

INSTITUTIONS AND
INSTITUTIONAL DESIGN

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Part XIV: A kind of summary

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The construction of social reality

Recall how De Soto (2000) insists

- that property rights must conform to the rights people believe they have
- to write good law the government must study people’s law: the law people use in day to day dealings with each other

People’s law is a social reality

It is created by the people for the people

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Two important theses

- Important parts of institutions – even the most formal – have an impact only if they also exist in the minds of people (Searle 1995)
- Strong institutions exist **only** in the minds of people (Douglas 1986)
 - Usually at a subconscious level
 - Usually disguised as “nature”

Main points of Searle

- **Institutions** are social facts
- They exist if and only if the relevant group of people agree that they exist
- Formal institutions are founded on “background capabilities”
- Background capabilities can be seen as a system of informal institutions, or more general, as culture

Searle: institutional facts (IF) and background capacities

- IF usually are not a result of a deliberate act or set of actions
 - Except for special cases where legislation is passed or authorities change the rules of the game
- Creation of IF is typically a matter of “natural” evolution

Searle: The background

- A set of **nonintentional** or **preintentional capacities** that **enable intentional states** of function
 - Capacities: abilities, dispositions, tendencies (generally causal structures)
 - Enabling: causing
 - Intentional states: - taken as unproblematic
 - Function of background: see next page

Searle: Functions of background (1)

- Enables linguistic interpretation
- Enables perceptual interpretation
- Structures consciousness
- Structures temporarily extended sequences as narrative or drama
- Provides a set of motivational dispositions conditioning the structure of our experiences

Searle: Functions of background (2)

- Facilitates certain kinds of readiness
 - Disposes for certain kinds of behaviour
- Background causation
- Not like intentional acts of causation (rational decision making)
 - Not like brute physical causation (behaviourism)

Searle: Background causation

- Perhaps it may be compared to
- Evolutionary theory in biology
 - Because institutions are there, people thrive and prosper by getting good at conforming to the rules in their behaviour without actually learning or consciously following the rules

Of course there are rules

- But rules are never self interpreting
- They are never exhaustive
- In fact, in many situations, we just know what to do, we just know how to deal with the situation.
 - We do not apply rules consciously or unconsciously

Comments

- Searle’s use of “background” is not only close to Wittgenstein and Bourdieu
- It is also close to what Mary Douglas calls “thought worlds” or “thought collectives”
- And on a more general level: close to central features of the concept “culture”
- Background dispositions are easily translated into Douglas’ “natural behaviour”

From Background to Thought World

Background as

- Linguistic competence and
- General social competence

Within more narrow social circles

- Particular world views, systems of opinions and values develop

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Douglas 1986: Institutions affect our thinking

Main theme of the book:

- Knowledge and moral are collective (shared) goods and standards of behaviour
- Individuals in crisis do not make life and death decisions on their own. Our institutions decides.
- True solidarity is possible to the extent that individuals share the categories of their thought

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Thought worlds

- Durkheim:
 - Social group
 - Collective representation
- Ludwik Fleck
 - Thought collective
 - Thought style
- Others:
 - Conceptual schemes, Modes of thought

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Institutions are founded on analogy

- Conventions are minimal institutions
 - Conventions are self-policing
 - Conventions are fragile,
- Douglas defines institution as a legitimate social grouping. Most established institutions will rest their legitimacy on fit with the nature of the universe

From social to natural

- The transition from social to natural goes by way of analogies:
 - Woman - Man
 - Left - Right
 - People - King
- The transition from simple complementarity to political hierarchy occurs without problems

Institutions confer identity

- Discourse requires agreement on fundamental categories
- How do we establish “sameness” in science (or elsewhere)?
- Fundamental shift from scientific classification to a socially inspired – no smooth transition
- Sameness is conferred upon elements within a coherent scheme

Institutions remember and forget

- Structural amnesia:
 - Evans-Pritchard: Nuer. The number of generations remembered are linked to the system of debts incurred at marriage, (and the number of lineages founded originally).
 - Merton: Multiple discoveries in science. “a distinctive social order generates a pattern of values, commits the hearts of its members, and creates a myopia which certainly seems inevitable.”

