



From Watt to Tesla and Gates – and you think that IP doesn't matter?

Cambridge Integrated Knowledge Centre

Ian Harvey - *Chairman, Intellectual Property Institute*

October 22, 2010



**A patent gives you the
right to use your
invention**

True or False?



Should a researcher undertake a patent search before starting research?

Yes or no?



Actress – “Ekstase” - 1933



“Invention: the next software”



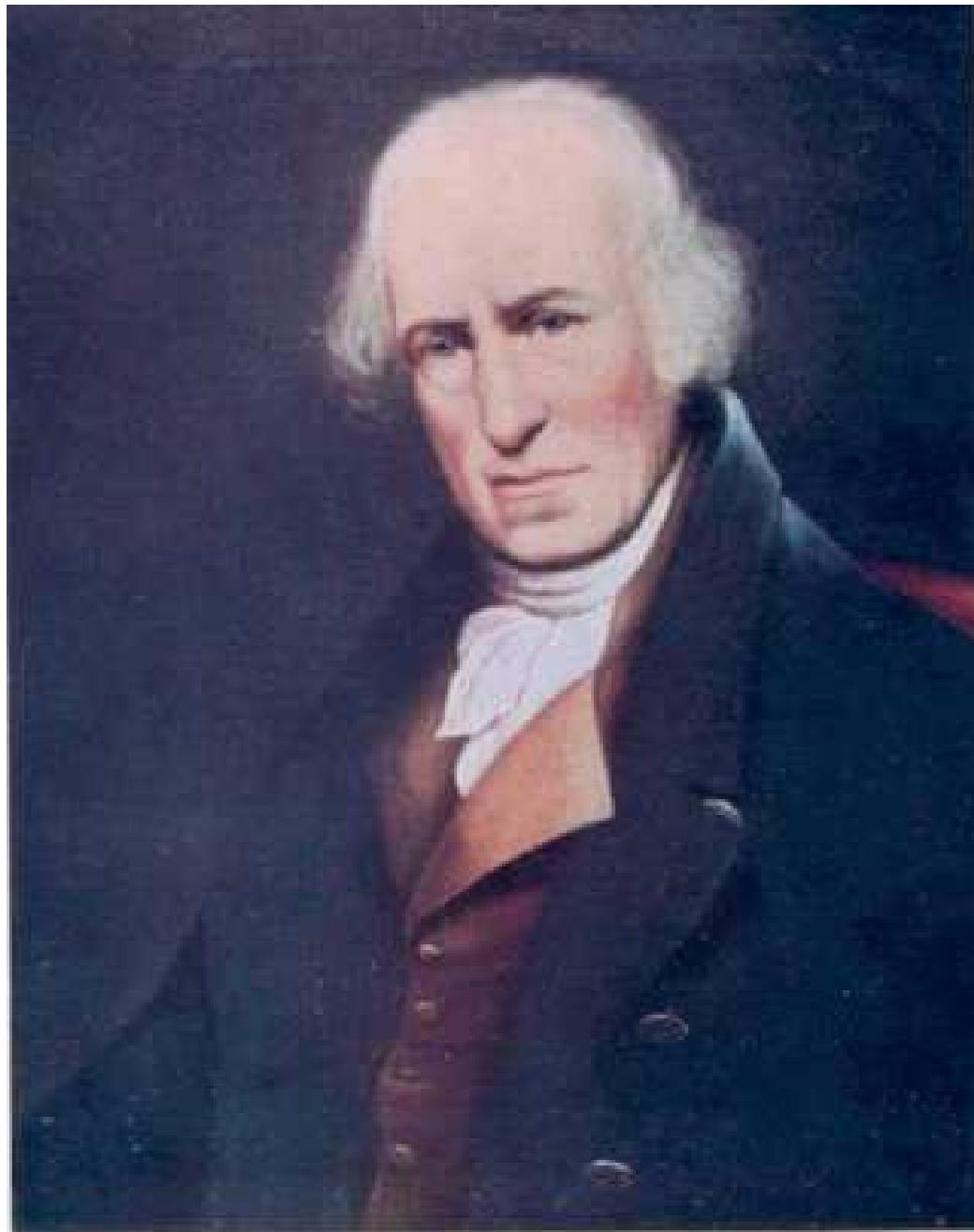
**“Future competition in the
world is competition in IP”**



**John
Roebuck**

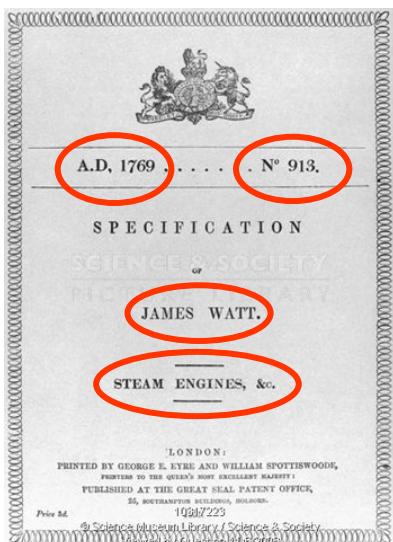
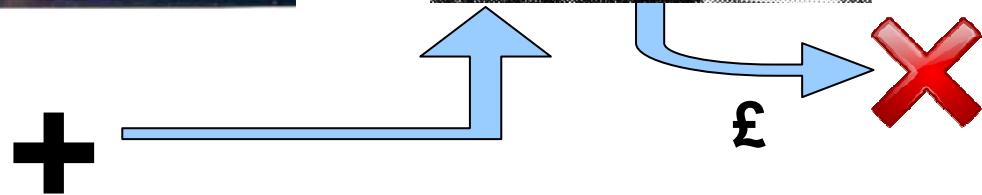
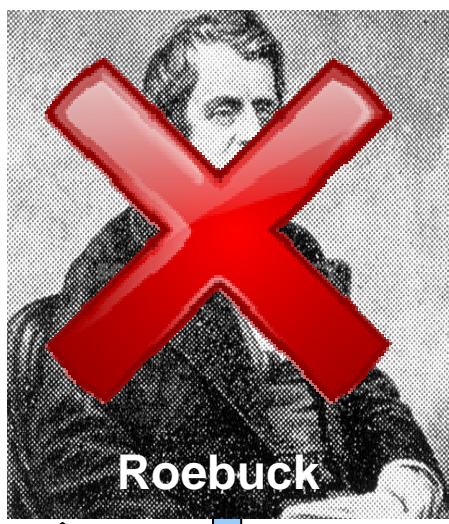
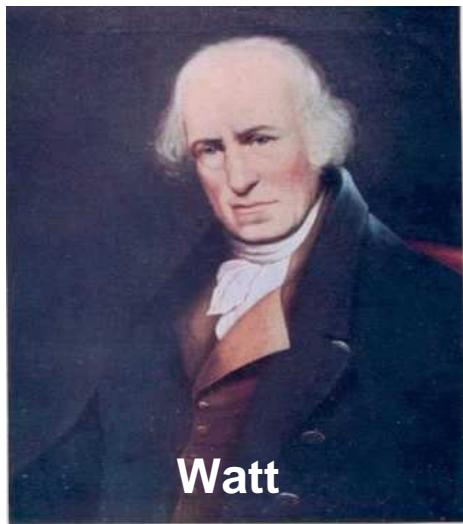


