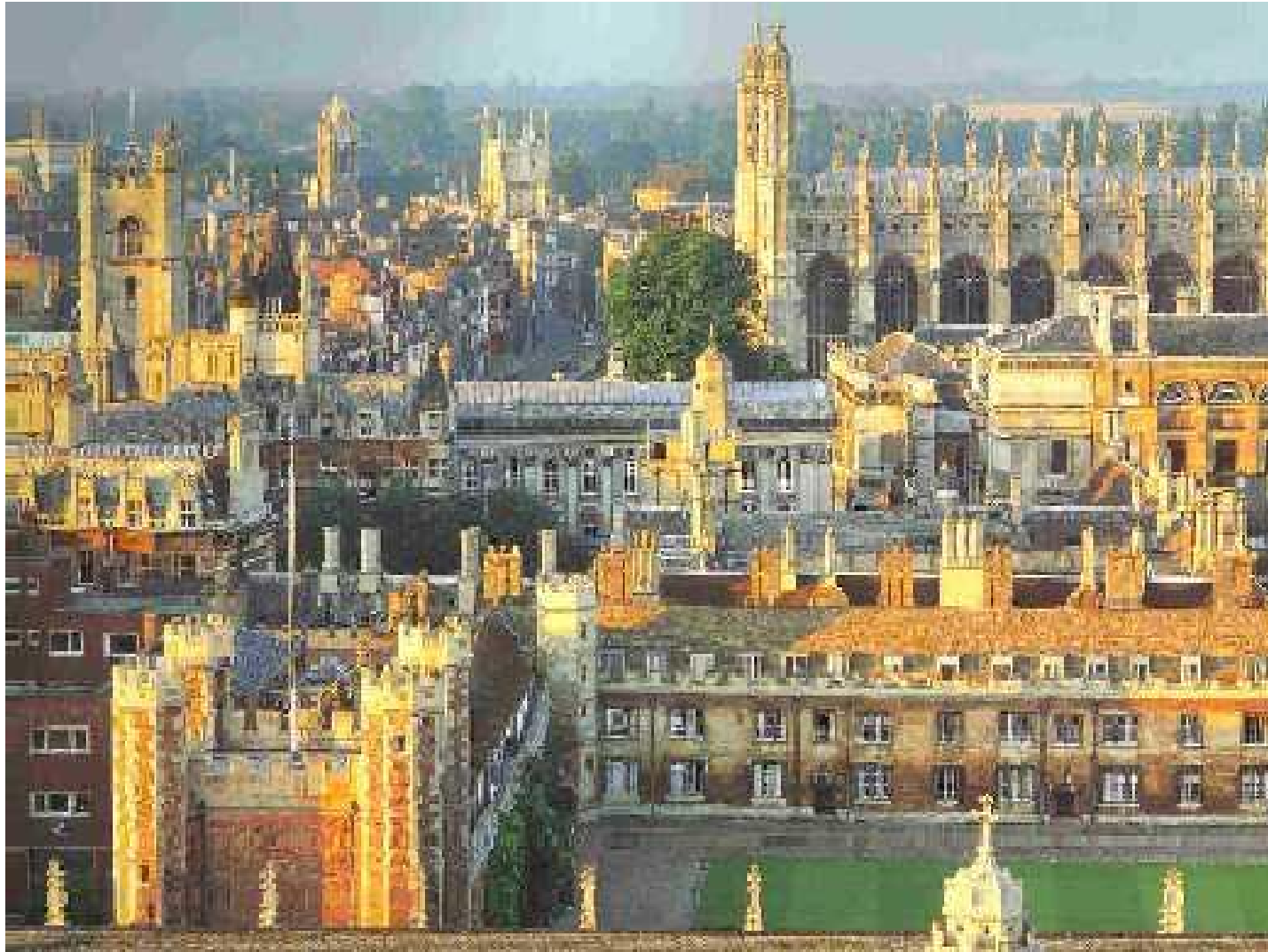


Professor Alan Barrell

March 17th 2010

A Preview – Looking at China in the context of our Changing World – Personal Reflections

- *Start with some pictures....*
- “Eye on the World” – what’s *changing*?
- A bit of History
- Ideas that Change the World
- Creativity, Innovation, Knowledge
- The role of CHINA !
- Healthcare, Health Industries and MedTech and China
- Cambridge and the East of England and China













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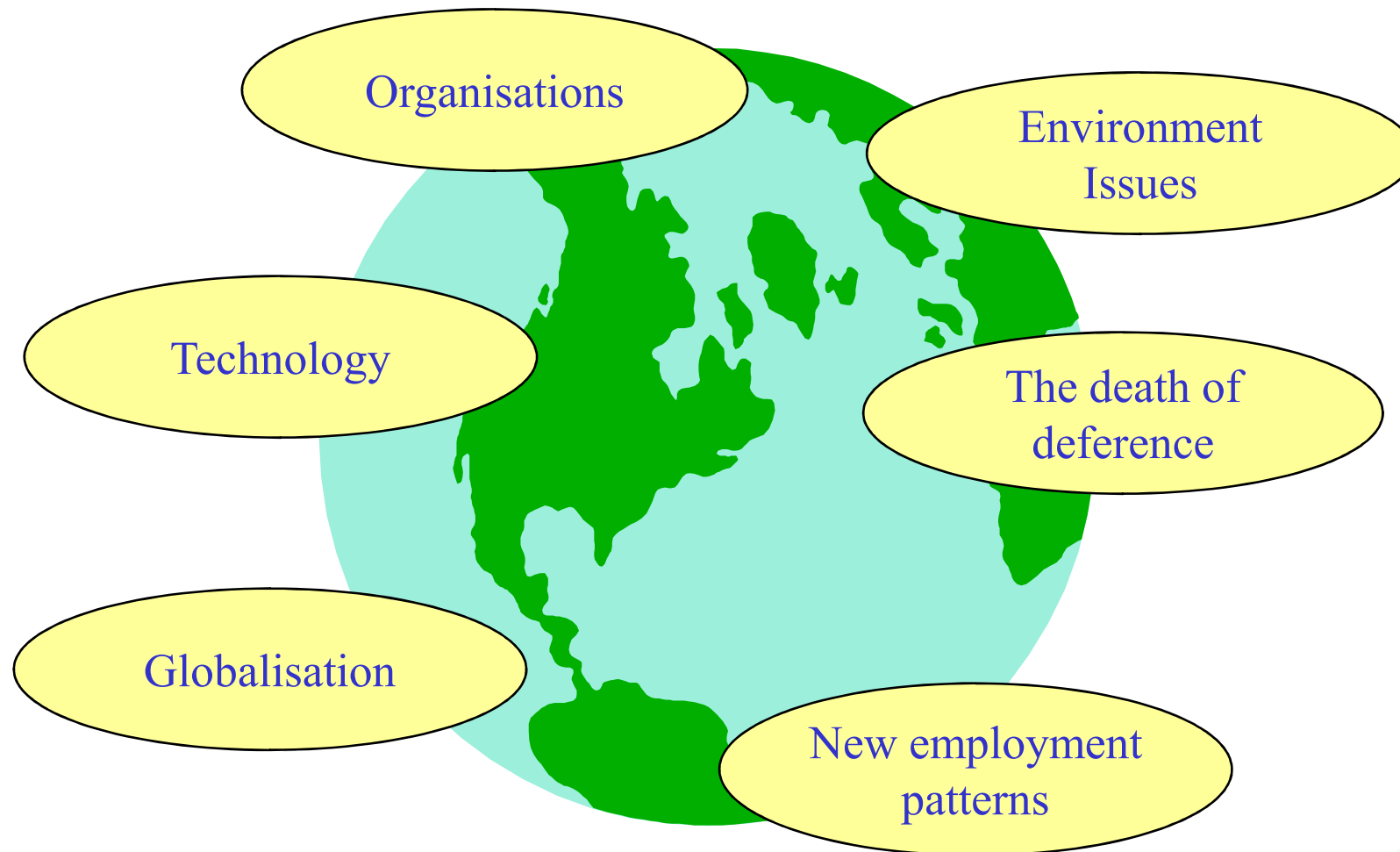
Think Like Chinese