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Institutions do the classifying (1)

- Marx: Thought styles of a period are tailored to the dominant class
- Foucault: institutions straightjacket minds and bodies
- But institutions do not have intentions.
- Institutions systematically direct individual memory and channel our perceptions into forms compatible with the relations they authorize

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Institutions do the classifying (2)

- The high triumph of institutional thinking is to make the institutions completely invisible
- The emergence of new classifications is an interesting process. New labels creates new behaviour.
- People ⇄institutions(rules) ⇄classifications
⇄actions ⇄naming/labelling ⇄people

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Institutions make life and death decisions (1)

- The fact that institutions stabilize needs explanation
- To stabilize they need
1. Legitimacy by distinctive grounding in nature and in reason
 2. To give its members a set of analogies with which to explore the world and with which to justify the naturalness and reasonableness of the institutional rules

Institutions make life and death decisions (2)

3. Then it starts to control the memory of its members
4. It brings their minds events which sustain the view of nature that is complementary to itself.
5. It provides the categories of their thought, sets the terms of self-knowledge, and fixes identities.

Institutions make life and death decisions (3)

6. It secures the social edifice by sacralizing the principles of justice.
- Three characteristics of the sacred
1. It is dangerous
 2. Attacks on it rouses emotions in its defence
 3. It is invoked explicitly

Institutions make life and death decisions (4)

- Is there a substantive principle of justice?
- Can different principles of justice be compared?
- Hume: one system may be more just than another in two ways:
 1. Coherence in the way it organizes social behaviour
 2. Amount of arbitrariness in the rules

Institutions make life and death decisions (5)

Two other criteria:

3. Complexity: is it too complex to be understood?
4. Practicality: is the system available in the situations needed?

Recognizing the social origin of ideas of justice does not commit us to refraining from judging between systems.

Ostrom and Schlager 1996
Classification of Goods

	APPROPRIATORS ARE	
RESOURCE IS	Excludable	Non-excludable
Subtractable / Rival	PRIVATE GOODS	COMMON POOL GOODS
Non-subtractable / Non-rival	CLUB GOODS	PUBLIC GOODS

Property Rights 1

- **Access:** The right to enter a defined physical area and enjoy non-subtractive benefits
- **Withdrawal:** the right to obtain the resource units or “products” of a resource

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Property Rights 2

- **Management:** The right to regulate internal use patterns and transform the resource by making improvements
- **Exclusion:** The right to determine who will have an access right, and how that right may be transferred
- **Alienation:** The right to sell or lease either or both of the above collective-choice rights

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Holdings of different bundles of rights to manage resources: management roles

Rights of	Owner	Proprietor	Authorised claimant	Authorised user	Authorised entrant
Access	X	X	X	X	X
Withdrawal	X	X	X	X	
Management	X	X	X		
Exclusion	X	X			
Alienation	X				

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Well-defined rights 1

- Security for the future
- Well-established property rights do NOT require alienability
 - Alienability promotes efficient resource allocation
 - But it is not a necessary condition for the promotion of efficiency

Well-defined rights 2

- Self-governed commons resource systems can
 - Develop boundary rules to exclude non-contributors;
 - Craft authority rules to allocate withdrawal authorizations; and
 - Devise forms of active monitoring and graduated sanctions
- without rights of alienation

Well-defined rights 3

- Well defined rights do not depend on being established by the “state”
 - Roman law traditions
 - Common law tradition
- Collective-choice arenas are needed
- Conflict resolution mechanisms are needed

Failure of government property rights because (1)

- 1. The vastness of the areas transferred to state ownership (in most counties over 50% of total land area);
- 2. The speed and manner in which the transfer of ownership has been made;
- 3. The failure to recognize and accommodate the customary rights of individuals and communities to the forest, which has created resentment among local populations;

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Failure of government property rights because (2)

- 4. The limited budget and administrative, technical, and enforcement capacities of the newly established estates
- 5. Growing pressures from expanding rural populations; and
- 6. The failure of rural development to provide alternative employment and income opportunities

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Reduction of externalities (1)

- 1. Accurate information about the condition of the resource and expected flow of benefits and costs are available at low cost
- 2. Participants are relatively homogenous in regard to information and preferences about the use of the resource
- 3. Participants share a common understanding about the potential benefits and risks associated with the continuance of the status quo as contrasted with changes in norms and rules that they could feasibly adopt

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Reduction of externalities (2)

- 4. Participants share generalized norms of reciprocity and trust that can be used as initial social capital
- 5. The group using the resource is relatively small and stable
- 6. Participants do not discount the future at a high rate
- 7. Participants have the autonomy to make many of their own operational rules which if made legitimately, will not be interfered with, and even potentially supported and enforced by, external (local, regional, and national) authorities

Reduction of externalities (3)