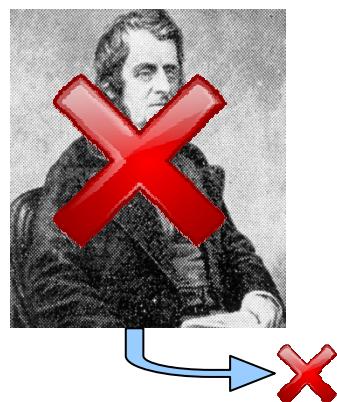
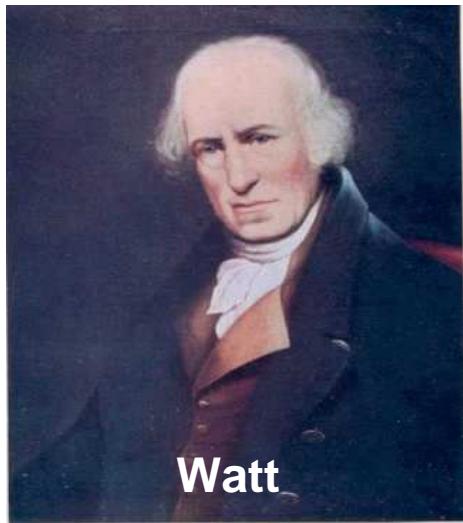
**Matthew
Boulton**



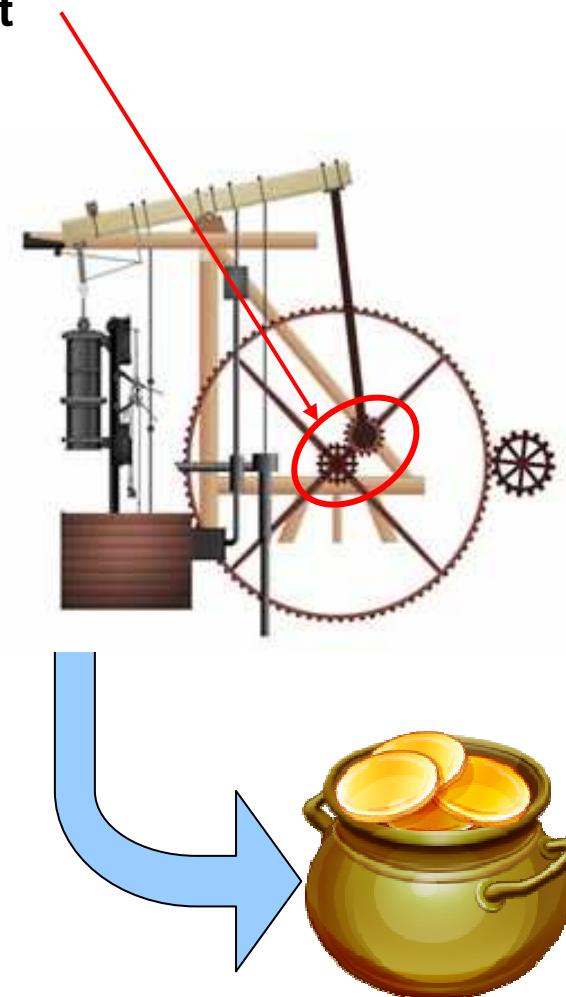
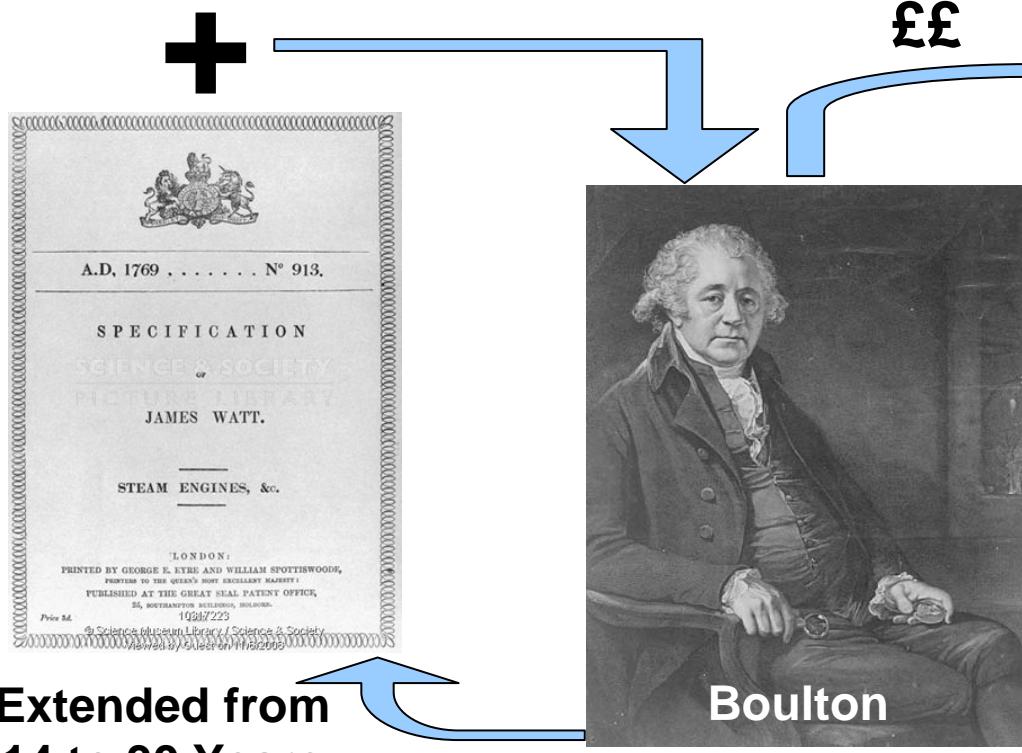
James Watt

