Complexity Epistemology and Real Property Rights

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SUMMARY

An intellectual foment has been under way for the last few decades, with the limitations of modernist scientism and similarly mechanistic philosophies being revealed as fraudulent insofar as they make claims to any magisterial authority. The ground is shifting beneath our conceptual feet, and with it our concepts of our rights over the ground itself.

Central to the emerging paradigm is its co-dependently emerging complexity epistemology, and central to that is the concept of autopoiesis at both individual and social scales. Ecological niches are both found and created by the process of autopoiesis, and brought down to earth in the forms of rights over real property in a particular society. They are often co-dependently internalised thereby into the identities of members of that society in mutual interest social contracts: "this land belongs to me; this land is a part of me".

There are few areas where these issues are as apparent as that of land policy. With the aim to be able to better formulate land policies, this paper is an attempt towards the construction of a valuational framework whereby the effects of changes in real property rights can be qualitatively as well as quantitatively assessed - not only as merely economic values as endemic in mechanistic philosophies, but also in terms of social and environmental values. While clearly impossible within mechanistic philosophical frameworks, it appears possible within the much larger hierarchical framework of complexity epistemology and transdisciplinarity.

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1. COMPLEXITY AND TRANSDISCIPLINARITY

In 2009, the University of Technology Sydney launched the transdisciplinary Asia-Pacific Centre for Complex Real Property Rights (APCCRPR). Our transdisciplinary approach recognises that the challenges of contemporary real property rights can not be resolved by a single, or even multi-, disciplinary approach. Real property rights are complex, and in combining this reality from a transdisciplinary perspective, 'complexity is a modern form of the very ancient principle of universal interdependence' (Nicolescu 2006, p.153). This universal interdependence can also be articulated as autopoiesis.

In this paper we explore aspects of our emergent philosophy for the Centre through the lens of a project that explores the landscape of real property rights. Central to this project is the lived experience of the land policy adviser, an analysis of the roles and perceptions of the multiple stakeholders involved in aid funded land policy interventions in developing countries, and the development of a hybrid model/toolkit/framework for land policy and property rights projects that draws on a complexity epistemology and transdisciplinarity thinking (at its many levels).

Whilst engagement with transdisciplinary thinking is not new within the University of Technology Sydney, where it has been practised with some significant success at the Institute for Sustainable Futures, the approach taken at the APCCRPR is the first example of its application to real property rights and land policy issues. This paper builds on our earlier work on *Institutions, Complexity, and the Land* (Boydell 2008) that was presented to the FIG working week in Stockholm.

2. THE LAND POLICY CHALLENGE

Within any land policy intervention there are multiple stakeholders. These range from the government, citizenry and landholders in a country seeking aid support to the taxpayers, policy advisers and ministers in the donor country. At the interface between donor and recipient there are often a raft of consultants who are contracted to deliver parts of the project. These consultants are usually recruited for their disciplinary expertise and their track record in the timely delivery of similar projects elsewhere around the globe.

As Caulfield (1998, p.235) identifies in her analysis of World Bank projects, career consultants have to 'close their eyes to certain aspects of the real world'. She suggests that the most successful consultants have learned to narrow their vision to only their small piece of the puzzle, so that they can complete their tasks quickly and efficiently before moving on to their next mission. The implication here is that those who attempt to look at the big picture are not popular teammates, particularly as they run the risk of exposing the futility (at the operationalised or concretised level) of some otherwise ideologically well-intentioned land

policy interventions. Our long-term aim then is to explore how we can offer guidance to ensure that the players/stakeholders better understand the holistic nature of real property rights and land policy.

3. ENGAGING AN HOLISTIC APPROACH

So what are starting points that can guide the evolution of such a philosophy? We know that to achieve a holistic model that engages with the complexity of real property rights will require strong transdisciplinarity, meaning that it goes much deeper in the realms of reality(Max-Neef 2005, p.10). Disciplinarity is specialisation in isolation, which is the level of most academic knowledge production at present (Miller et al. 2008). Multidisciplinarity assumes a situation where there may be many consultants who, drawing on Caulfield's example above, are looking at their individual pieces of the puzzle from their respective disciplinary perspectives without evident cooperation. Pluridisciplinarity is demonstrated where there is a level of cooperation between consultants without clear coordination or stimulus to promote this cooperation. Interdisciplinarity can be achieved when there is coordination from a higher level concept, but can result in what Healy (2003) refers to as 'epistemic sovereignty'. The difficulty that has to be overcome in our approach is that such epistemic sovereignty is 'central to the assumed pre-eminence of vision that underpins conventional notions of globalism, and of the capitalism underpinning it' (p.700).