THE FEDERATION PRESS

**Does our “Eye on the World” see much
*change?....***



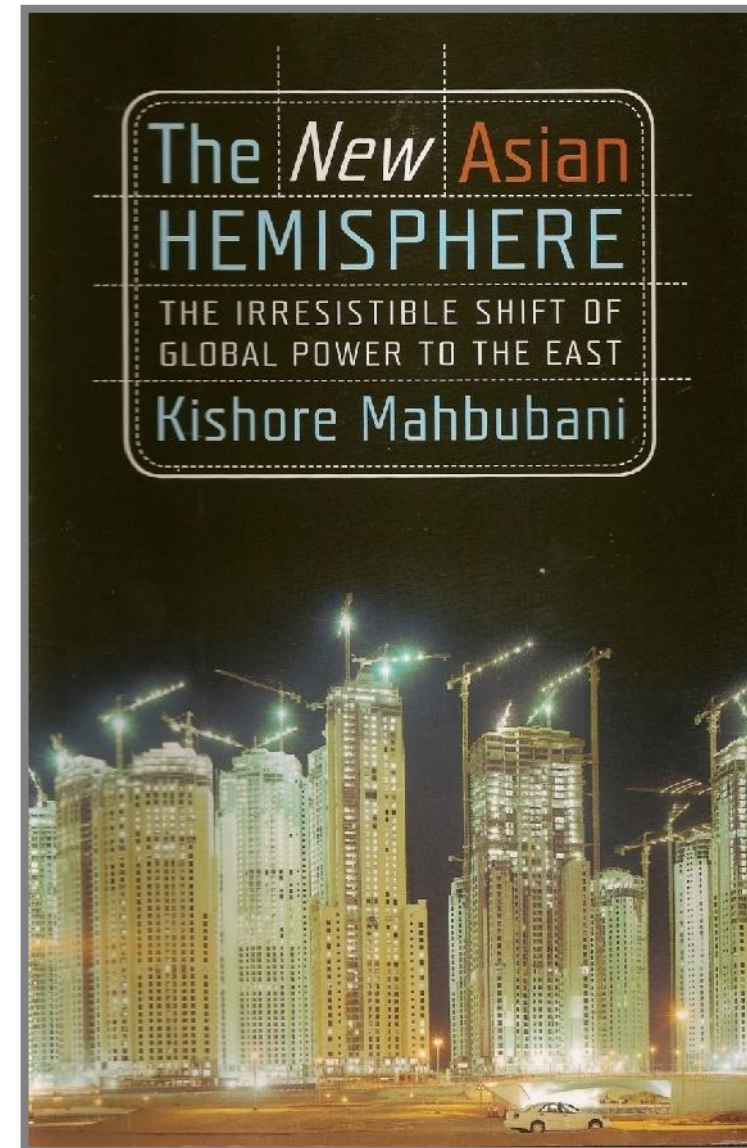
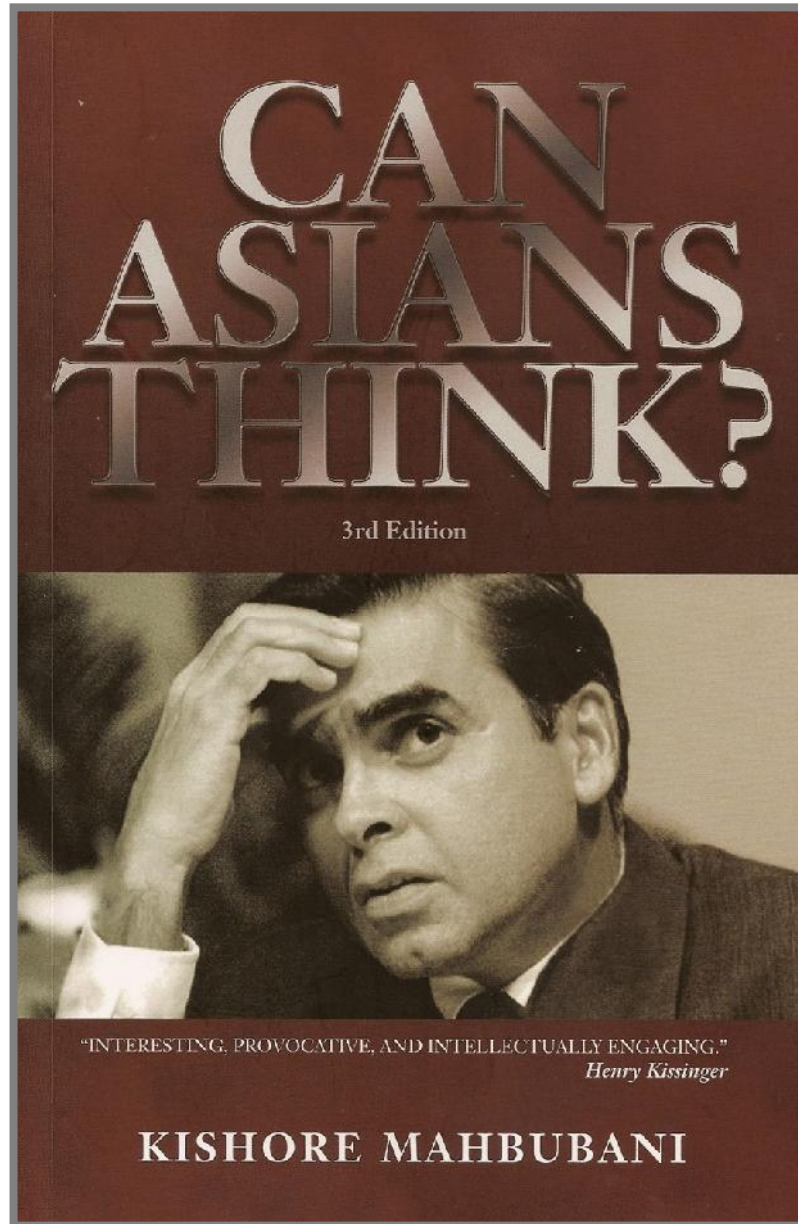
The Changing Horizon – the *Dynamism* and *Velocity* of Change....



Global Dynamics – where is a lot of the positive change happening ? – somewhere *EAST* of here!

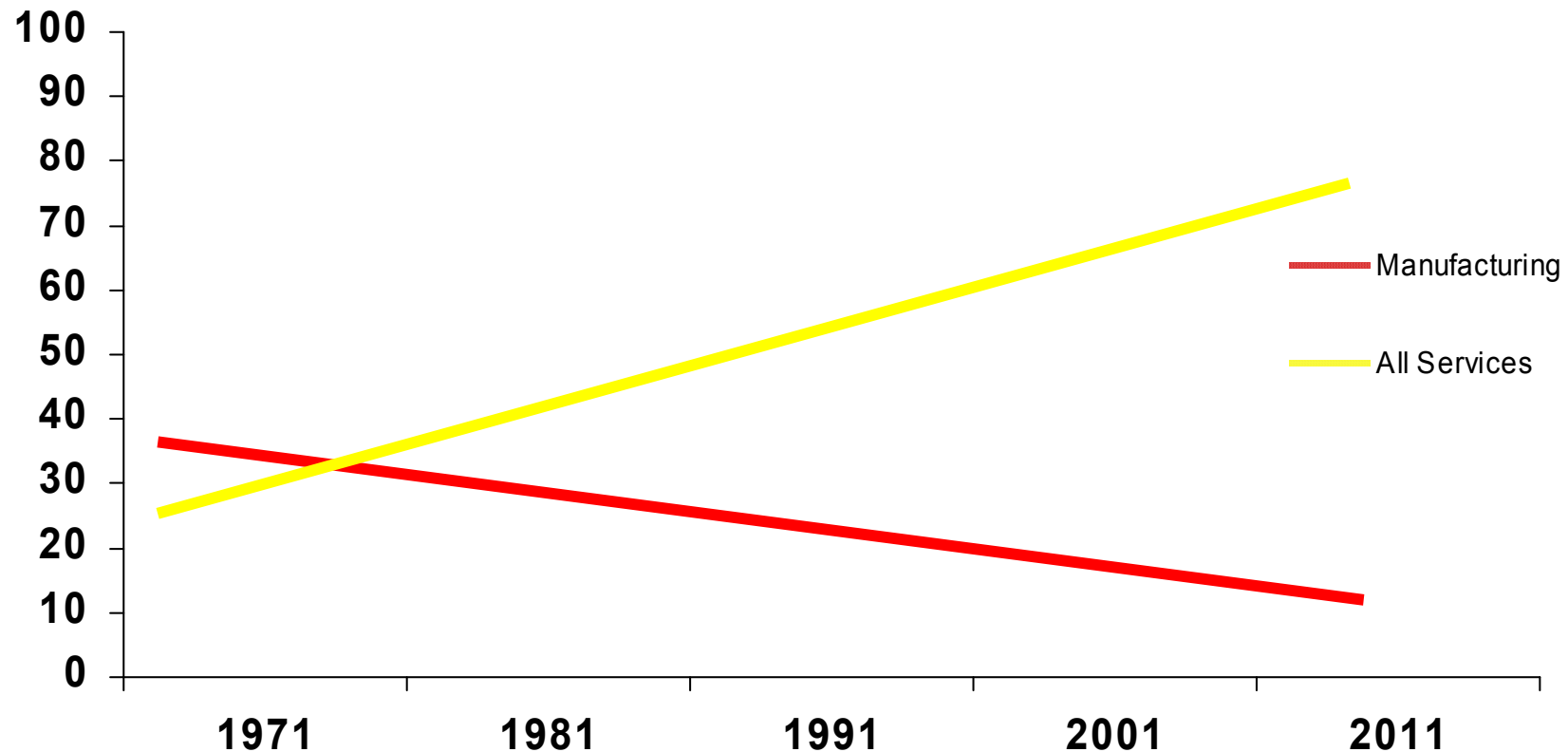
- Two fifths of the Worlds people live in the two fastest growing large economies – China and India
- Education, Wealth Creation and New Knowledge are at the heart of Economic Planning in Asia
- Growth in Asia is far ahead of Europe.
- Dynamic Growth in Manufacturing Base
- CASH is in place in the Asian economies – as well as brainpower- China has US\$ 2 Trillions of reserves
- Labour and Material cost advantages +++++
- Asia and The Americas – power and influence....