Copyright Ian Harvey 2010





Sun and
Planet drive
avoids Pickard
patent



Copyright Ian Harvey 2010

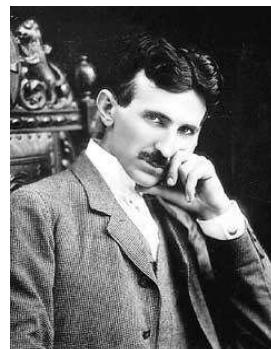
The Electrical Revolution – AC vs DC

Direct Current



Thomas Edison

Alternating Current



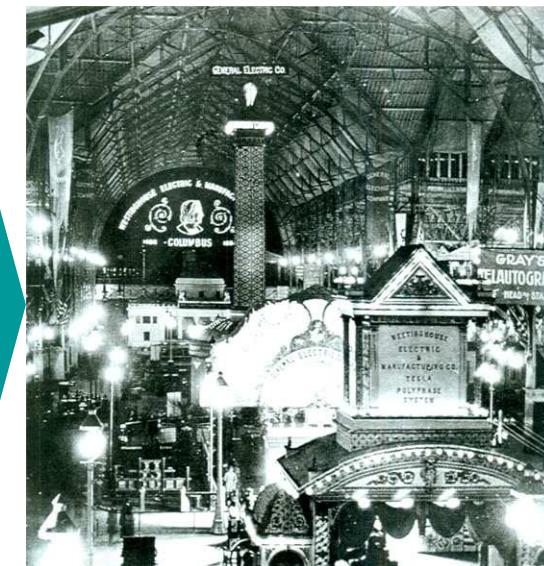
*Nikola
Tesla*



*George
Westinghouse*

Patents
Open Innovation
Investment
Litigation

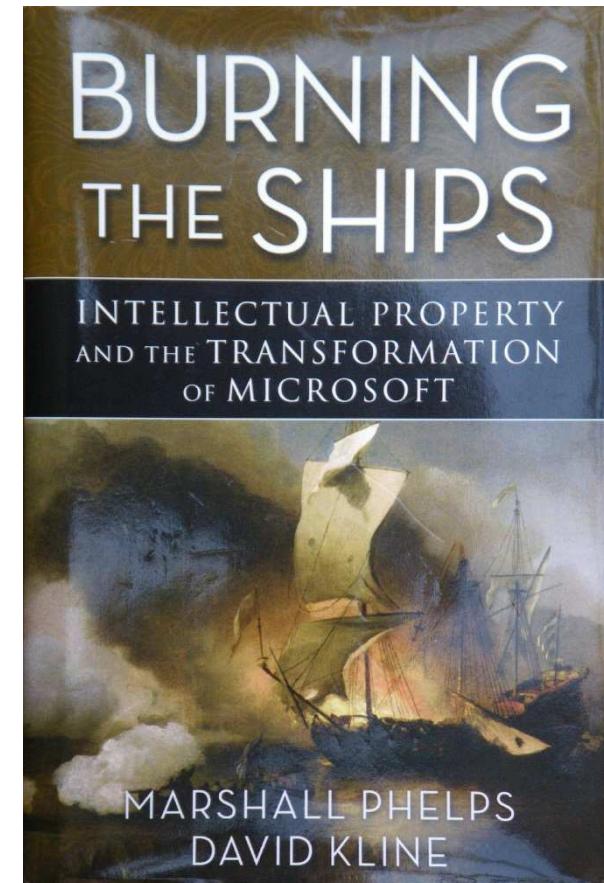
*Chicago World's Fair
1893*



*Westinghouse Tesla
Polyphase System
(AC)*

The Software Revolution - Microsoft

- Bill Gates understood IP
- Microsoft built on copyright
- Then software patents
- IP is the “Bridge to collaboration”:
 - Collaborations:
 - 2003 = 0
 - 2009 = 500
 - Partnering with Open Source



