

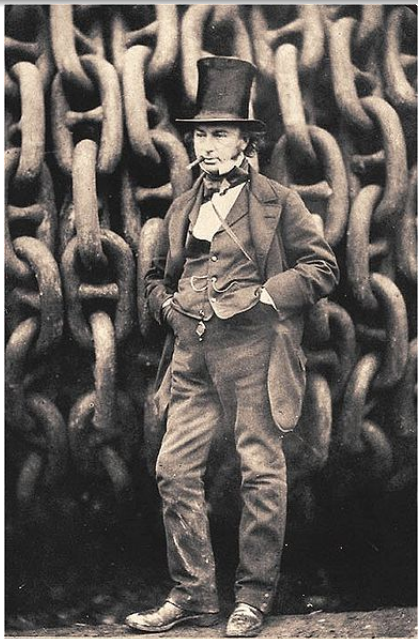
Summing-up

October 28, 2013

- Economic development has been seen as a struggle against decreasing returns.
- Question: can societies locked in a Malthusian crisis survive?
- Societies caught up in a decreasing returns trap are hideously unequal, their distribution is very lopsided and skewed and are invariably beset by violent conflict.
- Great empires, apparently affluent societies they all arose and finally disappeared.

- Technological advance , progress, is the key to leap out of the decreasing return lock-in.
- Question: can a meaningful measure of overall productivity be devised?
- It has been argued that yes! but provided that important distributional issues be settled.
- The main issue in this respect is the real cost of labour.

- Technical progress is a true engine of growth.
- A main feature: it is cumulative and drives growth through investment that embodies innovations. Positive feedbacks.
- The age of machinery. Deepening the physical capital structure.
- The ideology of progress. Engineers as heroes, steel cathedrals.



Isambard Kingdom Brunel



Royal Albert Bridge at Saltash



Gustave Eiffel



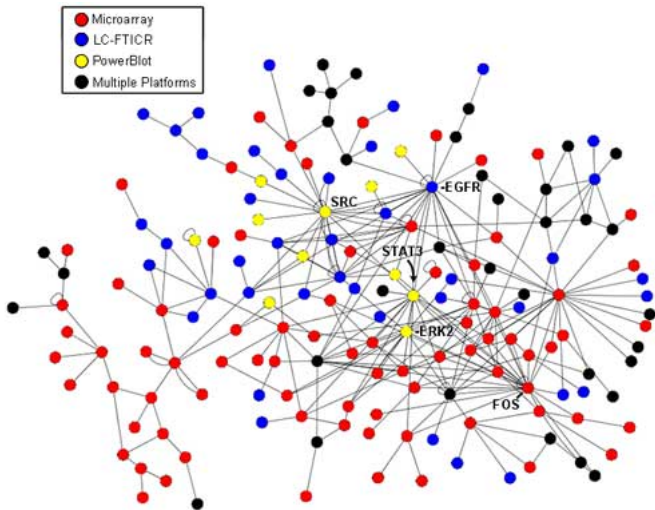
Amigos
2001-05

...and his tower.



Liverpool street station in London

- Development needs connectivity. The study of networks: from randomness to small worlds.
- Trade and institutions, albeit loose, have provided the required links.
- The grand ancient routes, the command chain of fairly formalized social structures.
- But connectivity is not entirely random. Large and small cities, industrial districts: preferential attachment and very skewed distributions
- The main question: what keeps structures, organizations, whole countries together?



a power-law distribution

- Development normally occurs along trajectories: history matters; path dependence arises.
- Early, random sometimes small events giving rise to lock-in into suboptimal solutions and hysteresis.
- What if Christopher Columbus hadn't discovered America but died of thirst in a vast Atlantic ocean?
- The 'power' of useful mistakes: blundering one own's way to greatness



- Searching is local and, unknowingly, a quest for serendipity.
- Independence versus interdependence: lock-in.
- Evolution and co-evolution: equilibria poised on the edge of chaos (persistent oscillations).
- We live neither in the best of all worlds nor in equilibrium.

- Grand empires appeared, thrived, declined and finally disappeared.
- Economic historians have cogently illustrated that in many circumstances the impulse to grow did occur during:
 - The Roman Empire,
 - the Abbasid Caliphate,
 - the Sung Empire in China.
 - Italy in the 13-th and 14-th century.
- Yet, these impulses to growth gave way to retrenchment and stagnation. Increasing returns brought societies able to set them off away from cycles of progress and decline.

- Some relevant questions:
- Why have some countries become 'rich' and others stayed 'poor'?
- Why have some countries forged ahead and others fallen behind?
- Why have some countries caught up whilst others have not managed to do so?
- BUT ONE ANSWER: TECHNOLOGICAL PROGRESS AND INCREASING RATHER DECREASING RETURNS:

A question that cannot be answered:

