

MACHIAVELLI WITH EXTRA VARIETY: TAKING ORGANISATIONAL POWER AND CONTROL

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OVERVIEW

- ⊙ Manipulation of power in complex organisational situations
 - Variety and Ashby
 - Machiavelli and power
- ⊙ 5 new extensions of Ashby's Law of Requisite Variety
- ⊙ Manipulation of power, control and politics in complex socio-technical situations.
- ⊙ Airports : demonstration of extensions to Ashby's Law and changing distribution of power

BACKGROUND

Ongoing research program applying classical systems approaches to complex socio-technical organizational systems

- ◉ National innovation systems
- ◉ National design infrastructure development
- ◉ International dynamics of e-Learning software development
- ◉ Hospital stroke unit systems (UK)
- ◉ Crime prevention on rail systems
- ◉ Coastal urban planning in Australia
- ◉ Web 3.0/4.0 Digital ecosystems
- ◉ Security and anti-terrorism strategies

VARIETY

- The number of different states of a system and its elements.
- The number of states of anything that can change in a system or organisation.

ASHBY'S LAW OF REQUISITE VARIETY



- ◉ Describes relationship between variety in controlling (management) part of system and the overall system:
 - The larger the variety of actions available to a control system, the larger the variety of perturbations it is able to compensate.
 - for appropriate regulation the variety in the regulator must be equal to or greater than the variety in the system being regulated.
 - The greater the variety within a system, the greater its ability to reduce variety in its environment through regulation.
 - Only variety (in the regulator) can destroy variety in the system

NICCOLÒ MACHIAVELLI



- ◉ ‘The Prince’ (1532) - a guide to getting and maintaining power
- ◉ How management of variety can support a ‘new prince’
- ◉ Focus is on use of management and organisational strategies via controlling variety to obtain and maintain power
- ◉ Pragmatic rather than idealistic
- ◉ Ignores idealistic morality

CONVENTIONAL STRATEGIES FOR ORGANISATIONAL CHANGE

- ◉ Environmental scanning
- ◉ Advice of ‘experts’
- ◉ Application of management models
- ◉ Simulation
- ◉ Critical analysis
- ◉ Scenario-building
- ◉ ...

CONVENTIONAL APPROACHES TO ORGANISATIONAL CHANGE

From a position of power:

- ◉ Reorganisation of business units
- ◉ Networking
- ◉ Public discussion with stakeholders
- ◉ Change of management
- ◉ Change of budgets

COMPLEX SOCIO-TECHNICAL ORGANISATIONS

- ◉ Multiple constituencies - changing over time
- ◉ Multiple overlapping sub-systems
- ◉ Multiple overlapping processes across subsystems
- ◉ Mixed ownership of sub-systems
- ◉ Varying purposes and roles of system and sub-systems
- ◉ Complex and dynamic distribution of formal and informal power and control

ORGANISATIONS

- Small and large businesses
- Mass media
- Transport systems
- Retail
- Manufacturing
- Construction
- Religion
- Political organisations and systems
- Education
- Computerised information systems
- Design and innovation
- Legal systems
- Security and anti-terrorism



PERSONAL AND COMMUNITY

- Families
- Social groups
- Parent-child relationships
- Lovers
- NGOs
- Church groups
- Social support services
- Youth clubs
- Community groups
- ...



RELATIONSHIPS

- ◉ Involve more than one person
- ◉ Often involve use of technology as resources
- ◉ Often mediated by technology
- ◉ Each individual or constituency has an orientation that shapes :
 - how they see a situation,
 - how they value different issues and outcomes
 - How they learn
 - How they use power
 - When they will fold
 - the longer term repercussions
- ◉ Individuals are connected to and influenced by their relationships and other constituencies

CONCEPTUAL LEVEL

1. Level at which things happen
2. Design/planning what happens
3. Analysing how people design/plan what happens
4. Basic systems models and systems thinking
5. Thinking about variety in systems and balance between control variety, system variety and environment variety
6. Thinking about distribution of control, system and environment variety across sub-systems and their conceptual representations
7. Thinking about the time and location of distributions of control, system and environment varieties
8. Thinking about the dynamic shifts in power and control that result from dynamics in time and location of control, system and environment varieties.

