Resource Management:
INSTITUTIONS AND INSTITUTIONAL DESIGN

SOS3508

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The process of economic change

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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

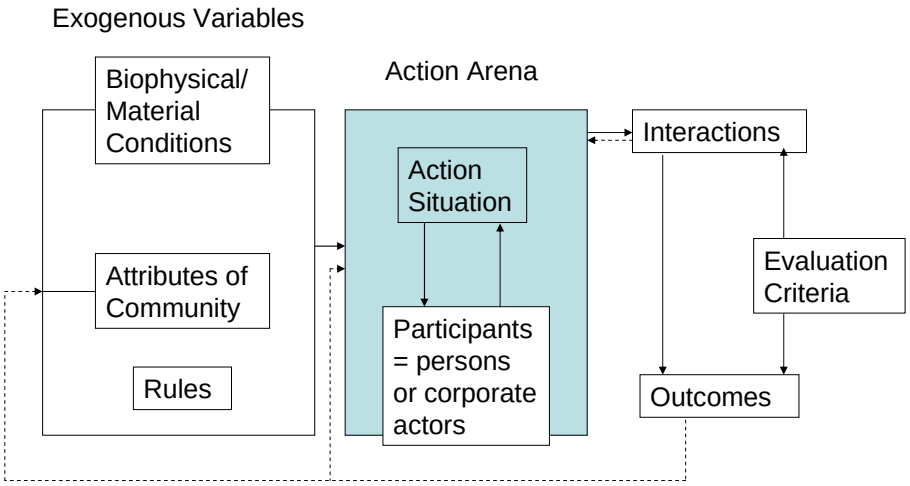
An outline of the process of economic change

- 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

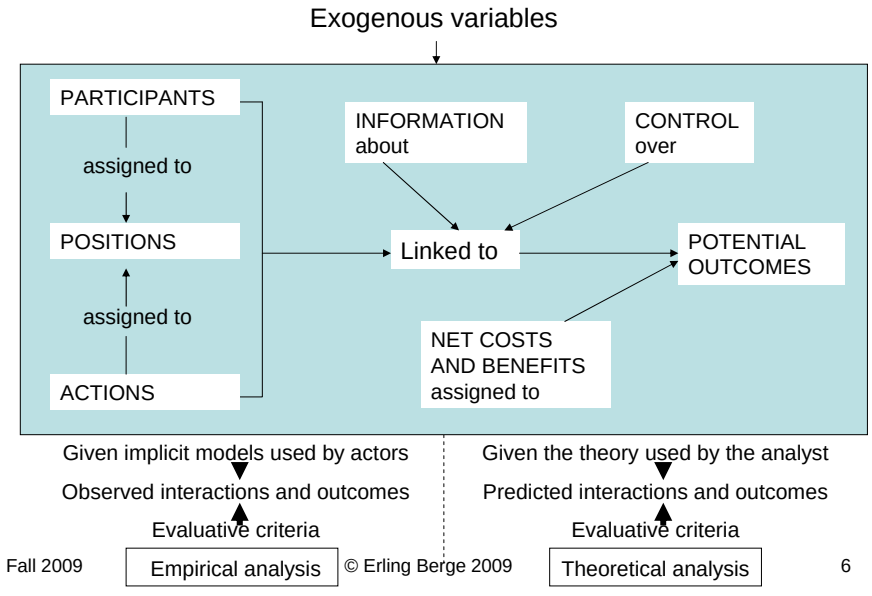
Perceptions-beliefs-institutions-policies-altered perceptions

- 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 fall of Soviet Union

Action situations and their environment: where are the institutions?



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



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

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?

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

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 visuosymbolic 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)

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 artifacts revealing the intentionality of consciousness

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

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

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)

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 derive 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

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 (kleptocracy, 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 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?

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

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

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