- 8. Participants use collective-choice rules that fall between the extremes of unanimity or control by a few (or even bare majority) and thus avoid high transaction or high deprivation costs
- 9. Participants can develop relatively accurate and low-cost monitoring and sanctioning arrangements

Also important:

- The regime in which the system is embedded
 - Self-organisation possibilities
 - Provision of relevant information
 - Role of national government
- Resource attributes
 - Storage and flow of resource units
 - Size and distribution in space of yield

Local property rights

- Self-designed rules perform better
 - Information is timely and relevant
 - Rules are adapted to social conditions (often part of the general local culture)
 - Economize on monitoring and sanctioning costs
 - Enforcement swift and effective

Scaling up

- Dilemmas and problems of collective action are repeated at higher scales (larger resource systems and more people)
- Larger resource systems need organisations of local organisations (nested/ federal systems)

Conclusions

1. No single, uniform set of rules can possibly address the myriad problems faced by most resource users
2. No one knows the nuances of the physical and cultural environment better than the resource users themselves
3. Local-level organisations are not panaceas. Some problems require higher level coordination
4. Local level governance structures are not anachronisms. They will continue as long as local users are allowed to govern themselves

Ensminger: Land reform in Kenya

- The problem to be explained is the unravelling of formal titling in Kenya
- Kenya was the first country in Africa with a comprehensive government titling program
 - Prior to the program there were a widespread move towards “privatization” (=individual title)
 - Given that, the lack of success of the government program is surprising

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The problem of compliance with formal rules

The main problem is described differently

- Anthropology: Contextual fit of institutions
- Sociology: Embeddedness of institutions
- Economics: Formal institutions building on informal institutions

In our case this means:

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Reasons for failure (1)

- High transaction costs
- Lagging factor markets in capital and labour
- Asymmetric information work to the advantage of the better educated in the establishment of property rights,
- Lack of “fit” between property rights and system of production

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Reasons for failure (2)

- Household consumption needs varied considerable over time, fixed land rights did not
- Lack of fit between property rights and system of inheritance
- Lack of fit between ecological conditions and property rights

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North/ Williamson
Neo-institutional economics

- Studies how alternative social rights and organisations affect behaviour, resource allocation and equilibrium outcomes
- Studies the variation of organization in various types of economic activity
- Studies the logic of political and social rules governing production and exchange

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North/ Williamson
Transaction and information costs

Implies

- **Optimality** (Pareto/ Kaldor-Hicks) is **no longer an interesting** criterion
- **Efficiency** is **no longer an interesting** criterion
- Assignment of **property rights is paramount**, introducing economic organisation, and making political institutions a key to understanding economic growth

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North/ Williamson
Transaction costs

- “The fundamental idea of transaction costs is that they consist of the cost of arranging a contract ex ante and monitoring and enforcing it ex post, as opposed to production costs, which are the costs of executing a contract.” (Matthew 1986)
- When information is costly, many exchanges give rise to transaction costs

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North/ Williamson
Measurement

- Measurement cost will affect systematically the structure of contracts and the organisation of economic institutions.
- State regulations are often directed at lowering measurement costs, not only redistribution. Sometimes the goal is better measurement of the tax base: redistribution and growth are not necessarily opposites.

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North/ Williamson
The neo-classical assumptions

NIE preserves the “core” of the economics research paradigm by insisting on

- Stable preferences
- Rational choice, and
- Equilibriums

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Core question: why are there so many forms of organisation?

- The core problem of economic organisations is economizing.
- Behavioural assumptions
 - Contracting man (limited to the set of feasible contracts)
 - Bounded rationality (intendedly rational, but only limitedly so)
 - Cognitive competence is limited
 - Self-interest seeking with guile (i.e. in disclosure of information); opportunism, moral hazard, agency problems

Implications

- Incomplete contracting (feasible contract) is the consequence of bounded rationality and opportunism*
- Contract as promise implies risk of breaking it
- Central (state) governance versus private ordering (legal rules for everything versus contract as framework for resolving disputes)

Operationalization of transaction costs

- Technology of transacting
 - Comparing costs of planning, adapting, and monitoring task completion under alternative governance structures
- Main dimensions of transactions
 - Frequency of occurrence
 - Degree and type of uncertainty
 - Asset specificity/ sunk costs (can asset be used in alternative schemes?)

