INSTITUTIONS AND INSTITUTIONAL DESIGN

Erling Berge

Lecture notes on North (2005) Understanding the process of economic change

Literature

- North, Douglass C 2005 “Understanding the process of Economic change”, Princeton, Princeton University Press,
  - Ch 1 An outline of the process of economic change
  - Ch 2 Uncertainty in a non-ergodic world
  - Ch 3 Belief systems, culture, and cognitive science
  - Ch 4 Consciousness and human intentionality
  - Ch 5 The scaffolds humans erect
  - Ch 6 Taking stock
  - Ch 7 The Evolving Human Environment
  - Ch 8 The Sources of Order and Disorder
  - Ch 9 Getting it Right and Getting it Wrong
  - Ch 10 The Rise of the Western World
  - Ch 11 The Rise and of the Soviet Union
  - Ch 12 Improving Economic Performance
  - Ch 13 Where are we going?

© Erling Berge

An outline of the process of economic change

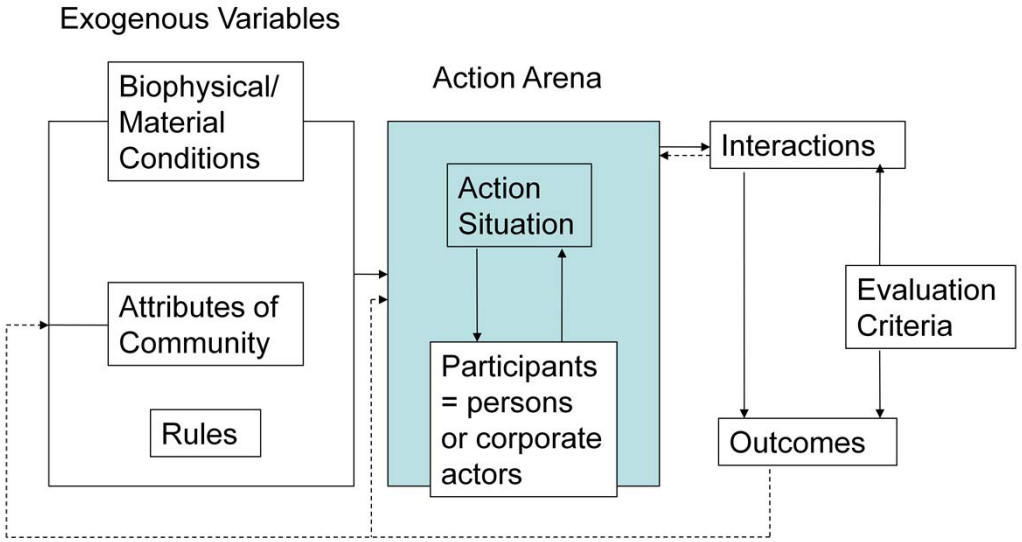
- Involves
  1. Quantity and quality of human beings
  2. Stock of human knowledge
  3. Institutional framework defining incentive structure
- Understanding how uncertainty in everyday life leads to constraints embedded in language, physical artefacts, and beliefs
- In economics and politics applied to competition for scarce resources

Perceptions-beliefs-institutions-policies-altered perceptions

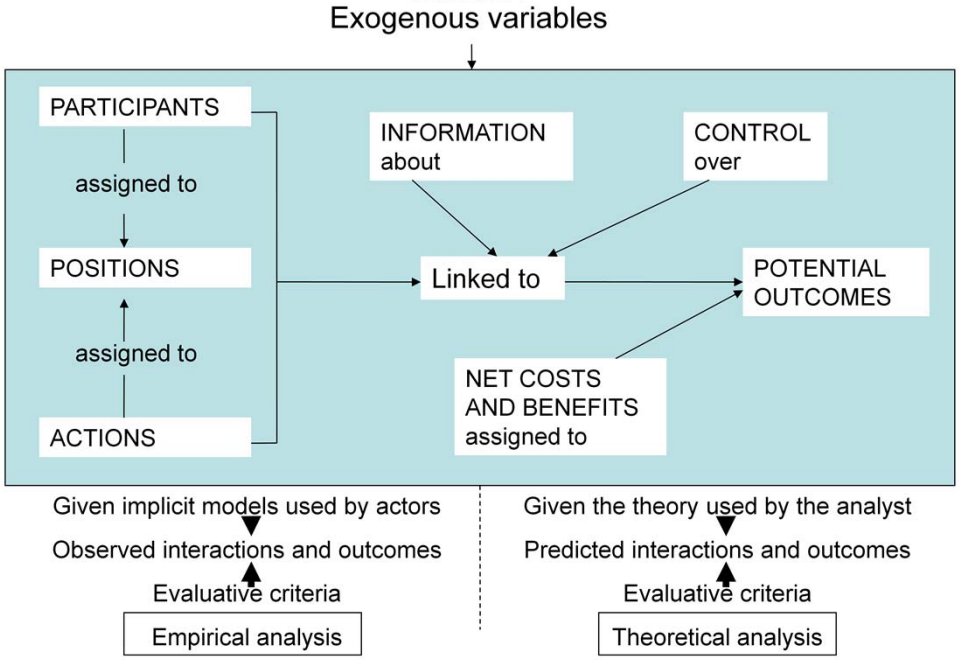
- Beliefs about the political-economic system drives efforts to improve profit margins, creating
- Path dependence and sometimes abrupt changes creating
- New perceptions, beliefs, and mental models of the political-economic system
- Case: the rise and of Soviet Union

(see p 3) Marx&Engels provides beliefs about the world. Russia 1917 provides an opportunity. Retreat in 1921-28. Re-establishes belief driven policies in 1928. Beliefs evolved with developments 30-80 including WWII. Success in heavy industry and science. Problems in agriculture. Gorbachev reforms ended in collapse of the Soviet Union in 1991.

Action situations and their environment: where are the institutions?



The internal structure of action situations: where are the beliefs?



© Erling Berge

Explanations require

- Understanding how beliefs about the world (both the socially constructed and the material world) are formed and evolve
  - How does the mind work?
  - How do humans respond to uncertainty (both nature generated and human generated)
  - How do human actions aggregate to future institutional constraints and opportunities
- Understanding path dependence and adaptive efficiency

© Erling Berge

Intentionality

- Uncertainty (ambiguity) vs risk (probability distribution)
  - Reduction by creation of institutions
- Uncertainty in a non-ergodic world (non-ergodic = non-repetitive)
  - Matching beliefs and reality
  - The role of ideas in making choices
  - The role of rationality (rationality assumption)
  - The role of perception and cognition in shaping beliefs
  - Who are the entrepreneurs whose choices matter in shaping institutions?