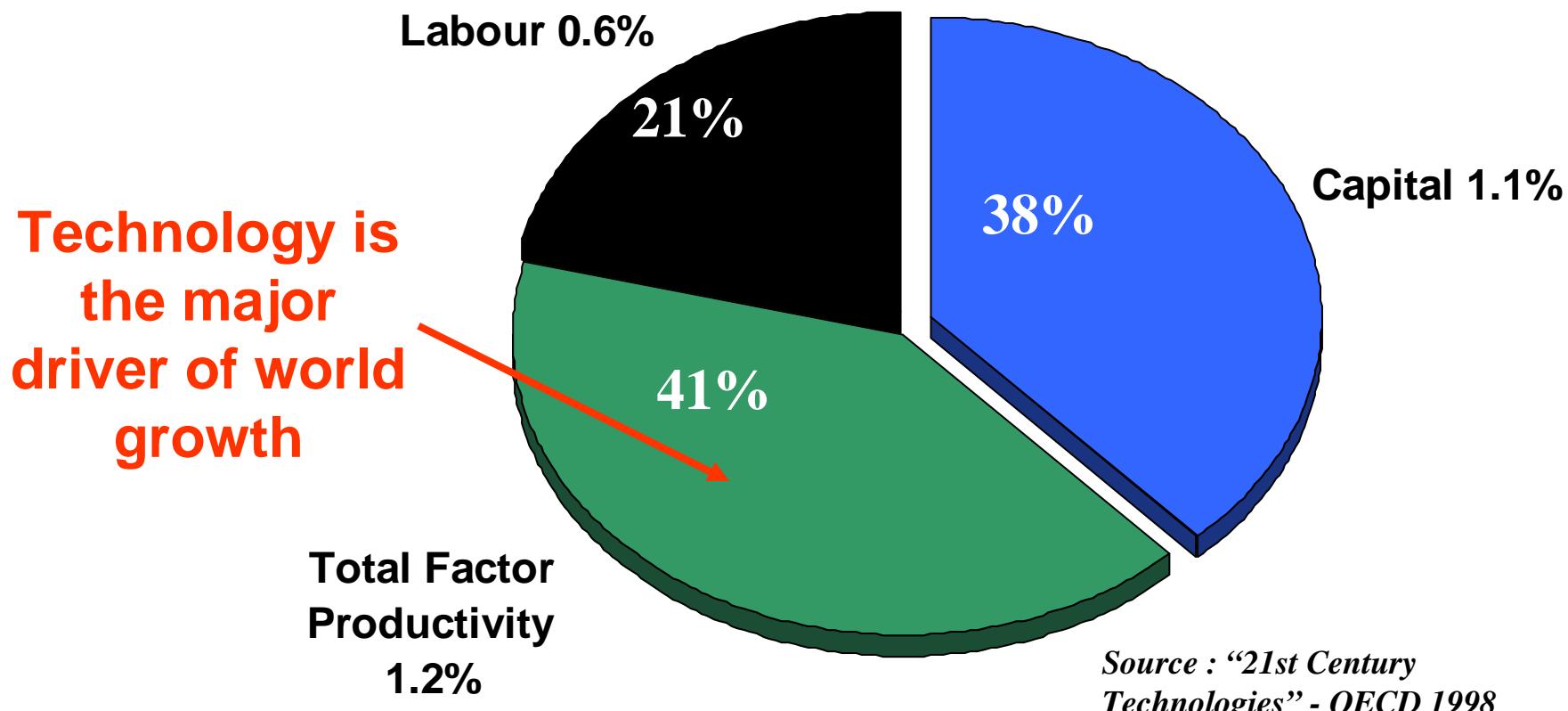


Lessons from 250 years

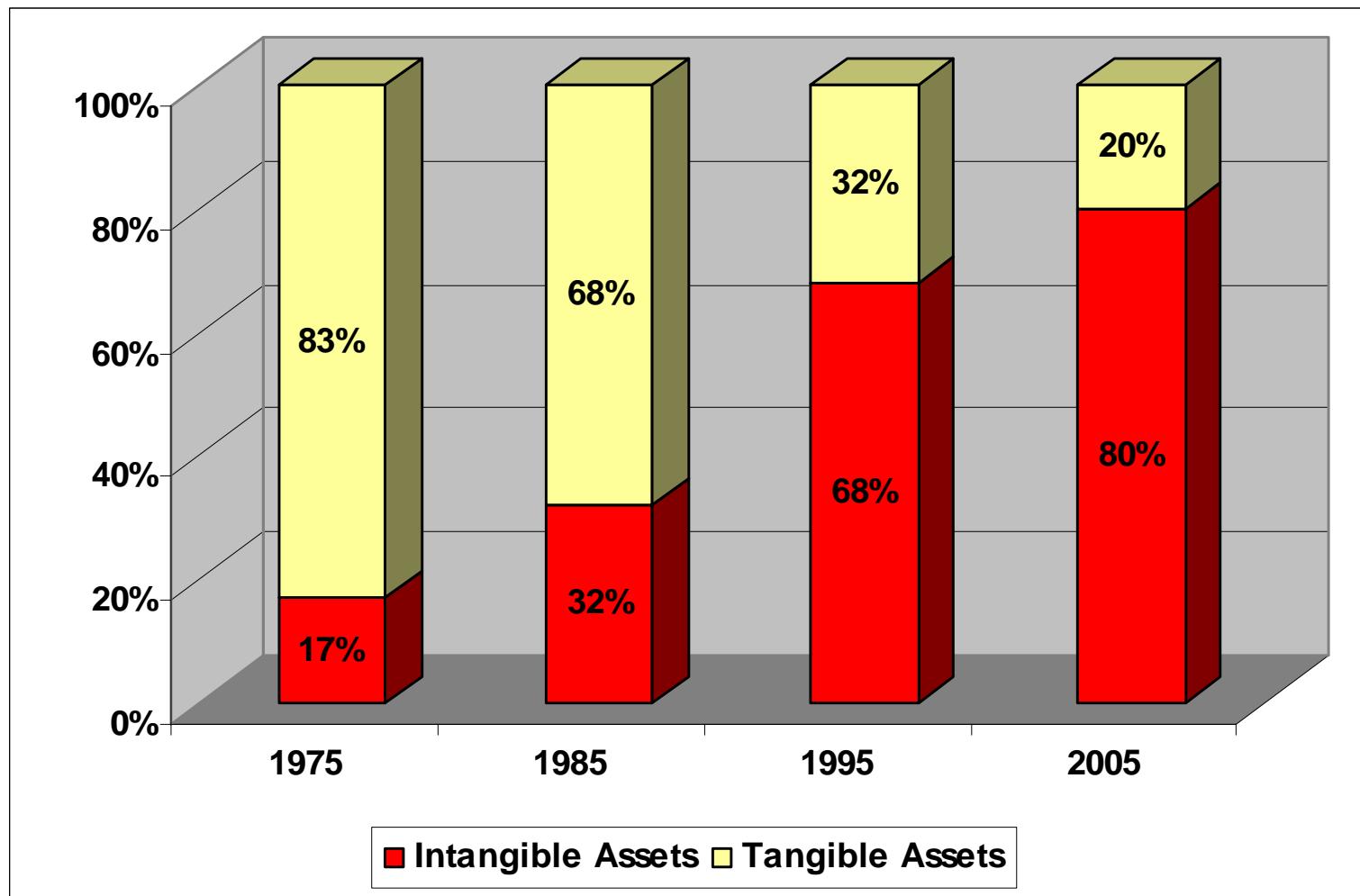
- The inventors and heads of these successful companies (Watt, Boulton, Tesla, Westinghouse, Gates) understood IP very well
- IP was essential to raising finance for developing their ideas
- Most researchers and heads of companies today do not understand IP well – they leave it to their (often non-commercial) IP specialists
- *You are more likely to succeed if you are IP-literate*

Impact of Technology on GDP Growth

1970-1990 Average 2.9%



US Corporate Valuations: S&P500®





IPRs provide:

- The incentive to innovate and invest in risky new ideas
- The legal clarity and certainty for technology transfer transactions – including creation of IP pools – they are enforceable in court
- The choice to IPR owners how their IPRs will be used



Copyright

- **70/95 years – simple & free**
- **international right, simple, zero cost, certain, use is simple**
- ***managing artistic works, databases, software***



Brands, Trademarks & Origin

- Last for ever – quite simple and cheap
- country specific, relatively simple and certain, cheap
- *promise of quality: creating and managing consumer loyalty*



Patents are different

- Patents:
 - Last for 20 years – can be complex and expensive
 - Country specific but conditionality is global
 - Not an absolute right: conditionality - must be “new” and “not obvious”
 - They can be exceptionally valuable, but they are complex and expensive to acquire and defend
 - *investing in innovative technology and products*



A patent is a potentially valuable but uncertain and expensive right

- Uncertainty:
 - a patent is not an absolute right:
 - **Novelty**: at any time new “prior art” from anywhere may invalidate patents everywhere
 - **Obviousness**: courts may decide it was “obvious”
- Expensive if international:
 - \$250k lifetime for international patents
 - Enforcement: Germany \$100k, UK \$500k, US \$5m, 2 – 7 years (China \$20-120K & 2-14 months)



What does a patent do for you?