Asset specificity

- Asset specificity takes many forms:
 - one is personal knowledge (the problem of unique or imperfectly standardized goods)
- Implies complex ex ante incentive responses as well as ex post governance structure responses
- Six types:
 - Site specificity
 - Physical asset specificity (e.g. sunk cost in equipment)
 - Human asset specificity
 - Dedicated assets (customer specific investment)
 - Brand name capital
 - Temporal specificity

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Uncertainty

- Statistical risks (random acts of nature, unpredictable shifts in consumer's preferences)
- Idiosyncratic trading hazards (lack of communication, strategic non-disclosure, distortions)
- The fundamental transformation
 - Asset specific products implies that market competition becomes distorted. After a first round of large number bidding, the identity of contractors will matter. Specialised investments by the supplier cannot be redeployed to alternative uses, and a buyer will have to induce alternative suppliers to invest in specialised equipment.

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More about the Firm:
What is it?

- A set of long term contracts between input owners
- The firm replaces the product market with a factor market where price signals plays a minor role

But not in the unitary firm (the one-person firm) who

- Discover and produce commodities with valuable dimensions related to form, location, and time
- Is rewarded by profits

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Entrepreneurs and measurements

- With full information entrepreneurs are not needed
- The person whose contribution is most difficult to measure will assume the role of entrepreneur
- Information about entrepreneurial activities are asymmetrically distributed, giving rise to moral hazard problems best solved by the self-monitoring of the entrepreneur as residual claimant
- Shirking in coalitions solved by entrepreneur

Specific investments

- Specialised investments cannot be transferred to other uses without loss
- Quasi-rents: difference between current earnings and best alternative use of factor
- Unique resources (finding substitutes is impossible or very costly) may make it possible to expropriate quasi-rents.
- Asymmetric information, measurement costs and opportunistic behaviour puts specialised investments at risk

North Ch 4

- Measurement costs
 - Because of asymmetric information (adverse selection, moral hazard)
 - Pluss enforcement costs = transaction costs
 - Explains why property rights are not perfectly specified
 - Enforcement: second party, or third party.

North Ch 5 slide 1

- Informal constraints:
 - 1) extensions, elaborations and modifications of formal rules, 2) socially sanctioned norms of behavior, and 3) internally enforced standards of conduct
- The same formal rules imposed on different societies give different outcomes
- Ideas, ideologies, convictions affect choices and matter more the lower the cost of their expression

North Ch 5 slide 2

- Informal constraints
 - coordination rules are self-enforcing
 - norms of cooperative behavior need instruments of enforcement
 - internal codes of conduct imply trade-off between wealth and other values (communism, religion)
- Payoff to honesty, integrity, reputation of trust poorly understood (a problem in the sociology of knowledge)
- The cultural processing of information implies incremental change of institutions and path dependence of societies

North Ch 6 slide 1

- Formal rules: a matter of degree, often making informal rules more effective
- Existing rules define the wealth maximizing opportunities of the players, promoting some kinds of exchange but not all
- Parts of the resources of the players will be devoted to protect or change existing rules
- Formal rules usually designed
 - with private wellbeing as a goal
 - with compliance costs in mind
- Changes in technology and relative prices will alter the relative gains from devising rules

North Ch 6 slide 2

- Political rules leads to economic rules (and vice versa), but political rules have priority
- Democracy gives greater political efficiency, but this is different from economic efficiency
- Democratic polities reduce transaction costs per political transaction but the volume increase
- Inefficient property rights persist because powerful interest groups oppose changes, or because changes will lower tax returns
- Formal rules are incomplete – they depend on informal rules

North Ch 7 slide 1

- Enforcement is neither constant nor perfect
 - Because of costly measurements, and because
 - Enforcement agents have their own agendas
- Contracts are self-enforcing when it pays all parties to live up to the promise (personal, small scale repeated deals will facilitate this)
- Impersonal exchange needs institutions providing
 - Information on the performance of contracting partners to determine when defection occurs
 - Incentives for some persons to actually carry out punishments

North Ch 7 slide 2

- Institutions that facilitate exchange are costly and lowers the gain from trade
 - Dilemma: we cannot do without the state, but we cannot do with it either ...
- Are we a free people because of the constitution, or do we have this specific constitution because we are a free people?