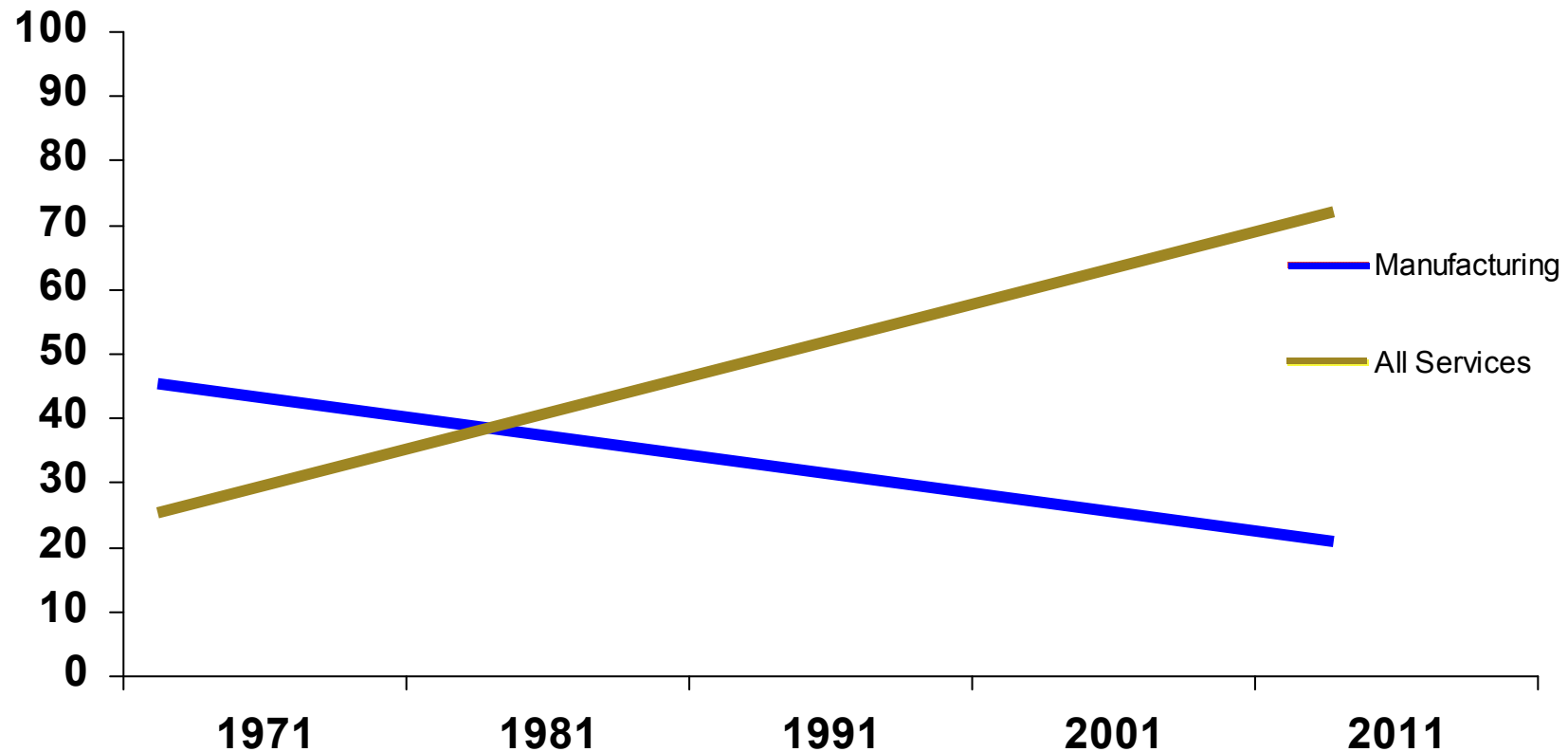
Changes in Industrial Structure - UK

% of Total Employment - UK Government Foresight Report 2001



Changes in Industrial Structure - Europe

% of Total Employment



Manufacturing has *Migrated* !

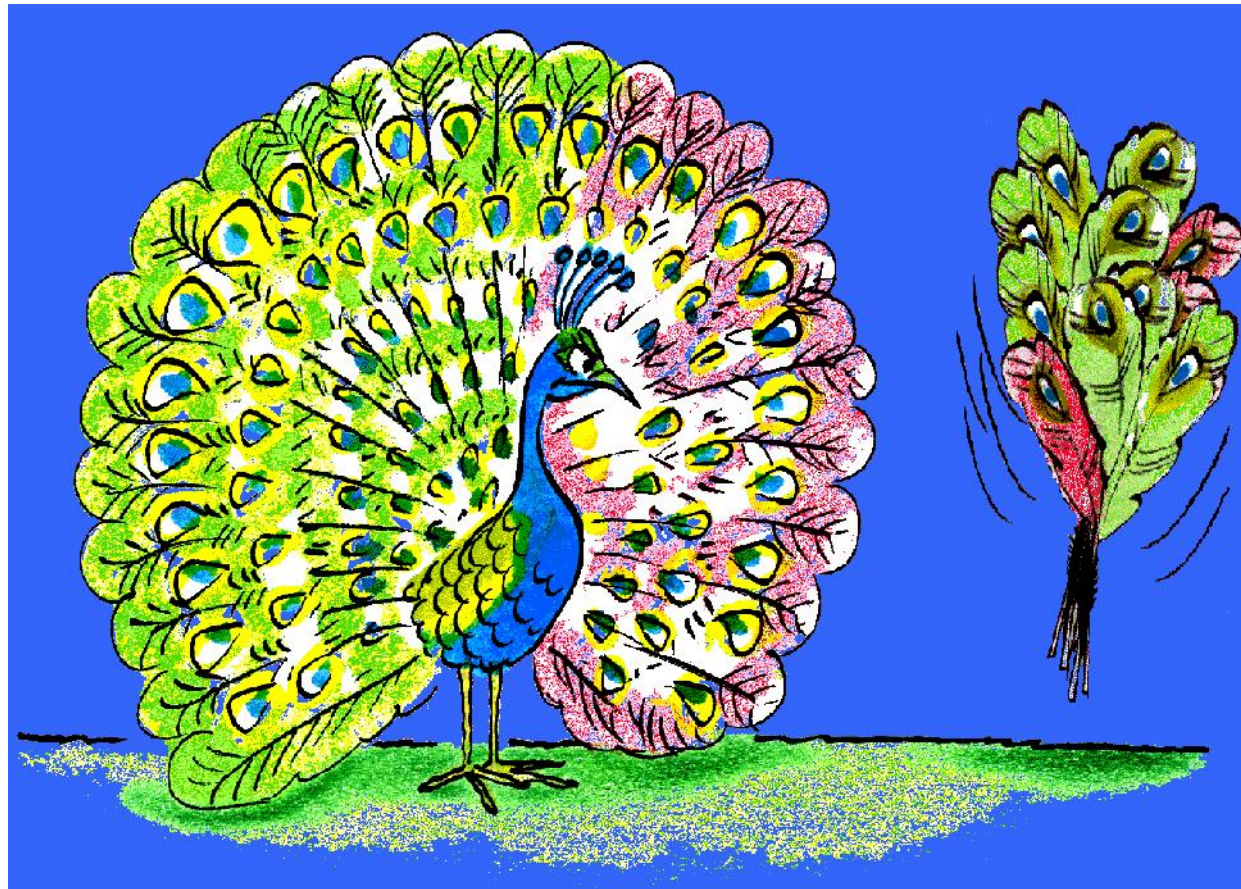


The West's Competition ??