Uncertainty reduction:

1. Increasing information (case: developing marine insurance)
2. Increasing the stock of knowledge (of for example how to produce food)
3. Altering the institutions (improving contract enforcement, lowering transaction costs)
4. Altering the beliefs about the world (e.g. whom to trust or not)
5. Altering the basis for “non-rational” beliefs about the world (roles of religions)

Order and disorder

- Do not take order or decreasing disorder for granted!
- History is a depressing tale of miscalculation leading to famine, starvation, defeat in war, death, economic stagnation and decline, even collapse of civilisations. But sometimes we get it right
- Case: The rise of the western world
  - Not deliberately designed like the Soviet Union
  - Engineered social change is inherently difficult

Uncertainty in a non-ergodic world

- Uncertainty that can be reduced by increasing information given the existing stock of knowledge
- Uncertainty that can be reduced by increasing the existing stock of knowledge within the existing institutional framework
- Uncertainty that can be reduced only by altering the existing institutional framework
- Uncertainty in the face of novel situations that entails restructuring beliefs
- Residual uncertainty that provides the foundation for “non-rational” beliefs

Uncertainty reduction:

1. Increasing information (case: developing marine insurance)
2. Increasing the stock of knowledge (of for example how to produce food)
3. Altering the institutions (improving contract enforcement, lowering transaction costs)
4. Altering the beliefs about the world (e.g. whom to trust or not)
5. Altering the basis for “non-rational” beliefs about the world (roles of religions)

Perception in a non-ergodic world

- Perfect perception
  - In a static world uncertainty is a function of the stock of knowledge. Institutions may be unnecessary
  - In an ergodic world some uncertainty remains due to a random component in the recurring states
  - In a non-ergodic world levels of uncertainty will increase due to continuous appearance of novelty. The stock of knowledge deteriorates
- Imperfect perception
  - In static and in ergodic worlds uncertainty will persist depending on learning, stock of knowledge and institutions
  - In a non-ergodic world uncertainty will increase due to continuous appearance of novelty. Both institutions and stock of knowledge will deteriorate.

Beliefs and change

- Beliefs determine choice of actions and actions shape the human environment implies a
- Need to understand perception of the human environment, how learning occurs and what is learned
- Baseline model: rationality assumption, e.g. competitive posted price markets at equilibrium
- Enter uncertainty, interdependent behaviour, imperfect information

Individual vs collective rationality

- Most of rational choice is not so much individual cogitation as the embeddedness of the thought process in the larger social and institutional context
- With strong structures from policies, infrastructure, and customs (created in competitive processes) individual members are interchangeable

Evolutionary learning

- Founded on the dynamics of categories and mental models
- Heuristic processes for decisions and learning
- Context dependence and social embeddedness of interpretative models and decision rules
- Endogeneity of (possibly inconsistent) goals and preferences
- Organisations as behavioural entities
- Processes of learning, adaptation and discovery apt to (imperfectly) guide representations and behaviours in ever changing environments
- Pattern recognition is the way we perceive, remember and comprehend
  - We can find patterns where non exist: in the long run any explanation probably is better than no explanation

Genes vs environment

- The genetic composition of populations is basically similar
- Genetic component in
  - Taboo against incest
  - Ability to learn language
  - Propensity to cooperate
- Enormous variation in physical and social environments means
  - Minds must be able to learn and develop in very different directions
- To what extent may a culture “imprint” on the physical structure of the brain?

Operating mechanisms of the brain

- Computational model based on analogies to distributed processing computer models
- Connectionist model based on neural networks
  - Based on pattern recognition, examples and frequencies
  - Order and reorder mental models to use new and different information
- **Language as the core instrument** for accumulation of mental mechanisms and transmission of information
- Culture as an adaptive process that accumulates partial solutions to frequently encountered problems of the past

Stages in the development of culture

- Episodic culture: common to primates; they are intelligent but have a limited range of expressive output
- Mimetic culture: increased ability for expressive output
- Mythic-oral culture: shared narratives and language are universal
- Theoretic culture: symbolically literate societies, history of visio-symbolic inventions

- “Over time, the richer the cultural context in terms of providing multiple experimentation and creative competition, the more likely the successful survival of the society.” (North 2005:36)

© Erling Berge

Consciousness

- From core consciousness to extended
- Theory of consciousness assumptions
  1. Physical: The laws of physics are not violated
  2. Evolutionary: Consciousness arose as a phenotypic property
  3. Qualia: the collection of personal or subjective experiences, feelings, and sensations that accompany awareness are unique to each individual
- Extended implies
  - Imaginative explanations for the world out of sight (superstitions, myths, dogmas, religions)
  - Development of institutions and artefacts revealing the intentionality of consciousness

© Erling Berge

Consciousness, intentionality, institutions

- From genetic morality (incest taboo) to a social inference system of the mind generating superstitions, myths, religion
- Requiring conformity in beliefs leads to institutions reducing uncertainty
- Conformity in a non-ergodic world may be costly
- Institutional diversity as adaptive efficiency
- The problem of changing a culture from focusing on physically generated uncertainty to socially generated uncertainty: social and economic development
- From genetically induced cooperation to solving social dilemmas

Social structure (the scaffolds)

Physical and human capital

- Institutional framework
  - Political system to develop and decide on policy
  - Property rights to define economic incentives
  - Social incentives – norms, conventions, codes of conduct
- Beliefs are internal (or informal) and institutions external (or formal) representations
  - Beliefs among those who make rules
  - Beliefs are not easily changed, and evolve in ways not completely understood

© Erling Berge

Culture as intergenerational transmissions

- Learning are transmitted in
  - Artifacts
  - Stock of knowledge
  - Artifactual structure
    - Norms, conventions, codes of conduct, values
- The process of change
  - Path dependence
    - Interlocking of organisations and institutions
    - Constraints from artifactual structure
  - A transaction cost approach to politics
    - Principal agent relations
    - Information, monitoring and enforcement costs
    - Imperfect models of action-outcome linkages
    - Nature of problems encountered

© Erling Berge

Democracy and development

Dynamics of democracy

- Political preferences build on fallible conjectures and theories
- Opinion-formation results from an open-ended process of interactive learning and discovery (uncertainty reduction)
- The important element is not the supremacy of, but the contestability of majority opinions

- But empirically democracy is weakly related to development
  - Norms for small scale/personal versus large scale/impersonal exchange
  - Sprit of capitalism – frugality, industry, honesty, fidelity
  - Tokugawa Japan – Confucianism, Buddhism, Shintoism
  - Redistributive vs reciprocal norms (Africa vs Asia)
  - Persistence of inefficient norms (Iceland)

© Erling Berge

Institutional change

1. The continuous interaction between institutions and organisations in the economic setting of scarcity and hence competition is the key to institutional change.
2. Competition forces organisations to continually invest in skills and knowledge to survive. The kinds of skills and knowledge individuals and organisations acquire will shape evolving perceptions about opportunities and hence choices that will incrementally alter institutions.
3. The institutional framework provides the incentives that dictate the kinds of skills and knowledge perceived to have the maximum pay-off.
4. Perceptions are derived from the mental constructs of the players.
5. The economies of scope, complementarities, and network externalities of an institutional matrix make institutional change overwhelmingly incremental and path dependent.