North Ch 8

- Institutions and technology used in measurement and enforcement define transaction costs
- Transaction costs also affect transformation costs (cost of monitoring output quality depends on and sometimes determine choice of transformation technology)
- The institutional structure of underdevelopment
 - See de Soto 2000

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North Ch 9

Organisations, learning, and institutional change

- Organisations develop a demand for knowledge and skills (and generate tacit knowledge of their own activities)
 - Property rights (patents) has helped create the innovation feature of western economies
 - Technological innovations are path dependent
 - Ideology and knowledge directs the attention of investigations but also develops by new insights

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Institutional change

- From the particular demands for knowledge
- Shaped by interactions of
 - Existing institutions,
 - Stock of knowledge and
 - Maximising behaviour of agents
- Incremental changes in informal constraints caused by maximising behaviour

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Adaptive efficiency

- Allocative efficiency (Pareto conditions)
- Adaptive efficiency concerned with development through time; willingness to
 - Acquire knowledge and learning
 - Induce innovation
 - Undertake risk and creativity
 - Resolve problems and bottlenecks

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North Ch 10

Stability and Institutional Change

Stability is furthered by

- Rules hierarchically nested
- Informal constraints
- Habitual behaviour

- In equilibrium no actor find it profitable to devote resources to rule changes

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Most change is incremental

From shifts in

- Relative prices
 - Ratio of factor prices, cost of information, changing technology,
- Preferences
 - Changing relative prices (e.g. work-leisure, price of expressing ideas) may induce change in tastes
 - Ideas (moral, ethical) about the world

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Discontinuous change

- Does the institutions allow incremental change?
- Does the preferences allow bargaining and compromise?
- Successful revolutions require coalitions making final outcomes uncertain
- Successful revolutions require ideological commitment to overcome free riding
- Discontinuous change is not so very discontinuous!

North Ch 11

The path of institutional change

- Technological paths of development
 - “QWERTY”, gas engines not steam, alternating current vs. direct
 - Fuelled by **increasing returns, learning by doing**
- Self-reinforcing mechanisms
 - Large set-up or fixed costs (falling unit costs)
 - Learning effects (improved products, lower costs)
 - Coordination effects (several agents using the same)
 - Adaptive expectations (further belief in prevalence)

Competing Technologies

Consequences of self-reinforcement

- Multiple equilibria (outcomes indeterminate)
- Possible inefficiencies (best T may have bad luck)
- **Lock-in** (once a solution is reached, exit difficult)
- **Path dependence**

In reality the competition is between organisations employing the technology (institutions)

The path of institutional change

- Increasing returns (self-reinforcement)
- Imperfect markets (significant transaction costs)
- Divergent paths and persistently poor performance may prevail

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The North-West Ordinance

- Governance and settlement of the lands in the West
 - Fee-simple ownership, inheritance, territorial government – self-governing, territory admittance as a state, a “bill of rights”, prohibiting slavery, and more
 - The law generated incremental change reinforcing its basic properties, but it was not inevitable.
 - Network externalities, learning of organisations, subjective models of the issues
 - Adaptively efficient economic and political processes

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Path dependence

- Entrepreneurs are constrained by existing institutions and by their imperfect knowledge
- Goals may not be reached
- Increasing returns of the institutional matrix means that even if specific changes may change history its direction remains the same
- USA vs Mexico: History matters

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Institutions are

Humanly devised rules with some Humans mandated to monitor and sanction rules

- Created to aide in collective actions problems to safeguard life and livelihoods
 - Avoid conflicts, create justice
 - Allocate legitimate benefits and duties, profits and costs
 - Economize on transaction costs
- **Not** created to achieve efficiency or optimise economic performance(of the neo-classical model)

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Property rights institution

Tells that some person(s) have legitimate

- Rights and duties to be exercised in relation to
- Particular goods and services subject to possible
- Limitations on times and durations,
- Limitations of technology, and
- Limitations on organisation of exploitation

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The dynamic of Institutions and organisations

- Rules of the game (the law)
- Guardians of the rules (the judge)
- Players (organisations)
 - Owners,
 - Local users,
 - Workers,
 - Professional managers, and
 - Firms of resource industries

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Strategies of the players

Our theory requires by assumption that players

- Optimise their returns from resource use activities by conforming to and **exploiting the existing institutional environment**, or to
- **Change the resource policy** in a desired direction if the expected outcome of a political effort is seen as cost effective.

Lock-in of institutions and organisations

- Mutual interdependence institution-organisations
- Institutional changes by public initiative or revolution creates counter-forces
- Economic performance is **PATH DEPENDENT**
- Change occurs at the margins

Ch 12: Institutions, economic theory and economic performance

In this chapter

1. Changes needed in neo-classical economic theory
2. Implications for the static analysis of economic performance
3. Implications for a dynamic theory of long-run economic change

Ch13: Stability and change in economic history

Institutions provide a basic structure permitting the creation of order and reduction of uncertainty

- What kinds of institutions permit the capture of the gains from trade inherent in the neoclassical (zero transaction costs) model?
- Some paths led to stable exchange patterns other paths led to dynamic change
- Why stability and why change?