Courtesy of Asia Pacific Foundation

**Sticking to those old ideas of Competition and
Protection –
“Today’s Proudest Peacock could be Tomorrow’s
Feather Duster”
And....*is it* a huge CRISIS ?**



CRISIS?????

or

OPPORTUNITY!!!!

危机

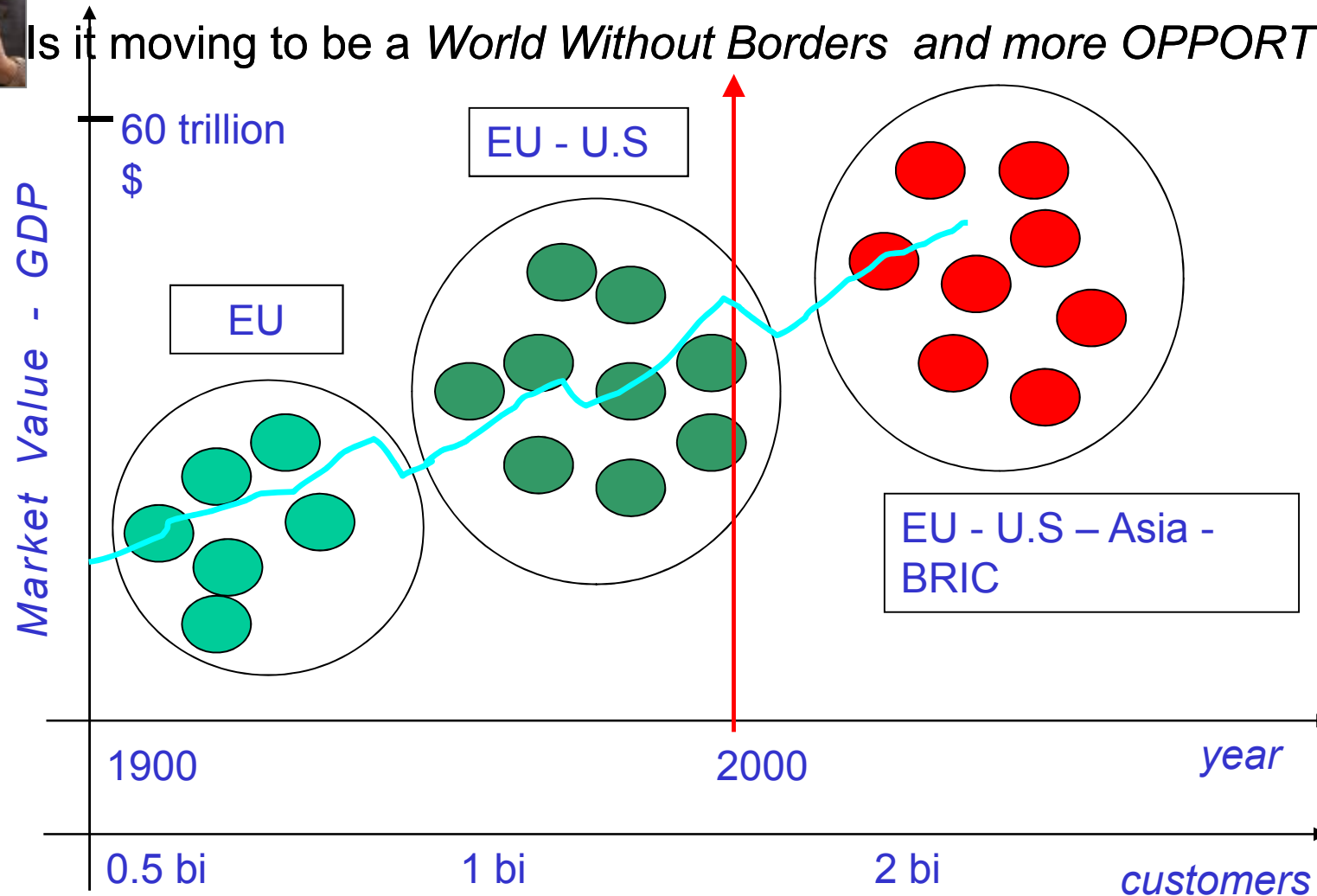
***MINDSET* can make *THE*
DIFFERENCE – between GOOD
TIMES AND BAD TIMES**

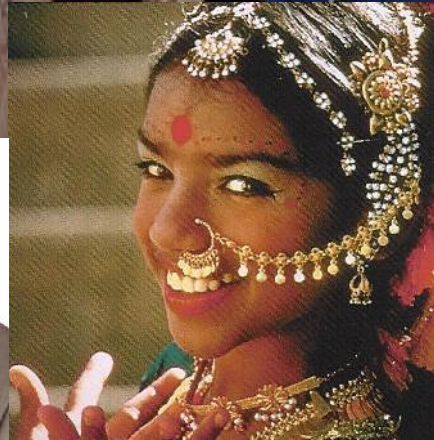


The World became Flat

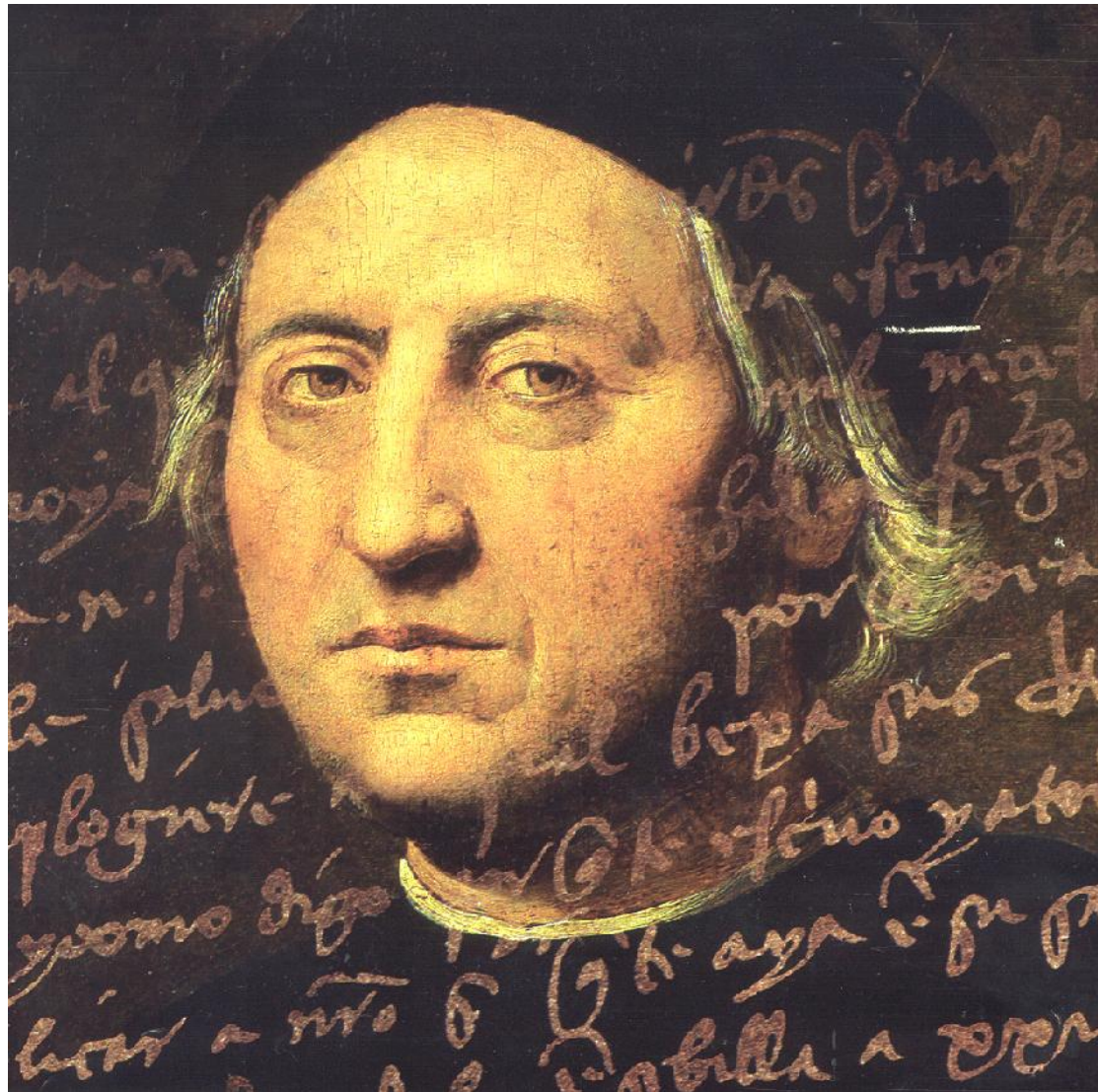
Thomas Friedman

Is it moving to be a *World Without Borders* and more *OPPORTUNITY*?





A bit of the History of Discovery....



But this man got there *before* Columbus....



A Great Chinese Hero

The Length and Breadth of Chinese History....



允執厥中

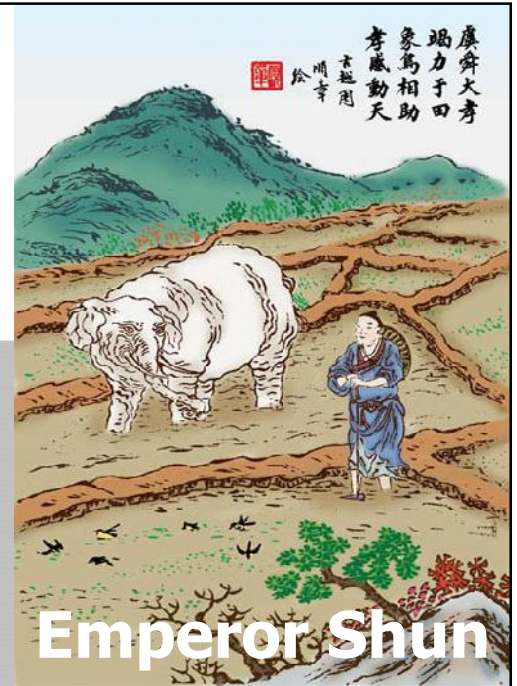
“To
Impartially
Adhere to the
Middle Way”



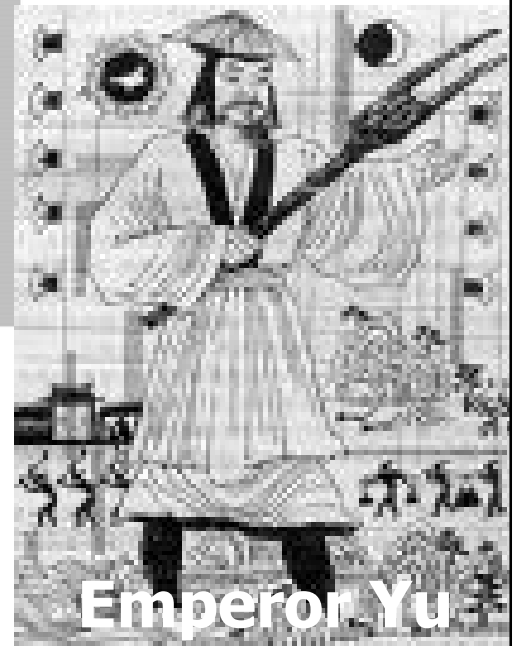


The Book of History

“允执厥中”
“To Impartially
Adhere to the
Middle Way”



Emperor Shun



Emperor Yu

The Phenomenon of Ancient China – Creativity and Inventiveness – some of the Inventions – but did they *innovate and implement?....are they now...will they ?....*

- The first lamps
- Magnetic Compass
- The Camera
- Gunpowder
- Paper for writing
- Printing
- Iron and Steel Smelting
- Copper and Bronze ware
- Oil Drilling and Production
- Coal Mining
- Pottery and Porcelain
- Wine making and tea and tea culture
- Early Astronomy
- Sericulture – gave us Silk
- Seismography
- Traditional Medicine and Anaesthetics
- Acupuncture
- Vaccination against Smallpox
- The Hot Air Balloon
- The Soushi Calendar
- Decimal and Binary Mathematics

Getting closer to the present – here again - a Chinese Hero – who struggled from poverty and overcame many tough times



Deng Xiaoping shaking hands with General Secretary Jiang Zemin in 1992. Flanking them are Wan Li, then head of the National People's Congress, and Deng's daughter, Deng Rong. [Photo by Xinhua.]

**“To get rich is
GLORIOUS”**

Deng Xiaoping 1982

**Opening China to the
richness of World
Markets**

And his policies encouraged
Entrepreneurship....



**“You look at things
and ask - why?”**

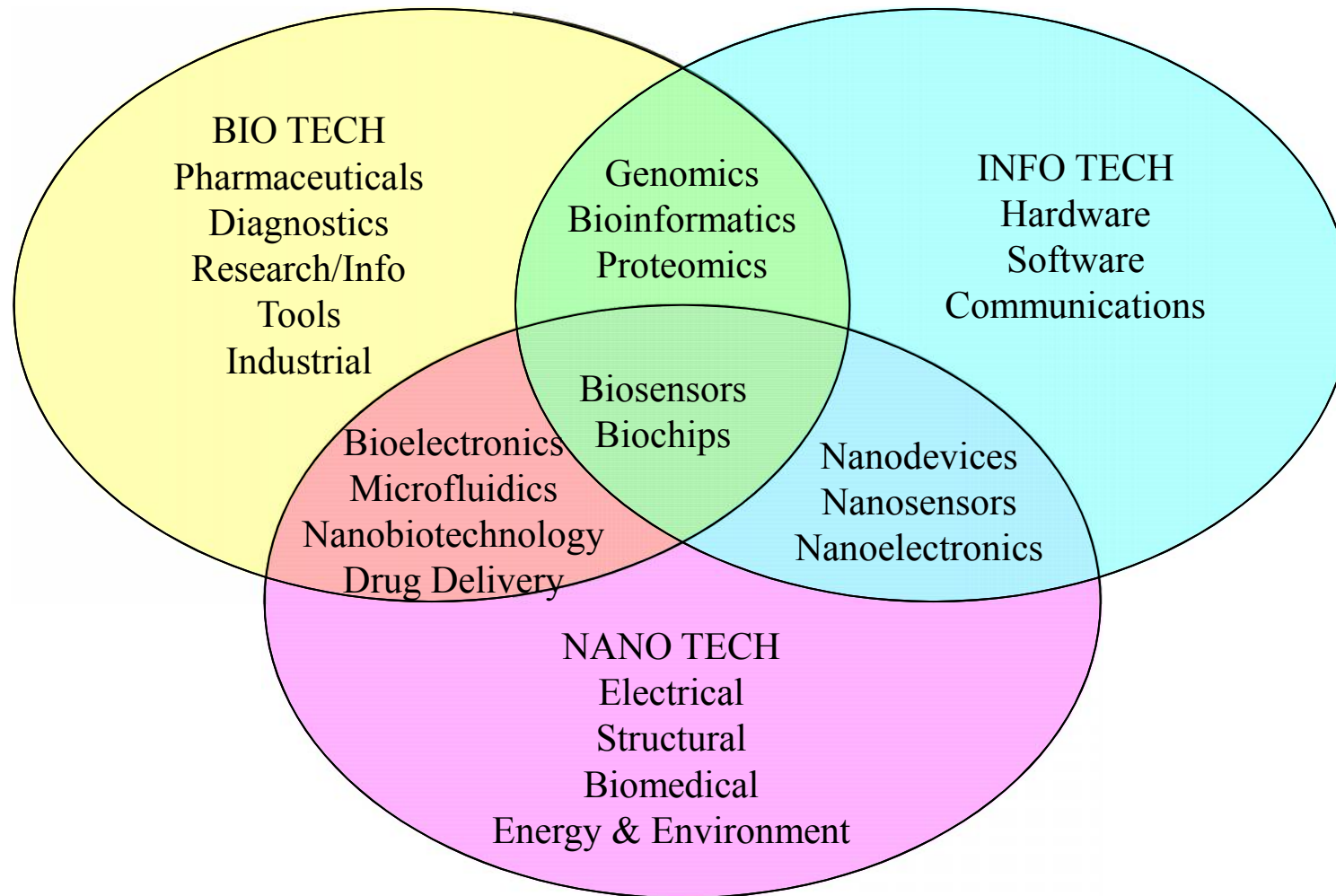
**but I dream of
things that never
were and ask -
why not?”**