- It gives you the right to stop other people from making, selling or using your invention commercially for 20 years from date of filing
- A patent does not give you the right to use your own invention!
- It also puts all “enabling” information about the invention into the public domain. Patents are a major repository of scientific information.



Does a patent

- ***confer ownership of the technology - the “ownership of life” issue?***
 - No - patenting is a passive right - - a patent allows you to stop someone else using your invention, it does not confer ownership of the technology or the right to use it
- ***keep things secret?***
 - No - a patent puts the invention into the public domain
- ***last for ever?***
 - No - a patent ends 20 years after filing the application
- ***constrain research into the patented area?***
 - No - patenting does not prevent research except, possibly, in the US

Magnetic Resonance Imaging (MRI)

Peter Mansfield, Nottingham

- BTG & MRC funded development of technology from 1974-1980 from Nottingham and Aberdeen Universities
- BTG combined the IP from three different universities creating a true technology portfolio
- Clinical equipment became available in 1983 and was in clinical use in 1985
- Between 1986 and 1989 99% of the world's MRI manufacturers were licensed including GE, Marconi, Siemens, Toshiba, Hitachi and Shimadzu, Bruker, Fonar and Esaote.



2003 Nobel Prize for Medicine: Prof Sir Peter Mansfield

Lenovo buys IBM's PC business

1. **Lenovo®+IBM®+ThinkPad® = a new Brand**
2. **Best global cross-license position**



Nespresso®



2009:

- 5+ billion capsules pa**
- \$2.8b revenues**
- 22% pa growth**

Nestlé's fastest growing “Billionaire” business

Strong Patent Position - Nespresso



Keurig, Inc., 06/27/2000, 6079315



Nestec S.A., 04/27/1999, 5897899



Keurig, Inc., 02/06/2001, 6182554

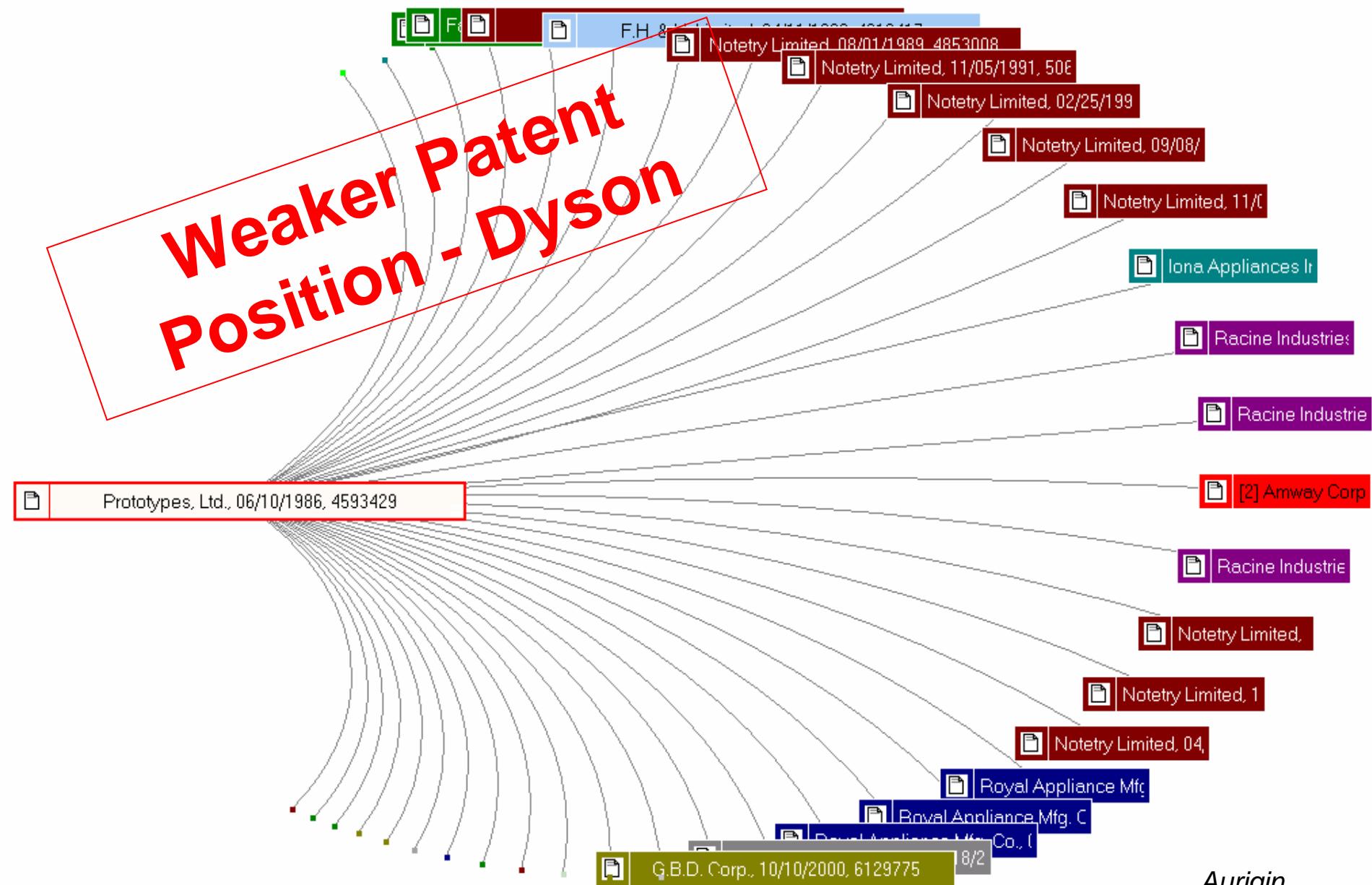
Keurig, Inc.; 02/06/2001; [7] Beaulieu, Roderick H.; 12/30/1999; 6182554; Frequency: 1