Ch 14: Incorporating institutional analysis into economic history: prospects and puzzles

- Traditional history emphasis technology and the industrial revolution to explain change – but in many cases technology seems to make matters worse
- Application of neoclassical economic theory made it possible to focus on choices and constraints – but it was a static theory
- Neo-institutional theory can do it better

What makes for efficient markets?

- Technology provides an upper bound on economic growth
- Neoclassical models of growth crucially depends on an implicit incentive structure that drives the models
- Marxist models of exploitation have to demonstrate that the institutional framework produce systematic uneven consequences
- Are exploitative institutions imposed from outside or are they endogenously determined?

Incentives are the key

- Rationality
- Ideas
- Ideologies
- Maximising behaviour
- Relative prices
- Collaboration and organisation to exploit opportunities structured by institutions

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The adaptive efficiency of the institutional matrix

- The informal constraints come from
 - Cultural transmission of values
 - Extension and application of formal rules to solve specific exchange problems
 - Solutions of straightforward coordination problems
- Traditions of hard work, honesty, and integrity - reinforced by ideologies lowers TC
- The transaction costs inherent in the political process are always high

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Ostrom 1990:
Three influential models to discuss

1. The tragedy of the commons,
2. The prisoners dilemma, and
3. The logic of collective action

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The unsolved problem

- How do we govern the exploitation of natural resources?
 - Some recommend the state
 - Some recommend privatisation
 - Some communities have successfully managed scarce resources for a long time without either a state or private ownership, relying on other types of institutions: **self-governance**

Rational appropriators

- Complex and uncertain situations
 - Choice of action depends on how the individual learns about, views, and weighs the benefits and costs of actions and their perceived linkages to outcomes that also involve a mixture of benefits and costs.
- Discount rates
- Norms of behaviour

Interdependence (1)

- Changing from independent action to coordinated action
 - The firm
 - Entrepreneur recognize interdependence and negotiate contracts for coordinated behaviour (interdependent production function) or
 - Entrepreneur recognize savings from large transaction costs in contacts negotiated in the market for independent producers

Interdependence (2)

- The state
 - Ruler recognize need for protection and sell protection by instituting a monopoly on power. His subjects save substantially on individual protection and will be willing to be taxed for a portion of the savings.
 - The monopoly on force can be used to coerce people into further organised behaviour. If the organisation is tailored to the “needs of the people” they will prosper and the tax base increases

Theory of self-organisation (1)

- Problems of **Open access CPR**: rent dissipation
- Problems of **Limited access CPR**: incentives depends on rules governing
 - Quantity,
 - Timing,
 - Location, and
 - Technology of appropriation. And how these are
 - Monitored and Enforced.

Theory of self-organisation (2)

Unsolved problems

- Supply of institutions
 - First order dilemma: A set of rules will satisfy the “demand” for coordinated behaviour. But how do you provide rules ? They are also a public good (Second order dilemma).
- Credible commitments
 - Without resort to the external enforcer. How?

Theory of self-organisation (3)

Unsolved problems

- Monitoring
 - Mutual monitoring and sanctioning is a collective action problem. Sanctioning is almost always costly to the punisher. Benefits accrue to all. Why no free ride?
- The problem of self-organisation unravels from both ends. Yet, it has been done!

Ch 3 Long enduring, self-organized, self-governed CPRs

- The problem of commitment
 - High level of temptation to free-ride
- The problem of monitoring
 - Appropriators play a major role
 - Commitment and monitoring strategically linked, monitoring producing private benefits as well as joint benefits for others
- Switzerland, Japan, Spain, Philippines

Long enduring institutions

- Complex and uncertain environments
- Stable populations of basically equal individuals with common history and shared norms
- Sustainable robust institutions: why?
 - Operational rules vary
- 7 design principles that will affect incentives in such a way that appropriators will be willing to commit themselves to conform to operational rules devised in such systems, to monitor each other's conformance, and to replicate the CPR institutions across generational boundaries.