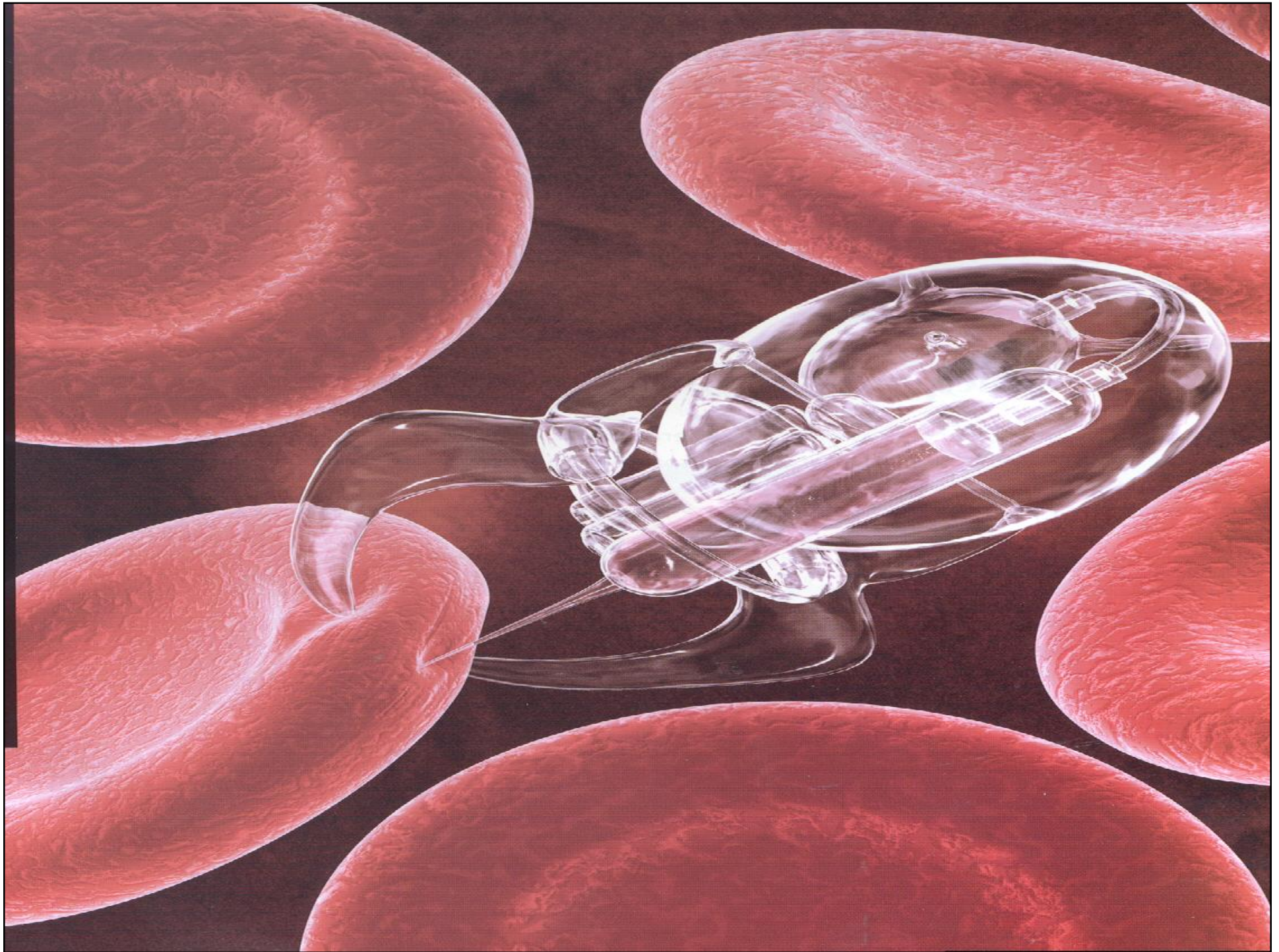
George Bernard Shaw

MINDSET !

Three Converging Revolutions

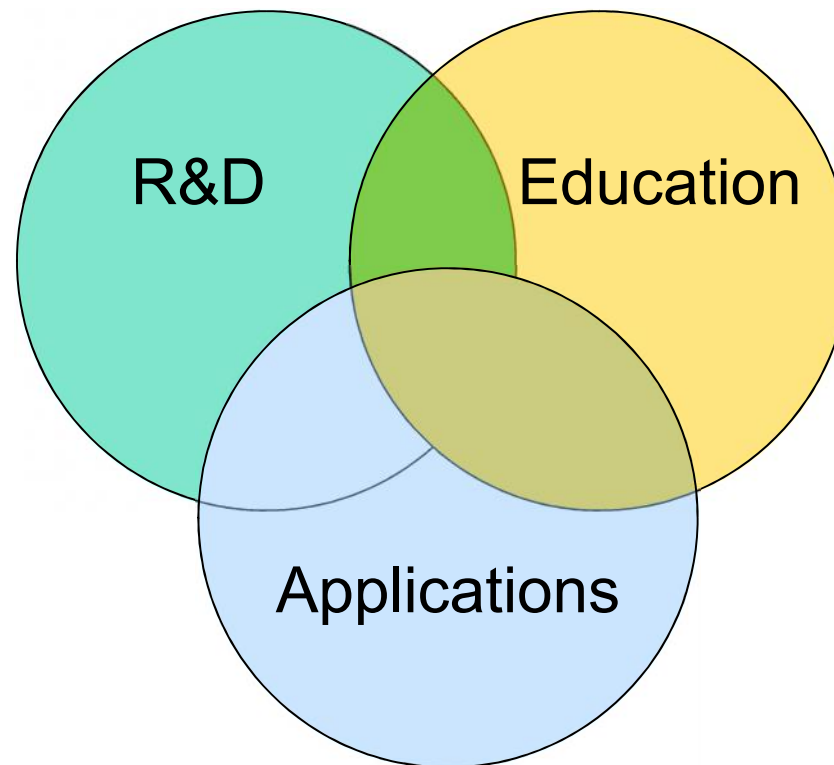
Three Pervasive Technology Platforms – a Worldwide Phenomenon – the Science of Progress





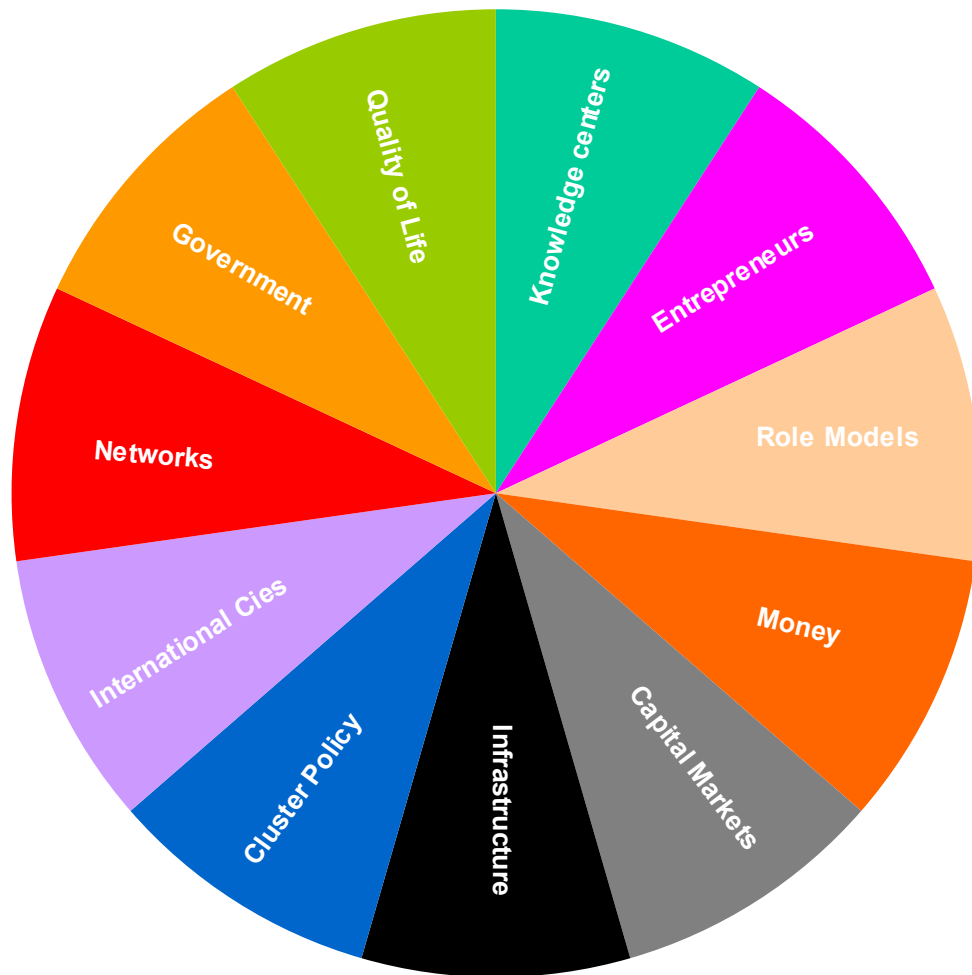
Proximity of Learning, Research and Practical Application