(North 2005:59)

Taking stock

- Problems of neo-classical economic model
  - It is frictionless – zero transaction costs
  - It is static – time does not enter
  - It does not take into account human intentionality – no understanding of how humans make choices
- Evolutionary theory
  - Variation created by mutation and sexual recombination. There is no close analogy in economic evolution
  - Selection in biology is not informed by beliefs about consequences as they are in an economy. Intentionality is a key factor shaping institutions

© Erling Berge

Political systems

- A lot is known about political systems, but we do not know how to fix them.
  - The government is not a disinterested part in the economy. Opportunistic behaviour on behalf of members of the government (cleptocracy, cartels), sometimes they encourage productive behaviour
  - The links between formal and informal institutions are critical: how do credible commitments come about
- More on this in Rothstein 2005

Time, foresight, intentionality

Fundamental limits on foresight

- We cannot know today what we will learn tomorrow that will shape our choice of action
- The world is non-ergodic

- Successful learning depends on a certain “fit” between accumulated knowledge, artifactual structure and novelty of problems and experiences. Creating a rich artifactual structure is a key to adaptive efficiency and an essential goal of economic policy
- Intentionality add a layer of complexity that natural sciences do not have
- Understanding the shift from personal exchange in a world dominated by physical insecurity to a world dominated by impersonal exchange where insecurity originates with the human environment
  - Can a transition be steered by conscious policy?

© Erling Berge

Learning and knowledge

- Learning based on
  - Genetic endowment, cultural heritage, personal experiences
- Mechanisms producing “non-rational” explanations
- Stock of knowledge tied to specialisation and division of labour
  - Coordination of dispersed knowledge is an institutional problem
  - Tradeoffs between specialised knowledge (accuracy) and overview of very different fields (variety)
  - Balance between logical systematic knowledge and practical adaptive know-how

© Erling Berge

Decision-making

- Whose beliefs matter and how do they matter in decisions?
- How do informal constraints (such as honesty, integrity, reliability) evolve?
- Case studies:
  - Greif on Genoese traders vs traders from Islamic cultures: in-group control networks vs bilateral enforcement mechanisms
  - Putnam on Italy: south a tradition of hierarchically imposed control, north a tradition of voluntaristic problem solving
  - Platteau and Hayami on Africa vs Asia: redistributive vs reciprocal norms

© Erling Berge

Performance

- Market performance is a function of the set of constraints imposed by institutions
  - Formal rules (including those made by governments)
  - Informal norms
  - Their enforcement characteristics
- These constraints define the incentive structure
- Changes in technology, relative prices and other external constraints will affect the performance and in order to maintain an efficient market continuous institutional change is necessary
- There are no guaranties of success in this: there is path dependence

Path dependence

- The learning process leading up to current institutions constrain the ability to change the institutions because there may be
  - Organisational opposition
  - Strong beliefs about “rightness” of the current institutions
- There is no guaranty that we will be able to maintain the flexible institutions that have provided economic growth during the last two centuries
  - Episodic growth is “normal” in world history
  - We do not know how to create an institutional matrix that provides growth

© Erling Berge

The road ahead: an agenda for research

- Key problem: belief systems and their evolution
  - The world we need to understand is socially constructed, largely with surviving beliefs and institutions
  - The constructs blend rational and non-rational
  - How do they create, favour or hinder productive political institutions
  - Four unexplored challenges in neo-classical economics
    - From personal to impersonal exchange
    - Specialisation and division of labour, coordination of knowledge
    - Dynamic changes in market incentives must encourage productive activity not rent-seeking behaviour
    - Creating limits to government's rent-seeking behaviour

© Erling Berge 31

The human environment

1. First economic revolution: agriculture 8000bc
2. Sec. economic revolution: science in production 1600ad

- Basics
  - Genetics of 4 mill years as hunter-gatherers
  - Environment-body interactions, adaptations, immunities
  - Development of languages
  - Symbol systems and storage of knowledge
- Evidence of large scale change:
  - Population growth, longevity, mortality, cities
  - Growth of economic and social inequality, rich and poor countries
  - Division of labour driving transaction costs, driving growth in services and international trade
  - Uncertainty due to physical factors declines while uncertainty due to social factors increase (predatory states, wars, terrorism)
  - Growth of knowledge linked to evolving systems of beliefs: what is the difference between knowledge and belief?

The argument about the importance of Uncertainty due to physical factors declines while uncertainty due to social factors increase (predatory states, wars, terrorism) is suspect. Is it shift in relative importance? Or is it knowledge based? Institutions are not quite s good at disguising themselves as nature? And a shift in scale of solidarity?

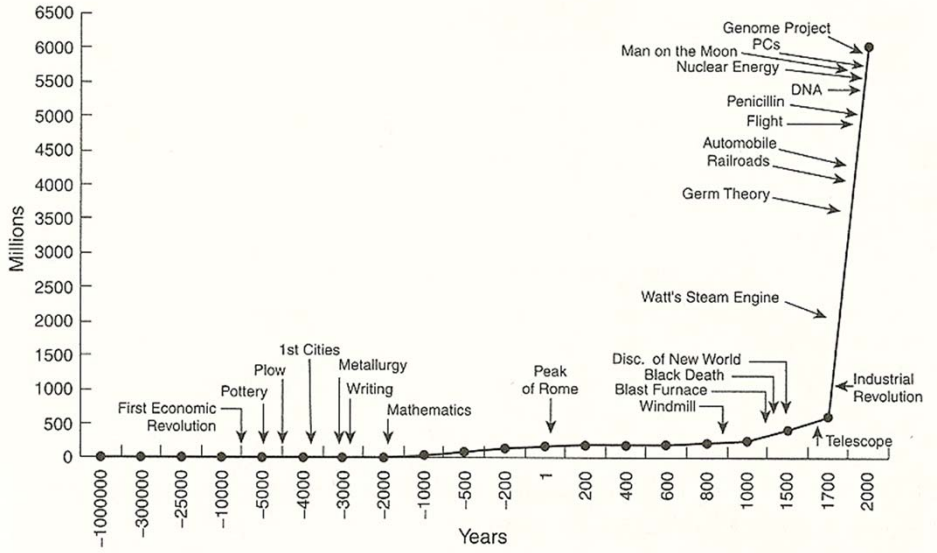


FIGURE 7.1. World Population, 1,000,000 B.C. Present. Source: Kremer (1990, 683); also adapted from Fogel (2003).

© Erling Berge

Source:
Diamond, Jared. 1997. *Guns, Germs and Steel: A short History of Everybody for the Last 13 000 Years*. London: Vintage.

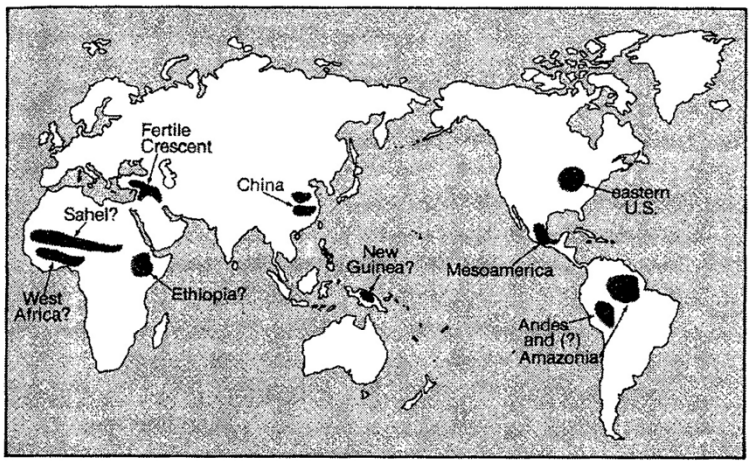


Figure 5.1. Centers of origin of food production. A question mark indicates some uncertainty whether the rise of food production at that center was really uninfluenced by the spread of food production from other centers, or (in the case of New Guinea) what the earliest crops were.

© Erling Berge

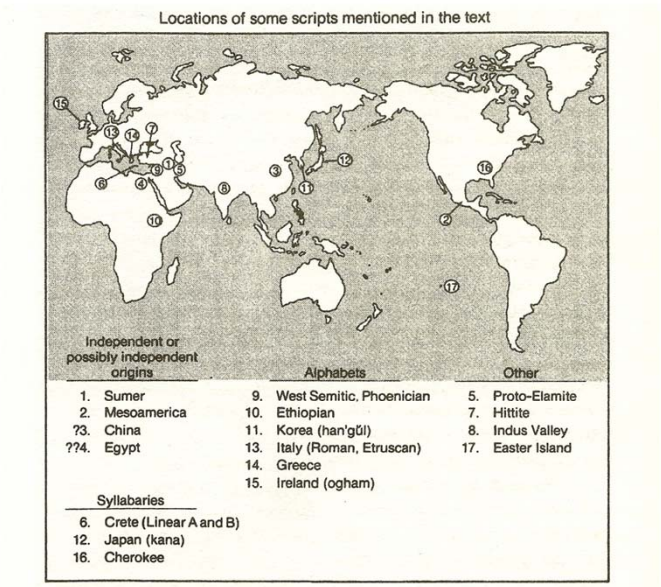


Figure 12.1. The question marks next to China and Egypt denote some doubt whether early writing in those areas arose completely independently or was stimulated by writing systems that arose elsewhere earlier. "Other" refers to scripts that were neither alphabets nor syllabaries and that probably arose under the influence of earlier scripts.

Source:
Diamond, Jared. 1997. *Guns, Germs and Steel: A short History of Everybody for the Last 13 000 Years*. London: Vintage..

© Erling Berge

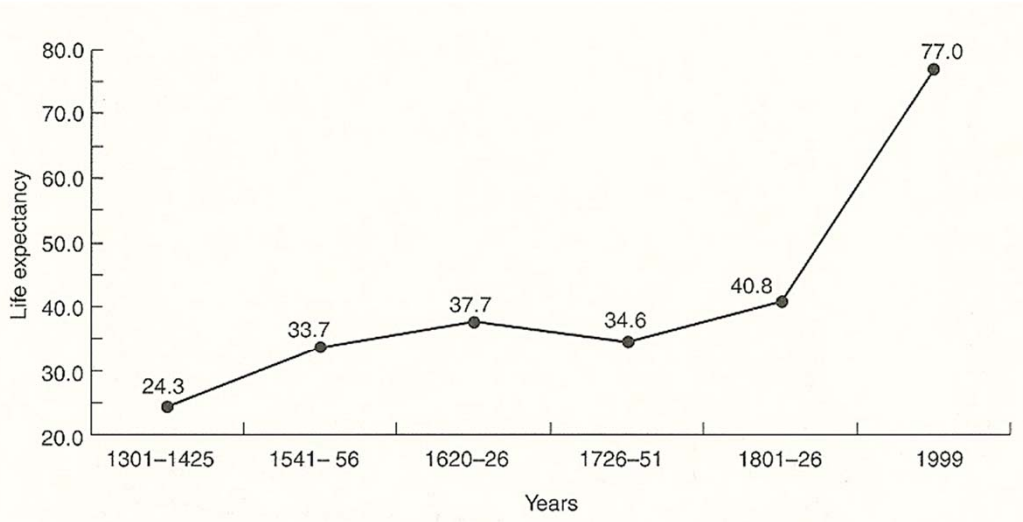


FIGURE 7.2. Years of Life Expectation at Birth in the United Kingdom, 1300–Present. Source: Maddison (2001, 29).

© Erling Berge

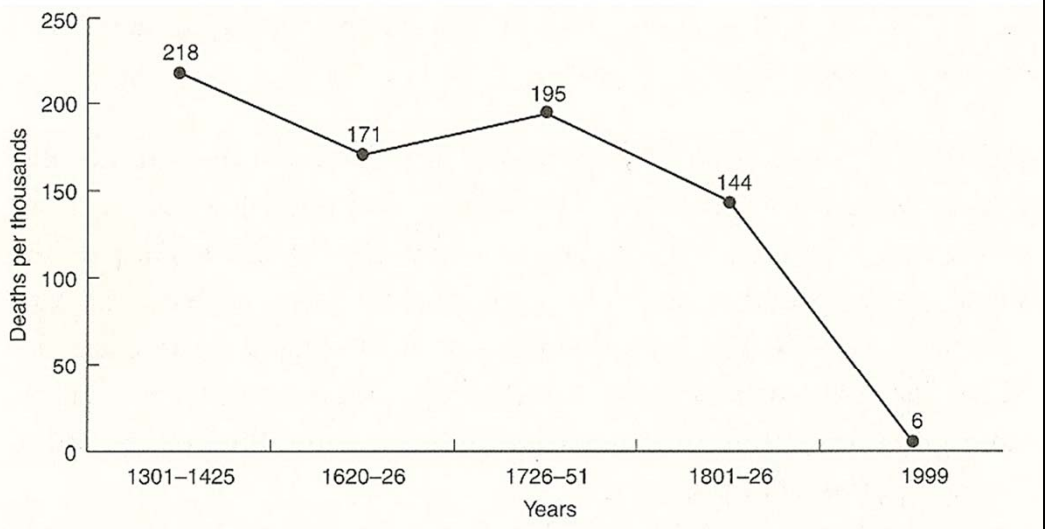


FIGURE 7.3. Deaths per Thousand in First Year of Life in the United Kingdom, 1300–1999. Maddison (2001, 29).

© Erling Berge

TABLE 7.1.
Per Capita GDP, Developed and Undeveloped World, 1000–1998

	(1990 international dollars)					
	1000	*1500*	*1600*	*1700*	*1820*	*1998*
Average Developed	405	704	805	907	1,130	21,470
Average Undeveloped	440	535	548	551	573	3,102
Ratio, Developed to Undeveloped	0.92	1.32	1.47	1.65	1.97	6.92

Source: Maddison (2001, 46).

© Erling Berge

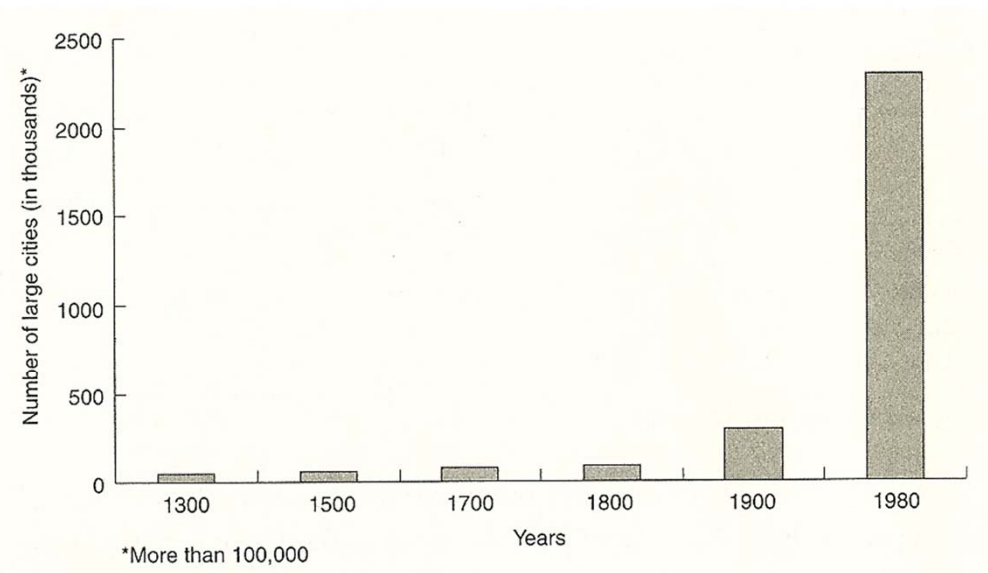


FIGURE 7.4. Number of Large Cities in the World (1300–1980). Source: Bairoch (1988, 502).

© Erling Berge

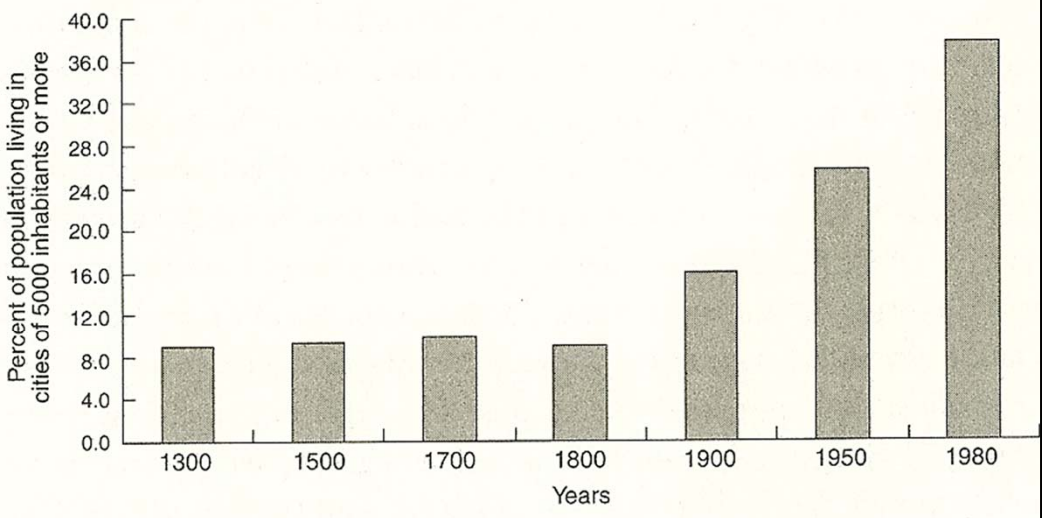


FIGURE 7.5. Urbanization in the World. Source: Bairoch (1988, 495).

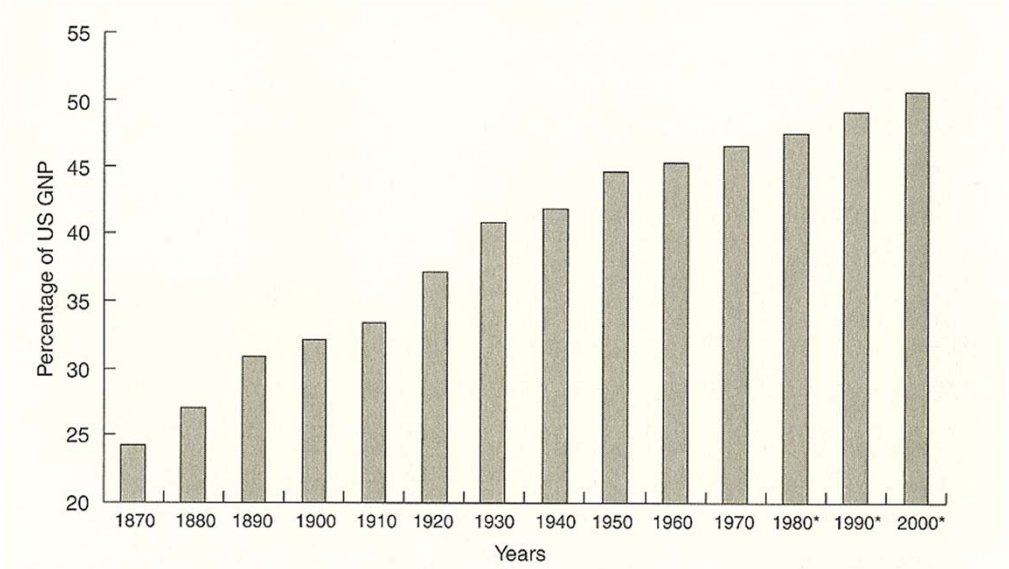


FIGURE 7.6. Transaction Costs as a Percentage of U.S. GNP, 1870–2000. Source: Wallis and North (1988).

© Erling Berge

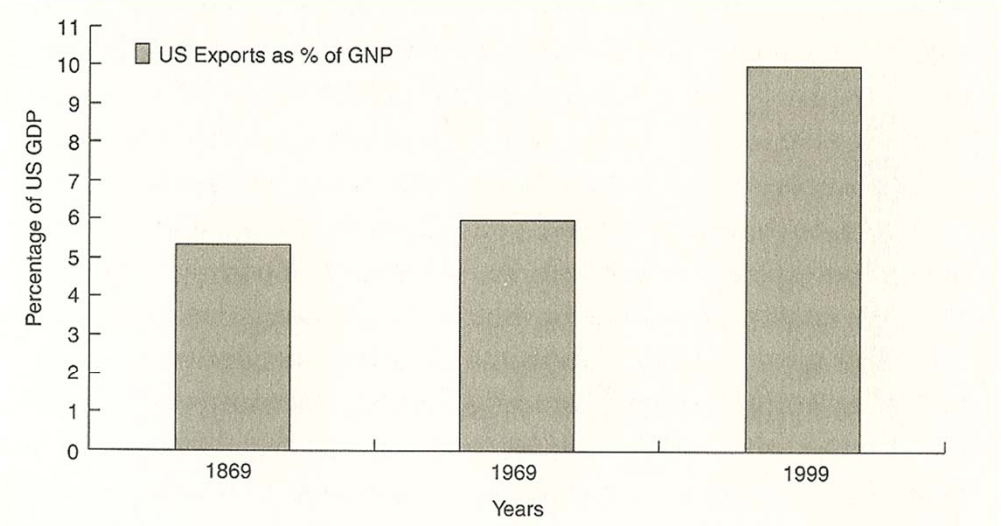


FIGURE 7.7. International Trade, 1869–1999. Source: Author's calculations from U.S. Department of Commerce (1976) and U.S. Department of the Treasury (2001).

© Erling Berge

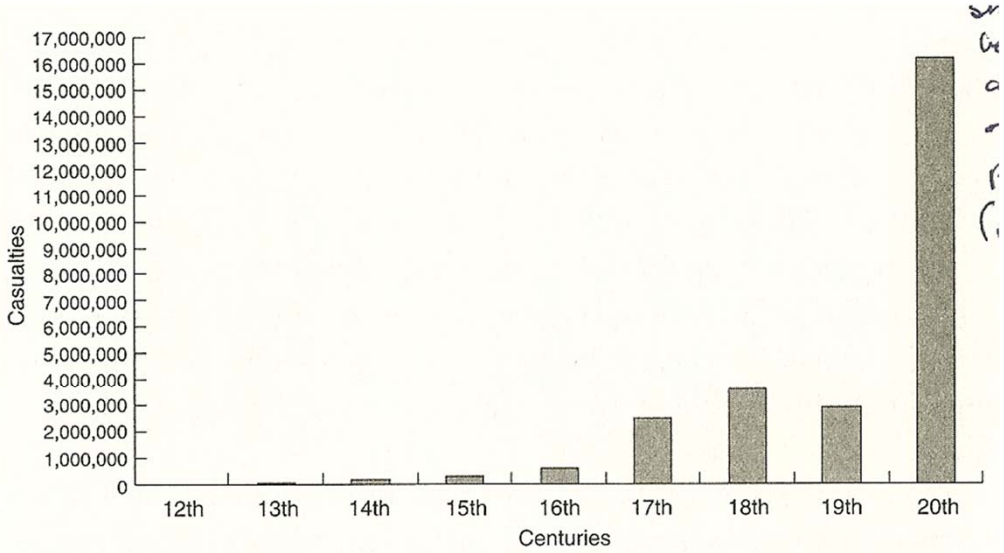


FIGURE 7.8. Casualties in England, France, Russia, and Austria-Hungary, Twelfth–Twentieth Centuries. Source: Peace Pledge Union, <www.ppu.org.uk/war/facts/nine_century.html>.

© Erling Berge

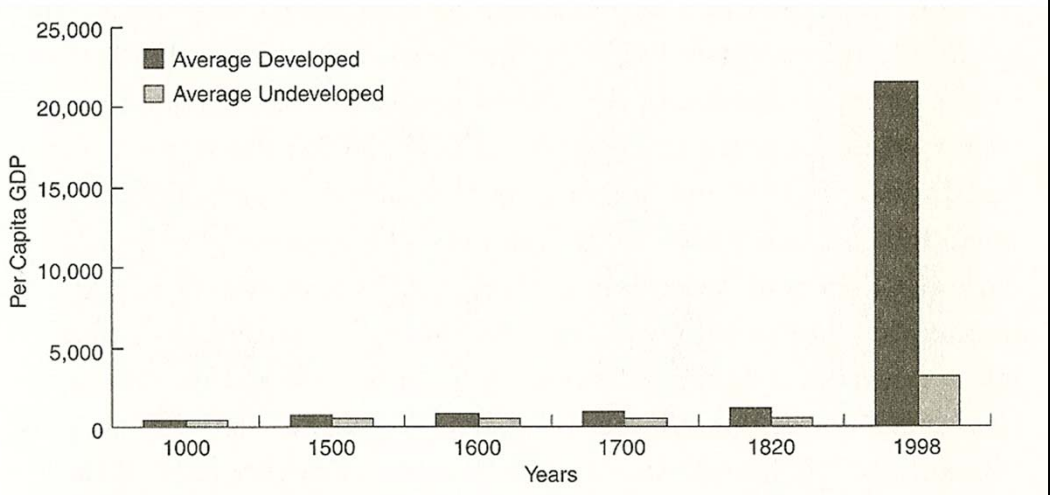


FIGURE 7.9. Per Capita GDP in the Developed and Undeveloped World, 1000–1998. Source: Maddison (2001).

© Erling Berge

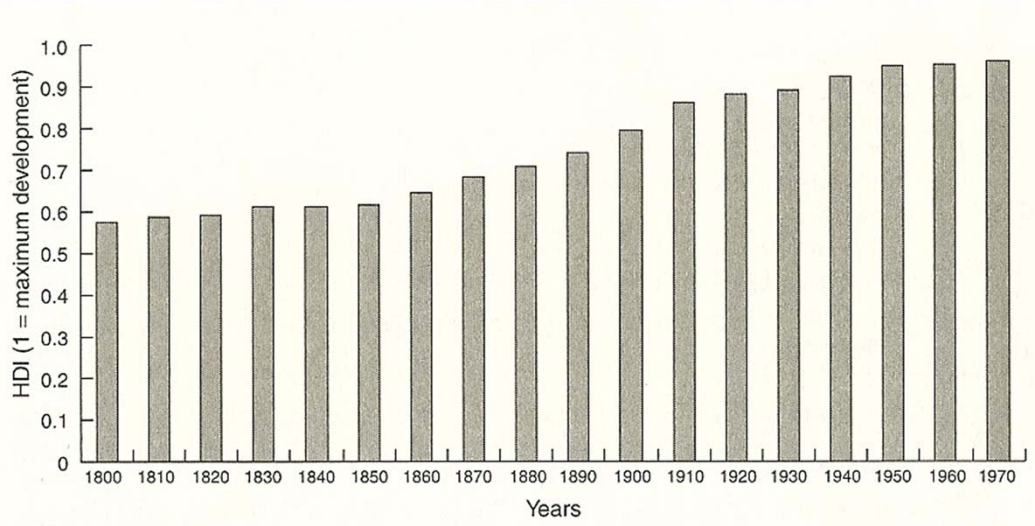


FIGURE 7.10. Costa and Steckel Estimates of Human Development Index, 1800–1970. Source: Costa and Steckel (1995).