Accounting	History	Project Management
Appraisal and Valuation	History of Design	Psychology
Architecture	History of Science	Public Administration
Archaeology	Humanities	Qualitative Methods
Behavioural Economics	Information Theory	Quantitative Methods
Computer Science	Institutional Economics	Regional Planning Theory
Computer Technology	Investment	Religious Studies
Construction Management	Law	Sales
Decision Science	Management	Science
Decision Theory	Management Science	Sociology and Anthropology
Ethics	Managerial Accounting	Spirituality
Environmental Science	Managerial Economics	Strategy
Economics	Marketing	Statistics
Engineering	Philosophy	Transportation
Finance	Planning & Control Systems	Urban Land Economics
Geography	Political Science	Urban Planning Theory

Figure 1: Fundamental Disciplines for Real Estate Involvement (Boydell 2007, adapted from Roulac 2001)

Our aspirations for an integrated research approach with applied policy outcomes is motivated by the realisation that ' any single way of knowing is insufficient for understanding the

complexity of the world' (Miller et al. 2008, p.46). Epistemic sovereignty runs counter to such pluralist understandings that require an emphasis on equity, difference, diversity, practices and choice. Moreover, it is inaccessible to specialists per se as long as they are so confined, and only accessible to generalists through a great deal of personal development. It is more than just a new discipline or super-discipline; it requires "a different manner of seeing the world, more systemic and more holistic" (Max-Neef, p.15).

In an earlier paper (Boydell 2007) we argued that the vocational nature of property and land professionals necessitates their engagement in a diversity of fundamental disciplines (see figure 1). This grounding suggests that property and land professionals are well placed to see the limitations of single discipline approaches and also gives the breadth, and potentially the depth, of understanding of transdisciplinarity to be able to lead complex land policy and real property rights projects.

4. HELPFUL HIERARCHIES

Importantly, these disciplines are not all of the same epistemological 'level'. This is well articulated by Max-Neef in his exposition of transdisciplinarity being the coordination between all hierarchical levels (see figure 2). We have drawn on a similar analysis that engaged a hierarchy that spanned from the abstract (where Max-Neef places values, ethics and philosophy) down to the concretised (where Max-Neef refers to what exists in the physical laws of nature and the principles that drive the life and societies) in our ongoing work on carbon property rights (Boydell et al. 2009), which has been influenced by the concept of constellation articulated by Franz von Benda-Beckmann *et al.* from the legal pluralism group of the Max Planck Institute for Social Anthropology (von Benda-Beckmann, von Benda-Beckmann & Wiber 2006).

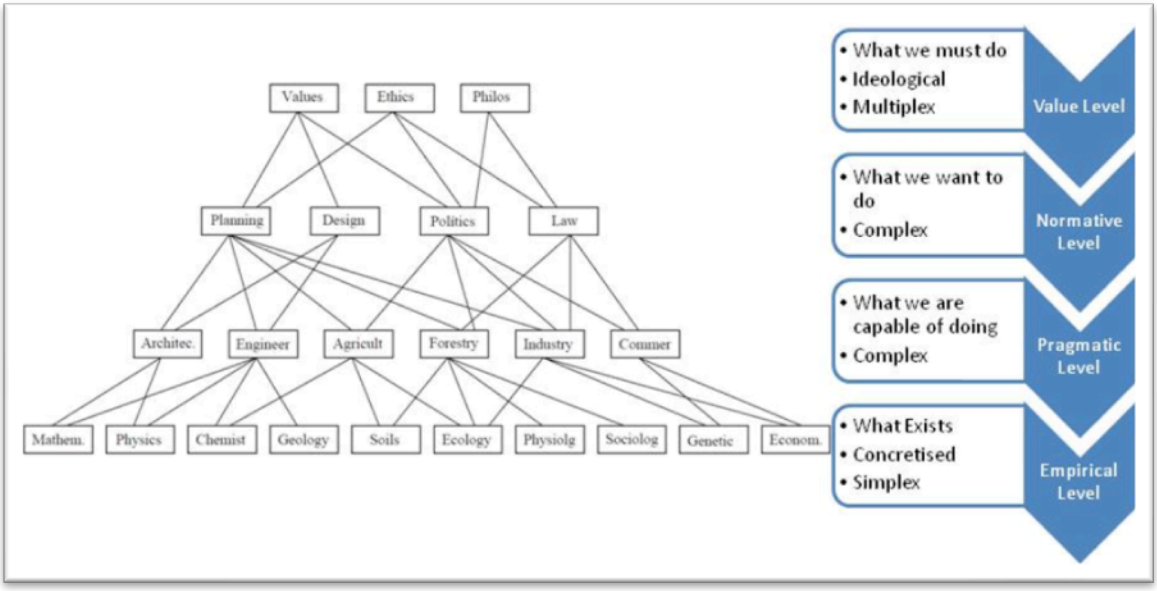

Figure 2: Transdisciplinarity Hierarchy (adapted from Max-Neef 2005; Stewart & Cohen 1997; von Benda-Beckmann, von Benda-Beckmann & Wiber 2006)