“The Innovation Campus”



Where open innovation, symbiosis, synergy and new companies can thrive – in *any* country – MANY in China now

Characteristics of Regions planning to be Leaders in Sustainable Development



- Knowledge Centers
- Entrepreneurs & Role Models
- Money
- Capital Markets
- Infrastructure
- Cluster Policy
- Presence of International Companies
- Networks
- Government
- Quality of Life

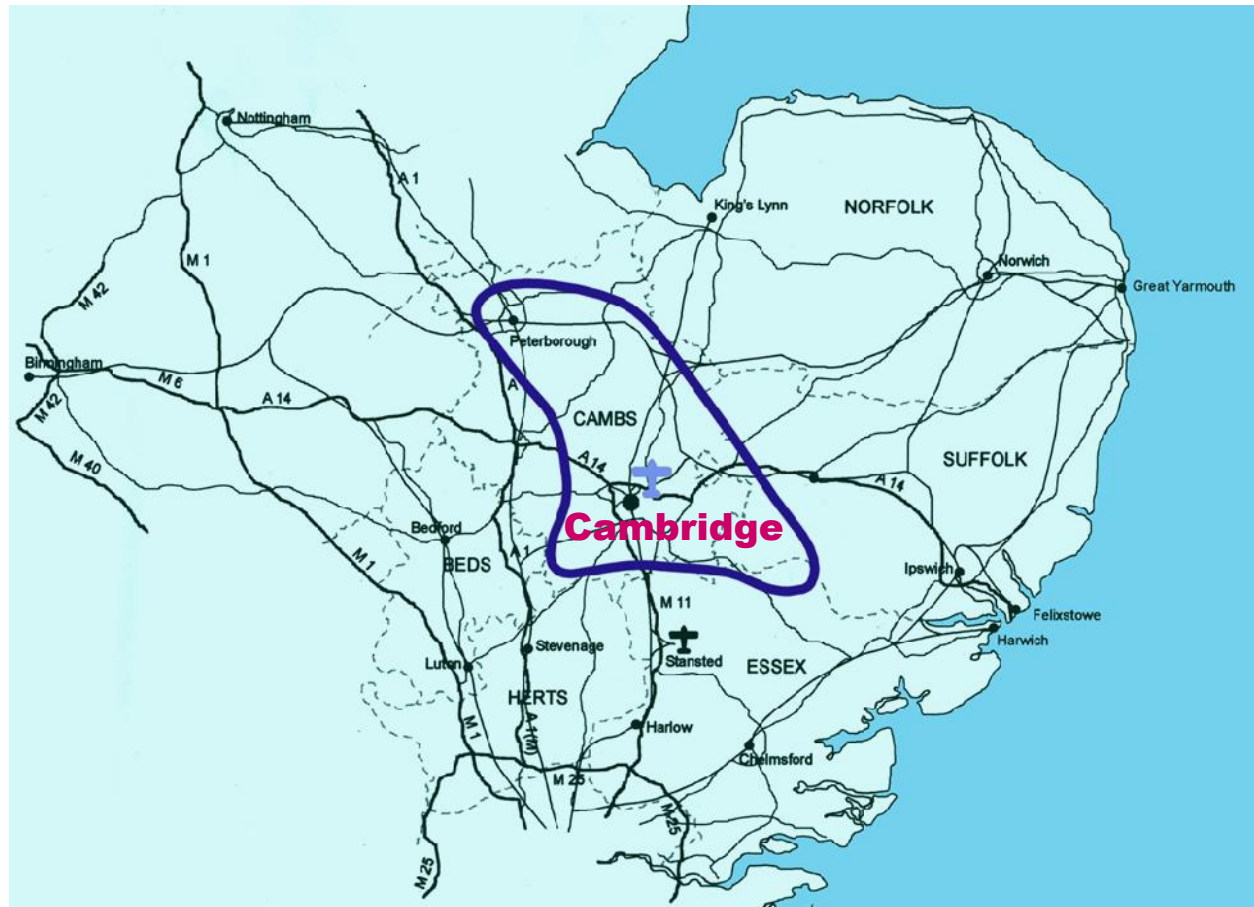
Minds without Borders – Global Mindset

Silicon Valley – still *the exemplar*



The East of England Region

“Silicon Fen” – Lots of space for Growth
Lots of Innovation, Science Parks and Innovation Centres



source: Cambridge
2020 report - 1998

And there are a number of such great centres in China – great Science, Great Universities Science Parks and Clusters



From East of England to China....

A difference of scale....but lots of Synergies



Why do some in the West worry about
a strong and growing China ?

Do they suspect....
A Growing Sense of Power and
Superiority

+

Newly Acquired Economic Power

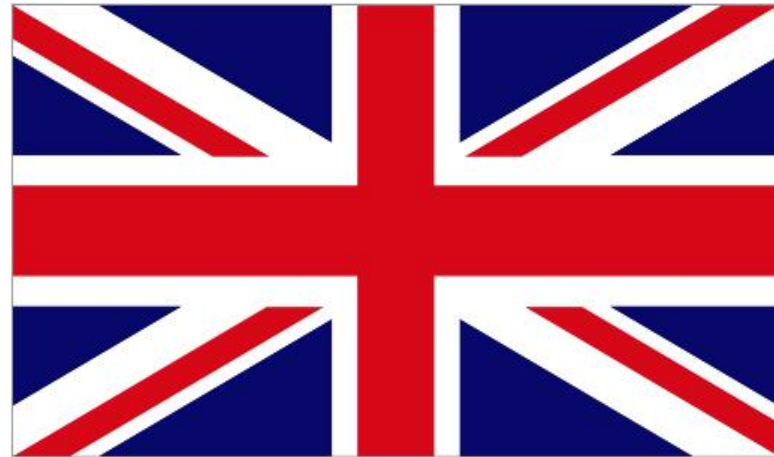
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Threat to the World!?

My understanding – in
China, still today.... A
Philosophy that
Seeks to
Avoid Extremes
and Hold a Balanced,
Moderate Position.

A Philosophy that
Seeks to
Avoid Extremes
and Hold a Balanced,
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The Vision of a *World Without Borders* sees strong links between Britain and China....



**Some thoughts on Positive Opportunities for
People and Business**

Putting MODERN CHINA into our picture and context....*Some of China's Achievements*

- Compound growth of GDP at 9% since 1995
- One of top 10 trading nations
- The most popular FDI destination
- The largest mobile phone market
- The second largest PC market
- The third largest advertising market
- 4th Largest Pharmaceutical Market



The World's Factory

China already produces:

- 65% of world's toys
- 55% of world's shoes
- 60% of world's air-conditioners
- 60% of world's microwave ovens



Now more cars, laptops, ICs, mobile phones...

Large number of emerging Medical Technology

Companies – growing fast – major investments

Moving to be an R & D based Economy

The Market for Everything

- Urban population 450 mln, 160 cities over 1mln
- Emerging of middle class
- Privatisation of housing
- Increasing attention to well-beings
- Availability of Internet



- Enormous market for FMCG
- lifestyle products
- Home improvement
- Healthcare and fitness products
- E-learning services

Western type of consumerism is mainly driven by 15-25 years age group (70 mln)

What Can China Offer? – Entrepreneurial Potential is great

- 750 mln people live in the countryside
- Returning overseas students and local MBAs
- Science and Engineering students on the rise
- Increasing usage of ISO accredited process
- Easy access to other Asian markets



- unlimited supply of cheap labour
- Local management talent more available
- R&D localisation become feasible
- Quality of outsourced manufacturing
- Convenient re-export base

China's High Technology Plan Priorities

- ICT
- Biotechnology and pharmaceuticals
- Medical Technology
- New materials
- Advanced energy systems
- Resources and environmental



China's High Technology Plan Priorities

- Advanced agriculture
- Advanced manufacturing
- Ocean technology
- Global monitoring and aeronautics



Chinese Rocketry and Space Exploration



And in Pharmaceuticals – China –Seventh Largest Pharmaceutical Market 2005 – now Fifth maybe 4th