© Erling Berge

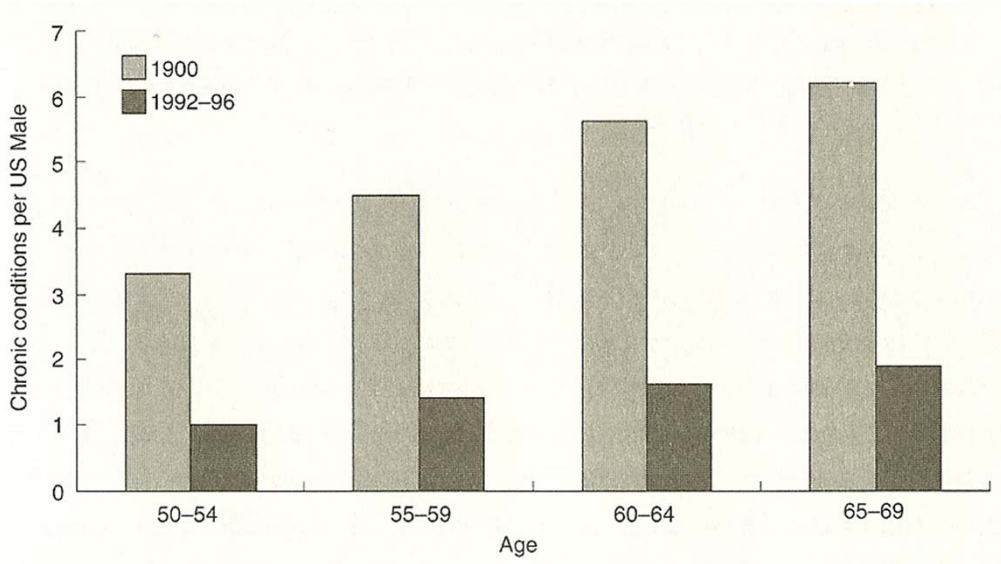


FIGURE 7.11. Age and Number of Chronic Conditions per U.S. Male in 1900 and the 1990s. Source: Fogel (2003, table 4.5).

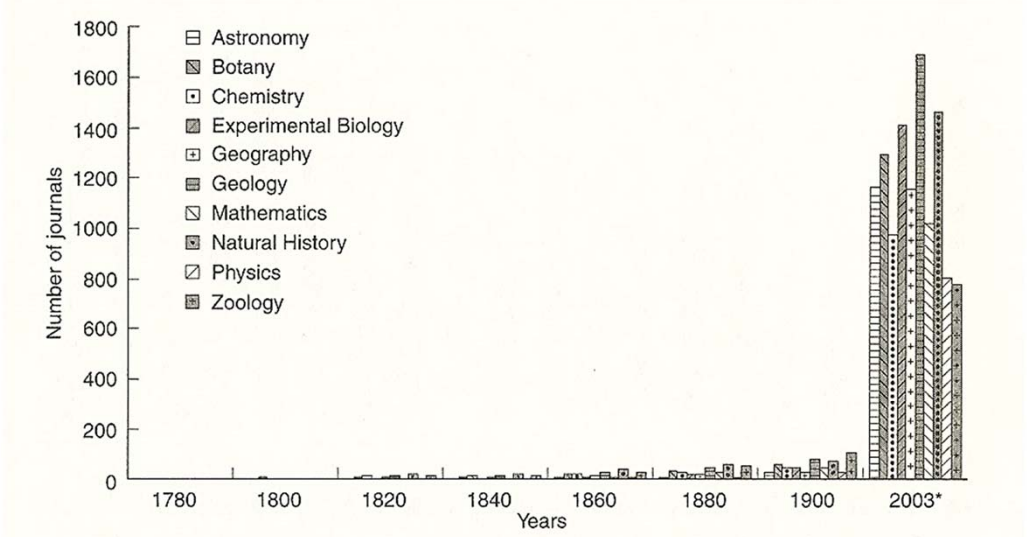


FIGURE 7.12. Scientific Periodicals, 1780–Present. Source: Law and Kim (2003).
* Taken from the HOLLIS Catalog of Harvard University. Number of titles in HOLLIS Catalog equals the number of records returned from subject keyword searches of the HOLLIS Journal's database.

© Erling Berge

Sources of order and disorder

- Disorder endemic, most players loose, so why disorder?
  - Role of consciousness and normative beliefs (deontics)
- Order can be imposed by
  - Authoritarian means (Leviathan), a mixture of coercive force and social norms
  - Consensus, internalised norms, shared belief systems and mental models, mutual coercion
  - Real societies are often a mixture

Problem of creating order

- Disorder from changing benefits, shifts in power, eroding beliefs about legitimacy
- Order from
  - Shared beliefs about the role of government and rights of citizens
  - Constitutions assigning rights to citizens also limits the role of the state
  - Property rights are well defined so that transgressions are easily detected
  - States provide credible commitment to citizen rights
  - Formal commitments backed by strong social norms
- Case study: USA from colonial era onwards
  - Adaptively efficient institutions mostly inherited from Britain
- Case study: Latin America from colonial era
  - “Stop and go” growth based on institutions inherited from Spain

© Erling Berge

Fallible humans getting it right

- Problem: Reducing uncertainty and producing welfare
- Get it right by trial, errors, and new trials
- Needs to understand
  - Decision making under strong uncertainty
  - How humans learn
- Get it wrong when
  - Mental models provide wrong interpretations
  - When conflicting beliefs allow those in power to avoid institutional change
    - Case: shift from personal exchange to impersonal in pre-modern Europe
      - Personal: reciprocity, repeated dealings, informal norms
      - Impersonal: economic & political institutions must reward cooperation
    - The shift requires states that create and enforce rules that can sustain contracts across distances both geographically and socially

© Erling Berge 50

From personal to impersonal exchange

- Sources of inability to change
  - Human genetic architecture developed for small groups. Defection was “natural” in large groups
  - Problematic defections in large groups required development of new mental models and institutions
  - And in particular enforcement mechanisms for the new institutions; meaning: shaping the state
  - Using the state as third party enforcer also entails creating limits to the powers of the state
- How to create such a state is poorly understood. But it is known to take time and it has to be supported by an appropriately shared norm structure

Knowledge and specialisation

- Need to integrate dispersed knowledge at low cost of transactions
  - Small scale society needed that each was a jack of all trades
  - Increasing specialised knowledge came at the expense of general knowledge. This had to be compensated by trade
  - Uncertainty due to specialisation must be compensated by availability of wider variety
  - This entails low cost of transacting across a diverse range of markets
  - To sustain the development increases in specialised knowledge became institutionalised

Creating “efficient” markets: statics

- **Statics**
  - Assuming income and wealth maximising choices, what incentives will give correct behaviour in each factor market?
  - Each market is a mixture of formal and informal constraints. These are reflected in the transaction costs
  - Changes in constraints are created by a government with its own structure of interest
  - It is not obvious that even a benevolent government knows enough to achieve its objectives
  - Enforcement of institutions is made by agents with their own structure of interest