'Transdisciplinarity concerns itself with what is *between* the disciplines, *across* the different disciplines, and *beyond* all disciplines' (Nicolescu 2006, p.143). Nicolescu highlights the importance of recognising that there is a theoretical transdisciplinarity (implying a well-defined methodology), phenomenological transdisciplinarity (implying building models to connect theory to observed reality to predict further), and experimental transdisciplinarity (allowing experimentation using a procedure that will enable research design to be replicated). Accepting simultaneous and rigourous consideration of these three aspects simultaneously will allow the huge potential of transdisciplinarity to be realised.

Applying this autopoiesis to land policy, as well as more general policy formulation, we realise that transdisciplinarity will enable us to unfold consideration of how much attention disciplines pay to processes instead of simply things. It will involve qualitative assessments of the transdisciplinary contributions on the basis of their intrinsic value in relationship to their extrinsic value. We will then need to assess these to match what is required in a particular situation. This will enable us to reflect on, and develop, land policies -- including real property rights frameworks -- that are tailored to the unique qualities of the environments and influences of a particular situation/country/stage of development. Combining this with complexity theory will 'maximise robustness ... in the face of an ill-defined future. And that, in turn, puts a premium on becoming aware of non-linear relationships and causal pathways as best we can. You observe the world very, very carefully, and you don't expect circumstances that last' (Arthur, interviewed in Waldrop 1992, p.333-4).

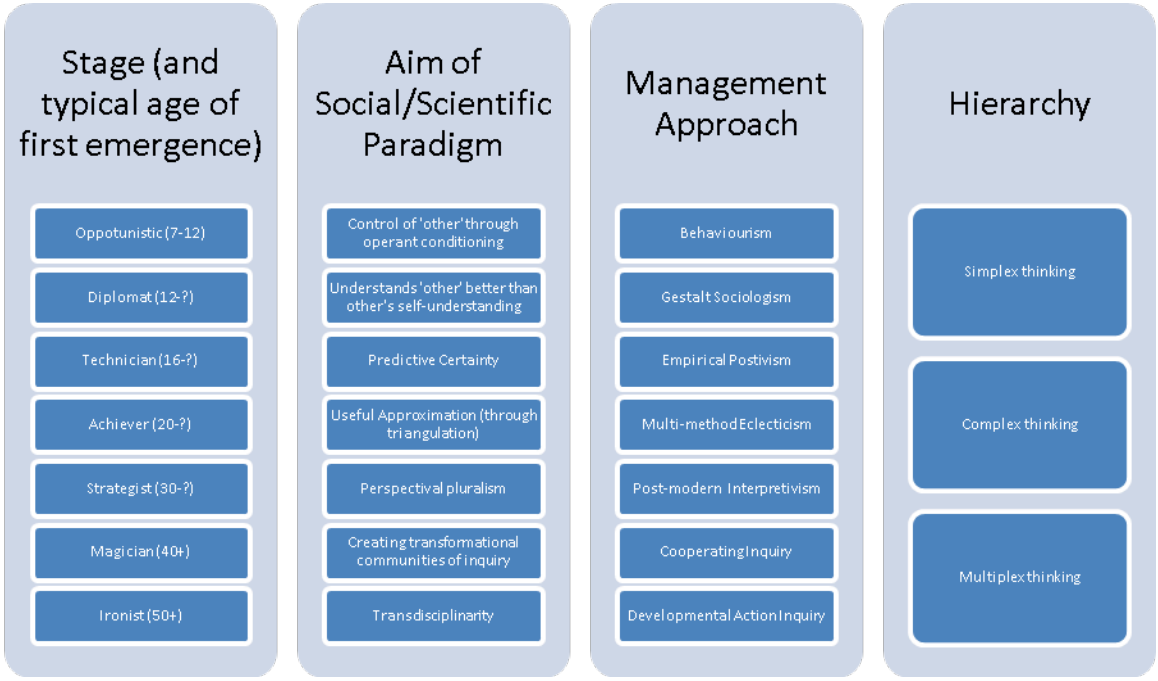

Figure 3: Development Management Structures and Hierarchy (adapted from Stewart & Cohen 1997; Torbert 2000)

As a first step toward a complexity epistemology, Stewart and Cohen (1997) divide cognition levels into simplex, complex, and multiplex. Whilst we may all be simplex in different domains, we are not implying that an individual would have 'nothing but' a simplex mind. Whilst simplex minds can be of great extrinsic value, they have a less intrinsic value in themselves than those with insights into the complexities of real life with an appreciation of and ability to manage transdisciplinarity. Meanwhile, a complex mind 'can perceive the many intertwining strands of cause and effect that combine, within some consistent worldview, to control the unfolding of a particular selection of events' (p.289). Those who have achieved an holistic multiplex awareness can work simultaneously with several competing paradigms, seeing 'not just one interpretation of reality, but many as a seamless whole in a mutable, adaptive, loosely coherent flux'. Such hierarchies have similarly been identified and categorised by Wilber (1999). Once again, the evolution of the individual's ability to transcend a hierarchy from simplex, through complex, to multiplex requires a certain level of maturity, which can be usefully integrated with Torbert's developmental management structure (see figure 3).