ORGANISATION POWER

EXTENSION 1

For complex, layered and hierarchical systems involving multiple constituencies in which the distribution of variety generation and control is uneven across the system

THEN

the differing distributions of generated and controlling variety result in a structural basis for differing amounts of power and hegemonic control over the structure, evolution and distribution of benefits and costs of the system by particular constituencies.

ORGANISATION POWER EXTENSION 2

For complex, layered and hierarchical systems that have a variety of typical stable states of system structure,

THEN

the structural system state that the system will evolve into will depend on the relative locations of subsystems generating variety and the control subsystems able to use variety to control overall system variety.

ORGANISATION POWER EXTENSION 3

Where differing sub-systems of control are involved in the management of a system and some sources of control are able to increase their variety to accommodate a shortfall of requisite variety in other control systems

THEN

the overall distribution of control between sub-systems and constituencies will be shaped by the amount and distribution of transfer of control to the accommodating control system and its owners.

ORGANISATION POWER EXTENSION 4

In complex systems in which multiple sources of variety generation and variety control interact

THEN

the relative effect of different forms of system variety and control variety on system behaviour and system control are typically dependent on their relative [Coasian] transaction costs.

ORGANISATION POWER

EXTENSION 5

In complex systems in which multiple variable sources of variety generation and variety control interact and in which control varieties are generated dynamically to respond to changes in system varieties

THEN

relative control of the feedback loops driving control varieties shapes the future distribution of power and hegemonic control between sub-systems and constituencies over the structure, evolution and distribution of benefits and costs of the system.

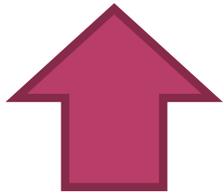
CHANGES IN ORGANISATIONAL POWER AIRPORTS



- ◉ Involve dynamic combination of intelligent, active and passive electronic, physical, human and animal systems.
- ◉ Multiple subsystems and processes crossing system and subsystem boundaries and capable of fulfilling similar roles
- ◉ Multiple constituencies with differing amounts of power distributed over a large number of interdependent subsystems.
- ◉ Sub-systems can be outsourced so their control lies outside the system in focus.
- ◉ Distributions of power and constituencies change over time.
- ◉ System characteristics, functions and loci of control are changing and emergent.

EXTENSION 1

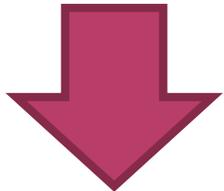
Distribution of variety and controlling variety across constituencies shapes power relationships and distribution of benefits.



Retail variety
increases



Retail constituency
power increases



Planning power
decreases unless increases
control variety

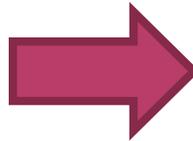


EXTENSION 3

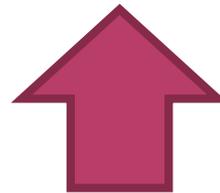
Where shortfall in controlling variety by one constituency group or sub-system is accommodated by increase in controlling variety by another constituency/sub-system then power and control tends to be redistributed to the constituency(ies)/sub-systems(s) providing the necessary additional controlling variety.



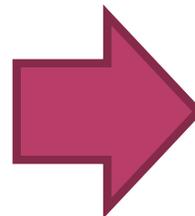
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System variety
increases



Increased control
variety by others
to take up variety slack



Shift of power to
others

EXTENSION 4

Relative effects of elements of controlling variety are dependent in a Coasian sense on their relative transaction cost.

Example: Recent environmentalist activities in US by securing differing standards for vehicle emissions at State level resulted in requests by vehicle manufacturers to the Federal government to set national standards.

1. Should FBI and other nationally screen people be allowed to avoid airport security checks?
2. Should it be possible to pay to have an external company screen you to avoid airport queues?

EXTENSION 5

Control of the feedback loops driving control varieties shapes the future distribution of power and hegemonic control.

- ◉ Membership of management committees
- ◉ Influence processes by which feedback loops are constituted
- ◉ Lobbying via media or other systems to amplify feedback

SUMMARY

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QUESTIONS?