Design principles

1. Clearly defined boundaries.
2. Congruence between appropriation and provision rules and local conditions.
3. Collective-choice arrangements
4. Monitoring
5. Graduated sanctions
6. Conflict resolution mechanism
7. Minimal recognition of rights to organise
8. Nested enterprises (for CPR's that are parts of larger systems)

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Ch 4 Supply of institutions

- First order collective action problem:
changing behaviour to protect a resource
- Second order collective action problem:
devising rules that can change behaviour

- Longitudinal study of ground water basins
beneath the Los Angeles metropolitan area

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Ch 5 Institutional failures

- Fishers of Turkey fails to develop rules
- Groundwater of San Bernardino county is not protected
- Rules of Sri Lankan fishers are not recognized
- Sri Lankan irrigation systems work poorly
- Inshore fisheries of Canada do not respond to global national regulations

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Analysing institutional change

- Creating vs. changing institutions
 - not so different
- All situations have default conditions
- Rules: forbid, require, permit
 - The Hobbesian condition: all is permitted
- Sequences of small low cost transformations each changing the incentives and behaviours

Lessons to be learned

- In fragile institutions (Alenya, Gal Oya, Port Lameron) 3-5 of the principles are at work
- In failed institutions (Bodrum, Bay of Izmir, Mawell, Kirindi Oya, Raymond, West & Central Basins (earlier), Mojave) 0-3 of the principles are at work
- In success stories all 7-8 are at work

Modelling for policy purposes

- Models used out of range
- Models used metaphorically
- Models of static structures
- We need models saying what individuals can do to shape or reshape the situations within which they must make decisions and bear the consequences of actions taken on a day-to-day basis

Some problems

- Credible commitment and
- Mutual monitoring

Are solved in a mutually reinforcing fashion

- By commitment contingent on others doing the same
- By seeing and experiencing a monitoring system tailored to local circumstances and local perceptions of justice

- Supply of institutions
 - Is a problem poorly understood

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Current theory says it is increasingly difficult to achieve collective beneficial action with increase in

- The total number of decision makers
- The number of participants minimally necessary to achieve the collective benefit
- The discount rate in use
- Dissimilarity of interests, and
- The absence of participants with substantial leadership experience or other assets

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Hence, new theory must

- reflect the incremental, self-transforming nature of institutional change,
- include the importance of characteristics of external political regimes in an analysis of how internal variables affect levels of collective provision of rules, and
- include information and transaction costs

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Judging complex processes

Instead of maximizing profits, judgements of uncertain costs and benefits is a better approach.

Known biases in the choice of new rules

- Losses are felt to be more important than gains
- Immediate up-front costs more important than future costs
- Frequency dependent probabilities are difficult to estimate, recent events are given unreasonable weight

Predicting institutional change

Change comes **easier** if most appropriators

1. share a common judgement that they will be harmed if they do not adopt an alternative rule
2. will be affected in similar ways by the proposed rule changes
3. highly value the continuation activities from this CPR; in other words, they have low discount rates
4. face relatively low information, transformation and enforcement costs
5. share generalised norms of reciprocity and trust that can be used as initial social capital, and if
6. the group of appropriating from the CPR is relatively small and stable

External governments are crucial

- The role of external governments are crucial. But not by imposing central governance and control. Their positive role is by providing incentives for the local development of solutions. By providing low cost information, arenas for institutional choice, and agencies for low cost conflict resolution.

Goodin 1996 Design of

- Policies (political science)
 - New solutions, feasibility, implementing
- Mechanisms (economics)
 - For general resource allocation
 - Integration of information and incentives
- Whole systems (operations and systems research)
 - “Goodness of fit”
- Norms: From “optimal mechanisms” to empirical data?

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Design criteria and morality

- Internal and external “fit”, but what of its
- Moral worth?
- Is good fit really GOOD?
- Not all environments deserve institutions that optimise their values (e.g. slavery)
- The goodness of fit criterion has to appeal to some larger moral code

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Some desirable principles (1)

- Revisability
 - People are fallible
 - Societies change
 - Learning by doing
- Robustness
 - Making commitments and stand by them
 - Avoid opportunistic changes of institutions
 - Adapt to new situations by appropriate changes

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Some desirable principles (2)

- Sensitivity to motivational complexity
 - Checks and balances of power
 - Bill of rights for individuals
 - Pluralist governance institutions
 - Participatory procedures

Some desirable principles (3)

- Publicity
 - All institutions and institutional action must be in principle publicly defensible.
- Variability
 - Learning by doing requires variability of institutions
 - Federal institutions may provide this
 - Learning from neighbours may lead to a “race to the bottom”, where worst practice is imitated rather than the best