Weaker patents





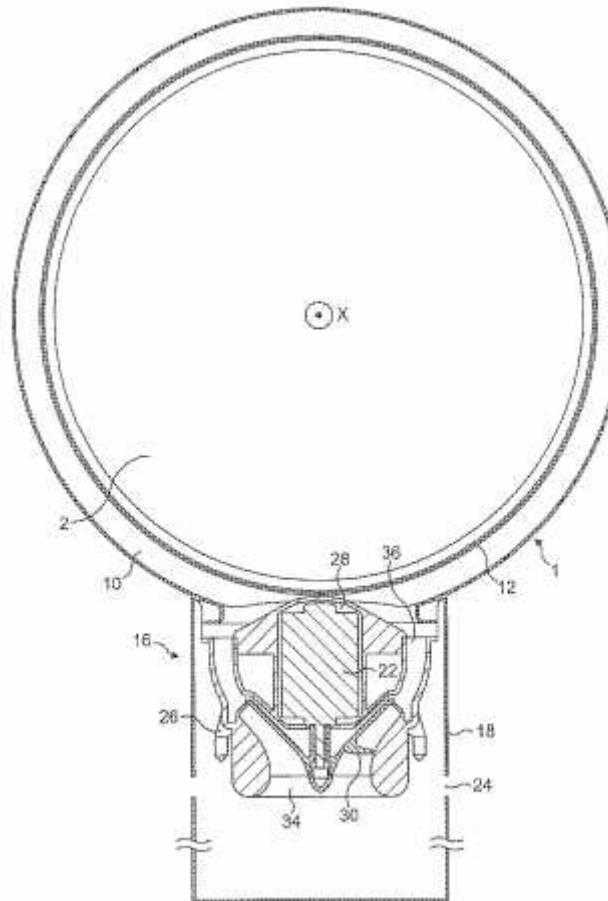
Weak Patent
Position - Dyson



The latest Dyson

A FAN.

A fan assembly for creating an air current is described. There is provided a bladeless fan assembly (100) comprising a nozzle (1) and means for creating an air flow through the nozzle (1). The nozzle (1) comprises an interior passage (10), a mouth (12) for receiving the air flow from the interior passage (10), and a Coanda surface (14) located adjacent the mouth (12) and over which the mouth (12) is arranged to direct the air flow. The fan provides an arrangement producing an air current and a flow of cooling air created without requiring a bladed fan i.e. air flow is created by a bladeless fan.





How to screw up your idea

1. Put it into the public domain “so everyone can use it”

Then no one will invest in its development

2. Keep sloppy lab books – “only I will read them”

Then you cannot defend it in court – so no one will invest in it

3. Be unaware of what others are doing in the field

So you will miss on the collaboration or the company that could make it a success



What you should do

- **Do a patent search yourself:**
 - EPO: <http://ep.espacenet.com/quicksearch>
 - USPTO: [http://patft.uspto.gov/netahtml/PTO/search-bool.html](http://patft.uspto.gov/netahtml/PTO/search BOOL.html)
- **Get expert professional advice**
- **Get the advice early:**
 - **Before you publish (in any form – even a lab poster)**
 - **Before you contact companies**
- **Create and identify your IP – facilitates collaborations**
- **Be prepared to share the benefits:**
 - **New products are 1% inspiration, 99% perspiration and investment***



**A patent gives you the
right to use your
invention**

False



Should a researcher undertake a patent search before starting research?

***Yes – one of the best
sources of who is doing
what research***



**“future competition in the world
is competition in IP”**

*Wen Jiabao - Chinese Prime Minister
June 2004 et seq*



Tianjin (China) IP Education

- Every primary and secondary school has an IP teacher
- Every child is taught about IP
- Why?
 - *“Because stealing IP is like stealing your intellect”*
 - *“Because a modern economy depends on IP”*

Hedy Lamarr: Inventor Spread Spectrum Radio Technology

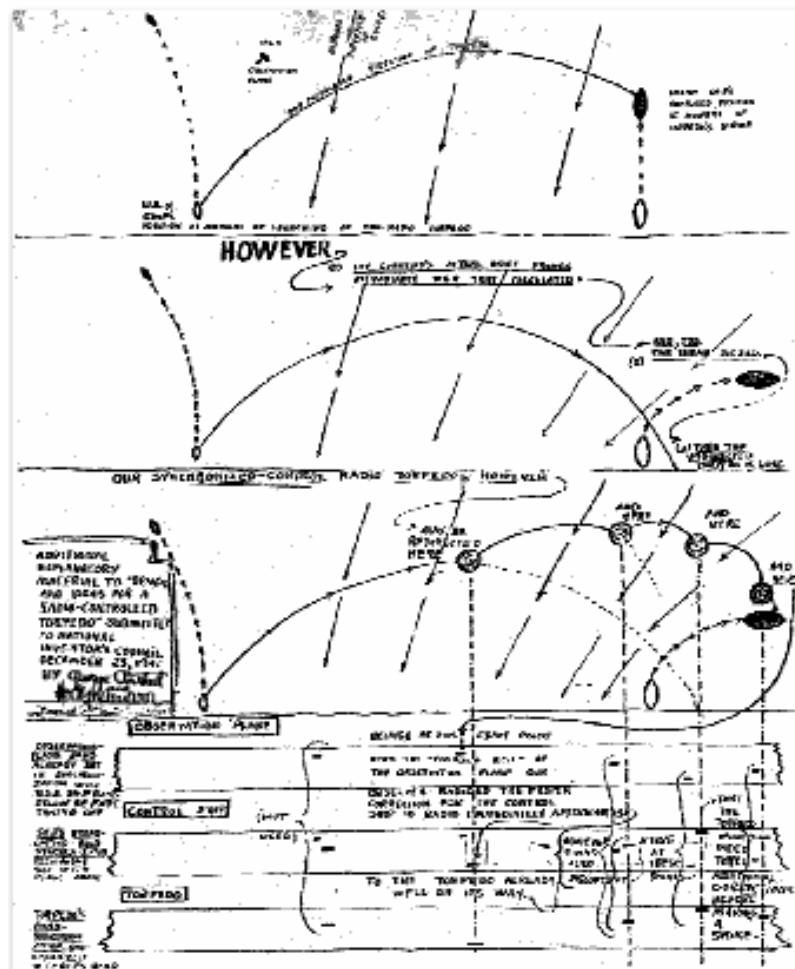


- Actress – “Ekstase” - 1933
- Co-inventor (with Antheil) of Spread Spectrum radio technology
- US Patent No: 2,292,387 1942 (Lamarr-Antheil)
- Cited by over 1000 subsequent patents including CDMA, TDMA, GPS and 802.11 wireless internet (WiFi)

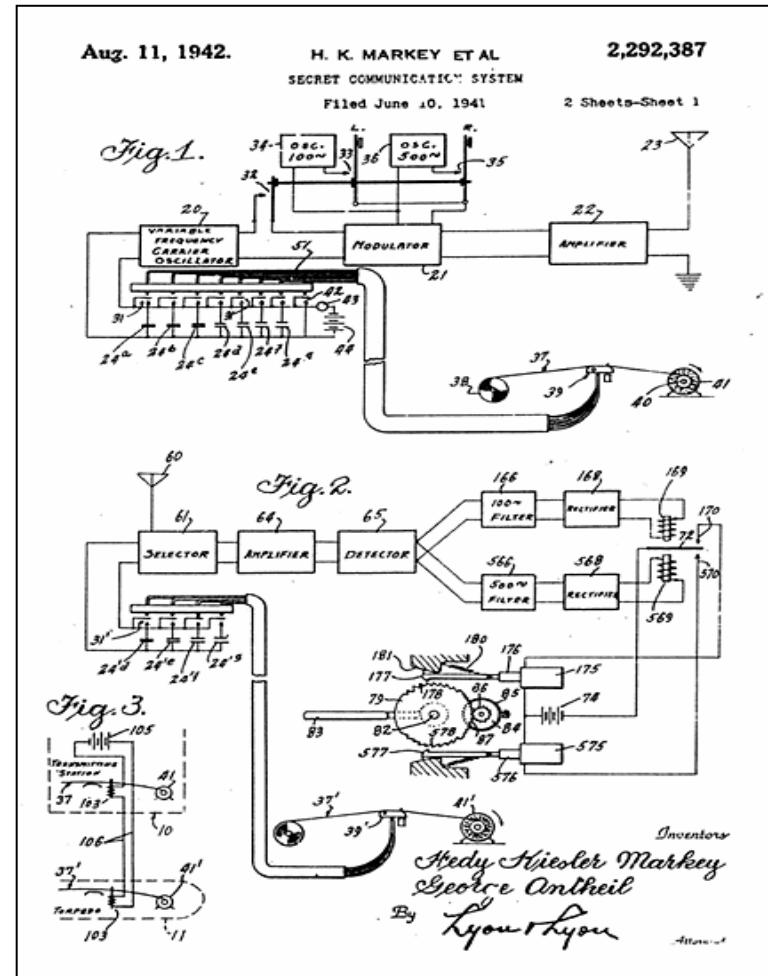
Lamarr-Antheil Spread Spectrum Patent



Disclosure



Patent





“INVENTION: THE NEXT SOFTWARE”



NATHAN MYHRVOLD,

Former CTO - Microsoft

Founder , Intellectual Ventures

U.S. Capitol

March 7, 2006

Transcript by: Federal News Service, Washington, D.C.