© Erling Berge

Creating “efficient” markets: dynamics

- Dynamics
  - Alterations in the performance of factor markets require understanding of its sources
  - Success in alterations to improve performance over time require understanding the process of change
  - Implementing changes require that the players possess the knowledge and are willing to act upon it
  - If changes require political action the resistance of well adapted groups must be overcome
- Continuous institutional change to maintain the most useful incentives for players is particularly critical for capital markets: Japan in the 1990ies, USA in the 2000ies?? [Enron-Citybank-Lehman Bros-financial crisis]

© Erling Berge 54

Creating “efficient” markets: theory

- Neo-classical economics is static, giving the wrong advice in dynamic settings. But dynamic theory is unlikely because
  - Change is basically change in institutions, that is: in the beliefs held by players in a position to change institutions
  - Proposed changes induce reactions. Understanding how secondary consequences of proposed institutional change propagate through the institutional matrix is insufficient, but essential to predicting outcomes of proposed changes
  - The institutional matrix is itself evolving and maybe more rapidly than we can study it

The rise of the western world (1)

- Start: 500 - 1500
  - Roman Empire, Church, Geography,
  - No large scale political units,
  - Military attacks by Vikings, Magyars and Muslims, military response by fortifications and cavalry
- Economy: Growth of manor and town economy
- Costs of warfare increased, giving advantage to larger political units
- Many methods of “taxing” were tried: confiscation, borrowing, trading taxes for government services
- Plagues of the 14th century induced trade decline and changed agrarian organisations

The rise of the western world (2)

- Compare developments of the Netherlands and Spain
- From beliefs to institutional development
  - Individualism? Protestant ethic?
- Where do beliefs come from ? Religion?
  - Do they permit/ encourage learning processes?
  - Christianity: evolve belief that nature should serve man
- Enter the competition of independent polities with a common belief structure and communications:
  - Portugal/ Spain (failed)
  - Netherlands/England (success)
  - France (in between)

The rise of the western world (3)

- Development of towns
  - Relative autonomy from external authority, trade liberties, liberty of conscience, representative government, long distance trade networks – demand for institutions and struggle for control of the polity
- England
  - Centralised feudal structure, Magna Carta, unity of Parliament (no class sections or regional estates), fiscal crisis of crown solved by accepting taxing powers of parliament, concepts of liberty, individual rights
- Netherlands
  - Revolt against Philip II (Spain), establishment of federation (with unanimity rule), religious tolerance
- Spain, France
  - Crown monopolizes power, declining trade, revenue for war, contrast of traditions between Castile and Aragon, bullion from the new world and Habsburg empire,
- Competition among polities
  - Trading rights for revenue, havens for dissidents, evolving bargaining strengths of rulers vs constituents, diverging conditions tempered by diverging belief structures. Individual rights became established in the "Petition of Rights" enacted in England in 1628. Spain/ France was different

The evolutionary dynamic

AD 500-1500 The foundations of the European world hegemony

- Variation in polities created by beliefs, learning
  - Institutions, economy, trade, system of learning
- Competition among polities
  - Warfare, trade, learning
- Success of a polity depended on
  - General taxes to pay for war (economic institutions)
  - Developing war technology (learning institutions)
  - Population size (economic growth)
  - Adaptive efficiency of a system of governance permitting experimentation and weeding out failures

Beliefs tie everything together

© Erling Berge

The Rise and of Soviet Union (1)

- Case study of intentional engineered change
- The rise
  - Marxist revolution wants to do away with capitalism, build a society without commodities, values, prices, profits, wages, ..
  - The revolution in Russia was supposed to trigger a world revolution
  - No world revolution, Socialism in one country, nationalisation of everything, decision making by the Bolshevik elite, development of bureaucracy, perverse incentives in the economy, every crisis increased bureaucracy, political control of bureaucracy
  - A deeply held belief in planning and engineers

The Rise and of Soviet Union (2)

- The 1985-91
  - Root cause was the loss of belief in the power of the party to control, the loyalty of "nomenclatura" eroded
  - Since Brezhnev development of corruption and shadow economy, a succession of inept partial and failing reforms eroded confidence in the system
  - Gorbachev could not get reforms (perestroika =reorganisation) implemented due to resistance at the top, turning to glasnost (=openness) his reforms succeeded and speeded up the disintegration
- The rise and of Soviet Union is an illustrative case for institutional analysis. Soviet Union did not have adaptive efficiency based on learning and altering beliefs, experimentation, and weeding out failures

Improving economic performance

- Central conditions for economic growth are known
- Beliefs →institutions →organisations →policies →outcomes may end in disaster as well as in successful economic wellbeing
- Problems of theory
  - From beliefs to institutional structure
  - Impact of changing polities and economies on transaction costs
  - Integration of distributed knowledge

From beliefs to institutional structure

- Prospects for rational choice are not good
  - Religious fundamentalism, ethnic hatred, racist stereotypes, superstitions, … shape transaction costs
- Inherited artifactual structure (beliefs, institutions, tools, techniques, symbol storages,) is not easily "malleable" by deliberate actions because
  - Impervious to change, change threaten leaders' positions, interference from competing beliefs
  - Changing one institution is never enough
  - Formal and informal institutions must "fit" each other
- Path dependence. Feedback on policy implementation is very noisy, making monitoring change difficult

Impact of changing polities and economies on transaction costs

- Transaction costs are the costs of
  - Measuring the multiple dimensions of what is being exchanged
  - Protecting individual property rights
  - Integrating dispersed knowledge of a society
  - Enforcing agreements about exchange
- Policies for a uniform system of weights and measures, specification of property rights, an effective judiciary, organisations for integration of knowledge will lower transaction costs

Economic performance

- The institution-organisation matrix creates vested interests in the current institutions
  - Due to “clientelism” in both economy and polity: attempting to extend personal exchange relations into larger systems
- Dispersed knowledge requires particular institutions and organisations to create effective product and factor markets
  - Specialisation means less than perfect understanding of the world
- The non-ergodic character of the world makes institutional change into a continuous process

What we need to improve economies

- Clear understanding of the source of poor performance and the growth potential given factor endowments
- Clear understanding of the sources of the current institutional structure, particularly culture and its margins of change
- In the underdeveloped economies the state needs to intervene in just the right way to compensate for the disadvantage
- A polity willing and capable of implementing change
- A clear understanding that each society needs unique political interventions

Where are we going?

- Our consciousness is a double edged sword
  - Source of human creativity
  - Source of human cruelty
  - Creates a diversity of belief systems tailored to particular environments
- The non-ergodic nature of the world sets limits to systematic approaches to novelty
  - How well are our minds adapted to confronting new problems?
  - How new are the problems
  - Are those who perceive a problem correctly those who are in a position to change institutions?
  - How much of our thinking is genetically driven?

Understand the sources of human decision making

- Falling information costs
  - Imitation of seemingly successful institutions
  - A sobering story to study Sub-Saharan Africa, Latin America, the Muslim world, the development of Russia since 1991
  - Current economic theory is simply inappropriate to deal with economic and social change
- History show how societies grow and decline. Why should we be different?