Non-Linear History?
Manuel de Landa 1997

Looking for generative macro-models

- In the dynamic of urban societies
 - Hierarchies and meshworks
- In the dynamic of the biosphere
 - Evolution, the probe head, the selector
- In the dynamic of languages
 - Constructing social institutions

Model I: Hierarchy

- Examples of it's simplest structure
 - Geology: rivers as sorting machines and sedimentation as consolidation (sedimentary rock)
 - Biology: genetic accumulation as sorting machine and reproductive isolation as consolidation (species)
 - Society: role differentiation as sorting machine and power institutionalisation as consolidation (classes)
- Basic processes: Sorting and Consolidation makes up the generative model diagram of hierarchy

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Basic process I
(A machine diagram)

Hierarchy: a structure-generating process

1. Sorting of dissimilar elements into homogeneous groups
2. Cementing or consolidating the homogenous elements into a coherent entity with emergent properties

- The same basic process can be seen in the generation of rock, species, social classes, and languages

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Process element:
Feedback - negative or positive

- Negative: deviation counteracting
- Positive: deviation amplifying

Affecting

- Heterogeneity
 - Localisation – different but homogeneous localities
 - Interweaving – similar but heterogeneous localities

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Process element:
Phase transitions - Bifurcations

- Slow accumulation of some substance may at some threshold trigger a radical reorganization of processes, changing the direction and/ or character of the processes radically rather than incrementally

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Hierarchies vs. meshworks

- Urban development
 - Self-grown by decentralized decision making
 - Planned by centralized decision making
- Bureaucracy (hierarchy) vs. market (meshwork)
 - Markets imply bureaucracies (property rights)
 - Bureaucracies imply a political market where a stable sets of contracts are negotiated
- Explanations by means of “abstract machines”

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Basic process II
(a machine diagram)

Meshworks: self-consistent aggregates

- Articulation of super-positions of heterogeneous elements (dissimilar elements “mesh”)
- Intercalary elements as operators for the articulation (catalysts, intensifiers, densifiers, reinforcers, injectors, showerings, anything that brings about local articulation from within) aiding or creating autocatalysis of the elements
- The interlocked elements must endogenously generate stable behavioral patterns, exhibiting self-consistency

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Meshworks: Self sustained dynamics

- Self sustaining dynamics
 - Catalyst’s lock-in property makes it “mesh” with its key target changing the target’s properties to become receptive to a third substance. The product of this reaction may serve as catalyst in another process producing the catalyst for the first. Thus together they produce a simple auto-catalytic loop
- Complex auto-catalytic loops
 - Links a series of mutually stimulating pairs into a structure that reproduces as a whole

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Evolution of meshworks or complex autocatalytic loops

- Dynamic self-sustained systems are
 - Endogenously generating stable states (attractors, eigenstates)
 - Grow and evolve by drift. The chain may be extended as long as new nodes added to the mesh do not jeopardise the internal consistency. The loop becomes more complex but is still reproducing itself.

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Examples

	Hierarchy - consolidation	Meshwork - catalysis
geology	Sandstone - sedimentation	Granite - crystallization
biology	Gene pool - isolation	Ecosystem - symbiosis
society	Social Classes - power distribution	Markets - money, norms

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Evolution - the machine diagram

- Hierarchies and meshwork are found also in species and ecosystems
- The evolutionary dynamic (or the “probe head”) of biological systems is a new machine
 - The variable replicator
 - The selector
- The same machine is also found in memes and genetic algorithms

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Cultures and genes interact

- As sorting devices
- As constraints
- Cultural values becoming institutionalised may form a self-selecting dynamic enhancing or counteracting genetic adaptations
- Autonomy of culture may render some elements maladaptive relative to biological constraints

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Types of cultural replicators

- Imitation (analogous to memes)
- Enforced repetition (adoption as norms or repetition as rules)
- Vertical flow
 - Parent to offspring
- Horizontal flow
 - One-to-one (person to person)
 - One-to-many (leader to follower)

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Languages

- Replicators: sounds (vowels, consonants), semantic labels, syntactic patterns
- They are transmitted to offspring and new members as norms or social obligations
- Group pressures sort the replicators
- Other social processes “cement” them into more or less stable structures

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Designing self-governing institutions: models of genesis

- Genesis of form from immanent causes
 - Such as phase transitions/ bifurcations
- Self-organising processes.
 - Such as attractors
- From here to there: the adjacently possible
- Norms, languages, rules and bureaucracies

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