As far as we are aware, there has been little empirical research as yet that investigates real property rights through similar schemata. A useful conceptual framework has been posited by Beck and Cowan (2003), which we have yet to hybridise with the above approaches (see figure 4). Interestingly, when we presented this model in a multidisciplinary seminar, certain members of the audience reacted to the hierarchy structure by contesting that it suggested level one could be better perhaps than level seven or eight (or vice versa). This interesting reaction could potentially be disregarded as simplex thinking. However, this leads us towards something of a conundrum when pursuing transdisciplinarity within the APCCRPR when applying labels such as simplex, complex, and multiplex thinking to team members. Clearly more work is required on the terminology and how such approaches are articulated.

In applying our three levels of simplex/complex/multiplex classification to the Beck and Cowan hierarchy, the first four levels of appropriate land tenures can be seen as simplex. Levels five and six are complex, wherein parties can perceive the many intertwining strands of cause and effect that combine, within some consistent worldview, to control the unfolding of a particular selection of events. The last two (levels seven and eight) are multiplex, using not just one interpretation of reality, but many, as a seamless whole in a mutable, adaptive, and loosely coherent flux. At this stage in our research such as schema is as yet highly provisional. Even if there are such levels, we would contest that Beck and Cowan's descriptions are certainly not comprehensive and may not even be accurate. It has yet to be empirically verified and there are possibly higher (or alternative) levels yet to be identified. However if such a model can be refined it will supply explanatory depths to the difficulties of land reform that were neither as visible nor as accountable hitherto. The caveat is that the land is a very sensitive issue in all societies. As a result of prior simplex approaches to land policy, land reform and real property rights can be extremely pernicious.

Figure 4: One Model of Appropriate Land Tenure at Different Developmental Levels (adapted from Beck & Cowan 2003)

5. THE NEXT STEPS

In developing this research further we are pursuing a research design that engages both autoethnography and the Delphi technique. We have previously successfully applied the auto-ethnographic approach to providing meaning and sense within project structures (see, for example, Nugapitiya, Boydell & Healy 2008; Nugapitiya, Healy & Boydell 2009). For the current research, we propose to reflect on the lived expertise of the researcher(s) in a range of land policy and real property rights engagements as a way of both narrating the research and interrogating the existing literature.

This approach will allow the ongoing iterative analysis, refinement, and subsequent evolution of our hybrid hierarchy of transdisciplinarity and complexity to understand the landscape of real property rights. Once a robust model (or models) has been involved and tested within the APCCRPR, we propose to test and refine it through a number of iterations within the development community using the Delphi technique (Linstone & Turroff 1975). To this end we welcome feedback and suggestions from the FIG community on our underlying philosophy, as well as offers from interested individuals who are prepared to engage multiplex thinking to this important work as one of the Delphi respondents/experts.

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BIOGRAPHICAL NOTES

Michael McDermott has travelled to over 70 countries and gained both a broad and deep understanding of the problems facing the developing world in a second career as a land-related policy, legal and institutional facilitator. His most recent consultancies include addressing land tenure, institutional frameworks, legal and gender-related issues for a smallholder irrigated farming development in Swaziland (as team leader), conducting a World-Bank funded Property Valuation, Fees and Finance Study in Palestine, and a land-related revenue study in Indonesia. He is based in Darwin, where he is the senior commercial / industrial valuer for Herron Todd White. He is currently pursuing doctoral studies at UTS with the Asia-Pacific Centre for Complex Real Property Rights, applying the complexity paradigm to develop a theory of institutions and institutional change in the context of property rights.

Spike Boydell is Professor of the Built Environment at the University of Technology Sydney. As Foundation Director of the Asia-Pacific Centre for Complex Real Property Rights he leads transdisciplinary teams tackling key issues surrounding land management and conflict minimisation. This includes property rights in land and buildings (including specialised valuation issues), politics and economy of emerging property rights (e.g. water & carbon), urban planning and compensation, leasehold advocacy, institutional arrangements, indigenous and customary land, and the challenge of common property in urbanised areas. See: www.dab.uts.edu.au/**apccrpr**/

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