Top 10	1996	2000	2005	2010
1	US	US	US	US
2	Japan	Japan	Japan	Japan
3	Germany	Germany	Germany	Germany
4	France	France	France	France
5	Italy	UK	UK	China
6	Brazil	Italy	Italy	UK
7	UK	China	China	Italy
8	Spain	Brazil	Brazil	Canada
9	Korea	Canada	Canada	Spain
10	Canada	Spain	Spain	Brazil
11	China			

Potential of China - Healthcare

China Healthcare has more than

- 360,000 healthcare institutions
- 78,000 hospitals

Over 25 biotech parks covering

- **Shanghai**
- **Beijing**
- **Guangzhou**
- **Shenzhen**
- **Chengdu**
- **Wuhan**

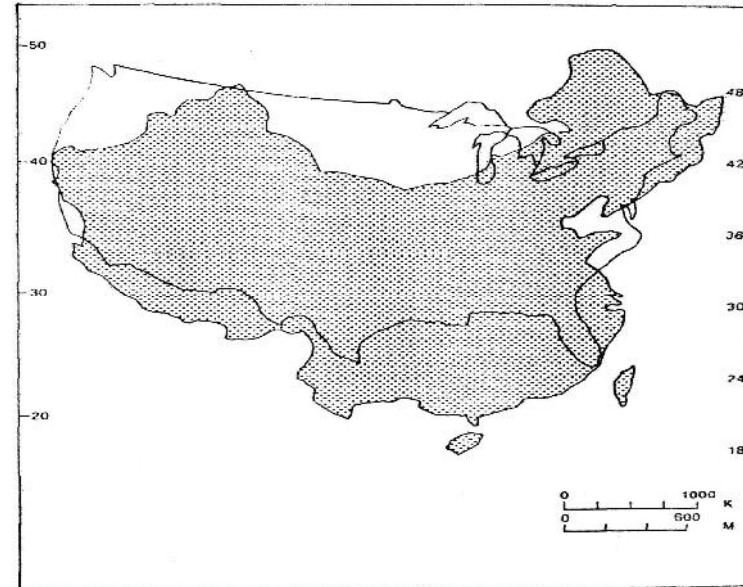
Fast Growing MedTech Sector

Further examples Biotech/Pharma

Production facilities development in

- Pudong, Shanghai; Hangzhou, Zhejiang Province

China is one of the world's largest supplier of raw materials to pharma



- Land area comparable to US
- Huge population as consumers
- Major economic giant
- Major internal market

歲次 2004 甲申



Biotechnology in China

高恩慈

中
国

Key Geographical Areas – Biotech and TCM – Traditional Chinese Medicine



China MEDTECH - Weigao Market Assessment – Devices only

World market	\$US 300 billions
Top 20 companies	\$US 160 billions

- 80% of top companies from USA
- Average annual growth 7% - Increasing

**Weigao – Organising for increased share and
Global Growth and Development – all systems
GO**

Weigao Assess and Predict...for Medical Devices

Market position
2009

No 1 – USA
No 2 – EU
No 3 – Japan

Prediction 2015

No 1 – USA
No 2 – China
No 3 – EU
No 4 - Japan

Weigao also Predict....for MedTech

Prediction 2015

China market
\$US 100 bn+
(5% of world market)

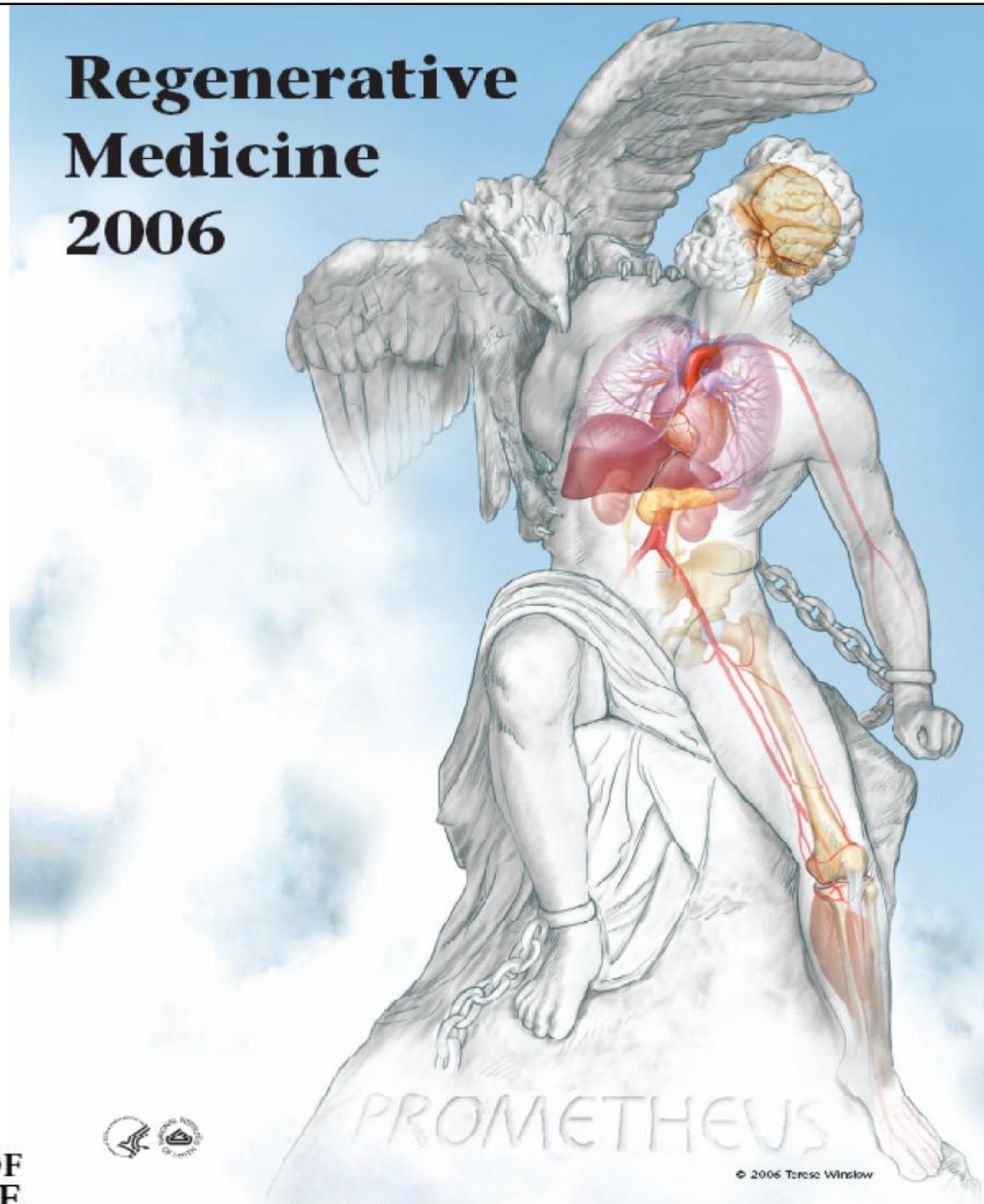
Prediction 2050

China – 25%
World market
(US \$\$????)

Regenerative Medicine 2006

Stem Cell
Science

China is
investing –
significant
R & D



Does China have *problems?*....

You Bet!! – but they are NOT hidden

- Still a “poverty gap” – but 200 millions raised from poverty
- Rapid Urbanisation – stress ++++
- Resource issues
- Environmental Challenges
- Moving from Manufacturing to R&D based Economy – pluses and minuses
- Size and scale – Logistics
- Perceptions and Reactions of the West
- Political issues, Liberating Minds, Balancing Growth and Development of Society “Modernisation”
- The acceptance of “greater responsibility”.

Success factors for Working with China – Advice to prospective Western Partners....

- Leading-edge technologies available in China – and Chinese companies looking for top technology too
- Quality & customer service – the edge
- Local supply chain – needs to be close
- Local partners/employees – the **KEY**
- Cultural Understanding Can you “think like a Chinese”?
- Regional focus – China is a BIG country with local expertise
- Consensus among UK employees – be honest and clear!
- Commitment from the top management
- Long-term perspective + acceptable return on **investment** – **Patience**





**Some dream of A World Without
Bordersand seek to Create it**

***China will be a key part
of such a World....***

Thank you....

**Alan Barrell – Entrepreneur in Residence –Centre
for Entrepreneurial Learning - Cambridge**

In Pursuit of Excellence !

***“Excellence can be achieved, if we:
Care more than others think is wise,
Risk more than others think is safe,
Dream more than others think is practical,
Expect more than others think is possible.”***

Deborah Johnson-Ross

**We have an expectation that Tomorrow's China will help
us ALL achieve Excellence – whatever our role in life**