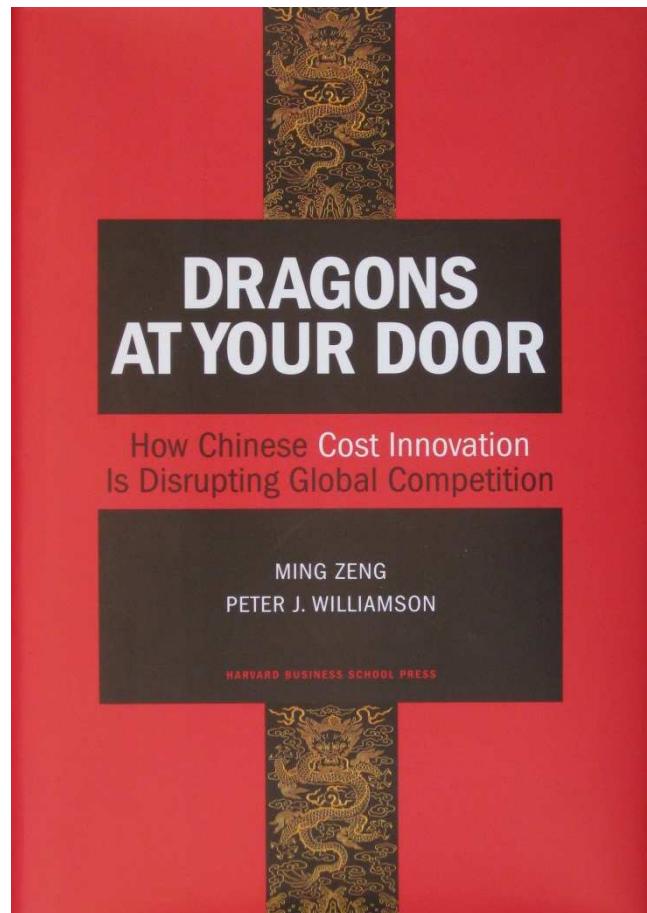


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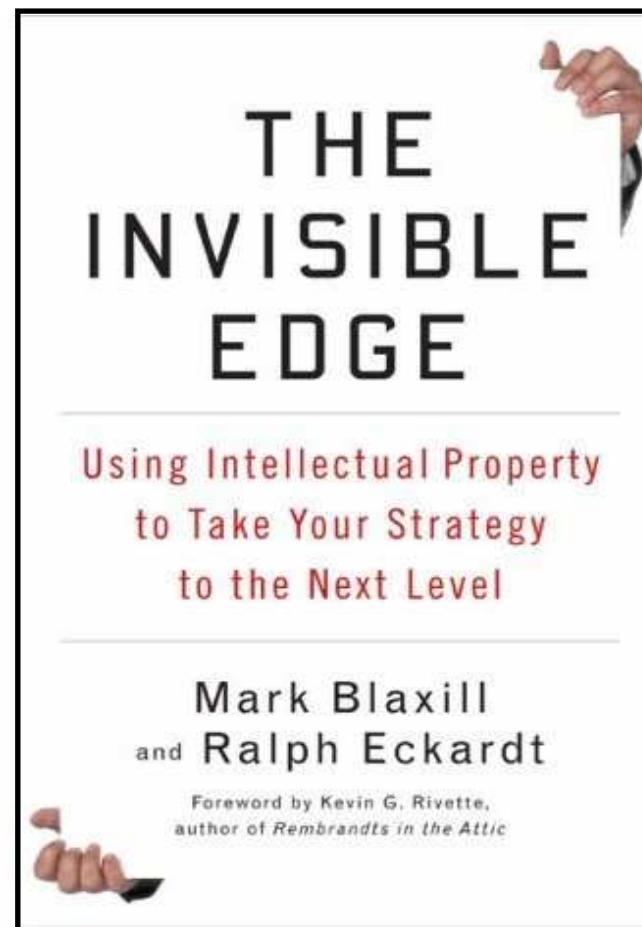
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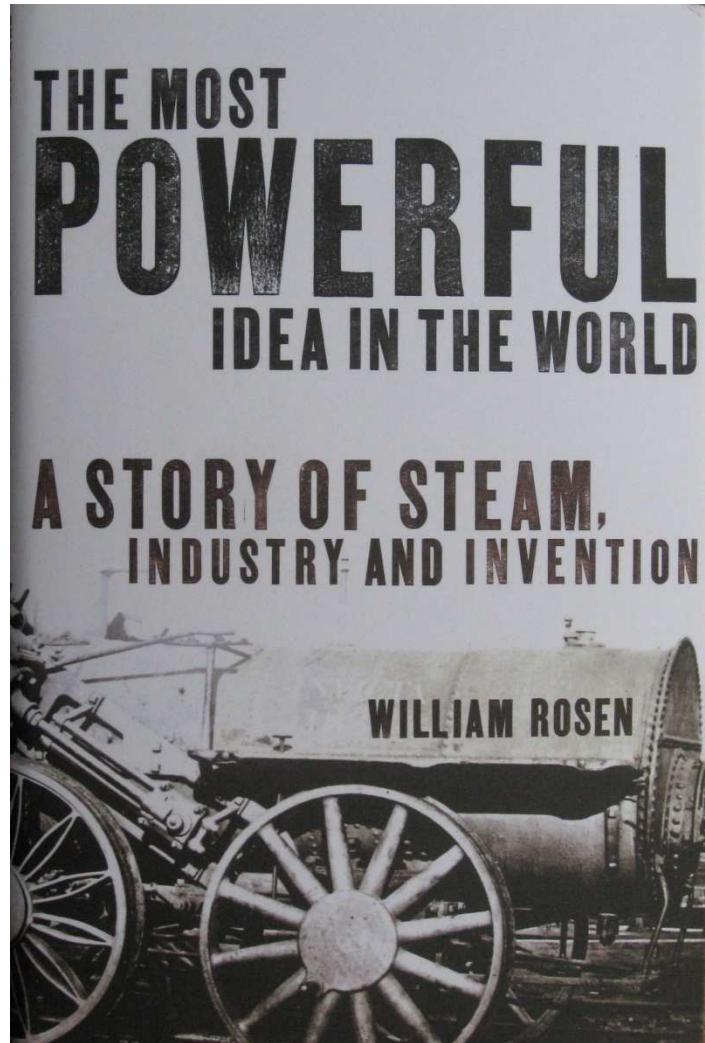
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“How the Chinese will beat us at innovation”

“All you need to know about IP Strategy”

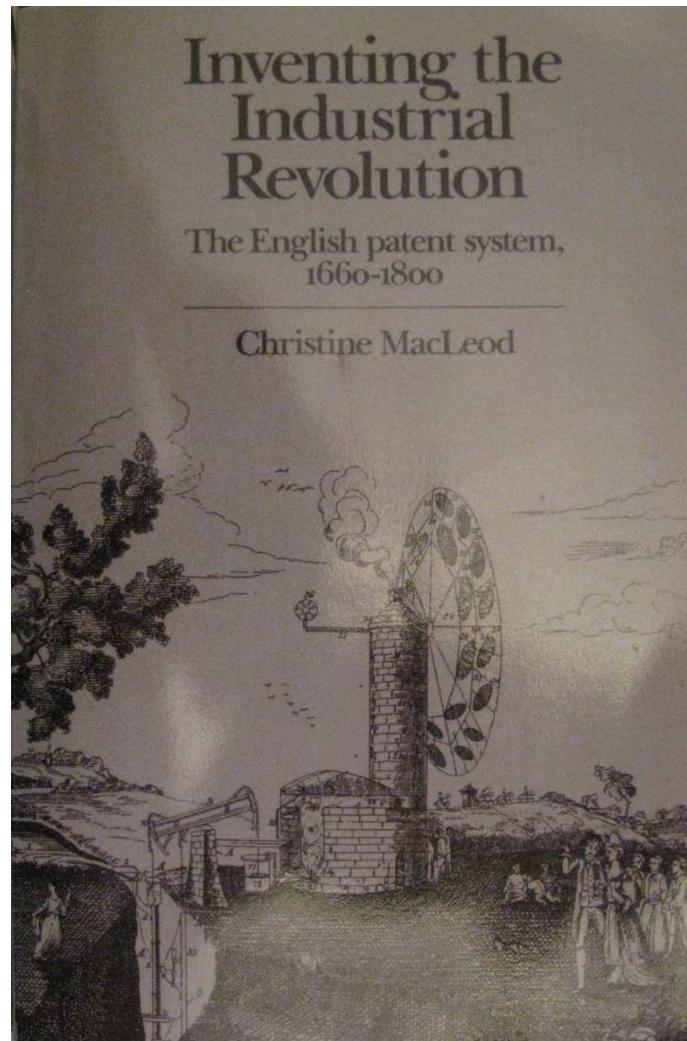




“Easy reading”



“Academic”



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“Empires of Light: Edison, Tesla, Westinghouse and the race to electrify the world” Jill Jonnes

