

**LANDSCAPES AND THE MACHINE:
ADDRESSING WICKED VALUATION PROBLEMS
WHEN NORTH, SOUTH, EAST AND WEST MEET**

A thesis submitted in fulfillment of the
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by

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ABSTRACT

This thesis is about engaging with the dynamic relationship between “landscapes”, “land tenure”, and the “machine”. The first term can be so broad as to mean every process and thing encountered, the second means the way that land is held by a person or group of persons, and the third means things both put together and used by humans to fulfil their wants and needs from the landscape. As a professional valuer I have been traditionally trained to engage at arms-length with the normative behaviour of persons or groups at the intersection of these three concepts, wherein those people and groups were willing but not compelled to engage. Such traditional valuation approaches are increasingly recognised as being insufficient to address wicked valuation problems of the diverse peoples and groups that inhabit the globe from North, South, East to West. This thesis develops a means of engaging with these wicked valuation problems in a suitably knowledgeable and prudent way. To do so the thesis adopts an exploratory approach guided by Whitehead’s process philosophy injunction of a creative advance into novelty. This approach is enacted through a range of data collection and analysis methods. Autoethnography is used to draw on knowledge and experience from over the past 40 years in land valuation in Africa and the Asia-Pacific, whilst documentary analysis is used to draw in the views of other valuation practitioners and scholars who are becoming increasingly aware of the need to develop ways to adapt land valuation processes to the complexity of our contemporary landscapes. These two threads are woven together as I discuss my professional career in valuing real property rights, and the effects such rights have had on the peoples in countries that I have travelled through since first qualifying as a valuer. Drawing on lessons that emerge from this reflective journey, and through a series of workshops in different countries, I develop and pilot a tool I call “HVN↔HBA”, which is specifically designed to address wicked valuation problems through engagement with small groups, particularly, but not exclusively, value juries.

FRAMING QUOTATIONS

“All conduct that is not simply either blindly impulsive or mechanically routine seems to involve valuations” (Dewey 1981, p.3).

“What we call land is an element of nature inextricably interwoven with man’s institutions. To isolate it and form a market out of it was perhaps the weirdest of all the undertakings of our ancestors ... And yet to separate man from land and organize society in such a way as to be subject to the requirements of a real estate market was a vital part of the Utopian concept of a market economy.” (Polanyi 1944, p. 178).

“We need a new way of thinking, one that tightly links the human-made world of economics and politics with the natural world of climate and biodiversity and with the designed world of 21st century technology.” (Sachs 2015)

“Property rights serve human values. They are recognized to that end, and are limited by it.” (Weintraub, C.J. in *State vs. Shack*).

“When it is associated with processes which are beneficial, or which at the worst are not actually injurious to the commonwealth, then property will be unmolested; but when it is associated with ideas of wrong and of unfairness, with processes of restriction and monopoly, and other forms of injury to the community, then ... property will be assailed and will be endangered.”

Winston Churchill, *Liberalism and the Social Problem* (Churchill 1909, pp. 318-319).

“He’s all right. He’s an engineer. Wu’s the same. They’re both technicians and they don’t have intelligence. They have what I call ‘thintelligence’. They see the immediate situation. They think narrowly and call it ‘being focussed’. They don’t see the surround. They don’t see the consequences.” The Chaos Theoretician character Ian Malcolm in *Jurassic Park* (Crichton 1991, p. 238).

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DECLARATION OF ORIGINALITY

I hereby certify that this thesis, submitted to the University of Technology, Sydney in fulfilment of the degree of Doctor of Philosophy, is my original work and I have not submitted this document or any part of it for any award at any other institution. To the best of my knowledge, this thesis contains no copy of material previously written by any other person except where due reference is made in the text.

Michael McDermott

Date: 02/08/2016

ACRONYMS

ABC	Australian Broadcasting Corporation
AHAL	All Hextants, All Levels framing: my adaptation of AQAL.
AQAL	All Quadrants, All Levels framing to interrogate reality (Wilber 1995)
CAS	Complex adaptive systems
ECLET	Emergent-Cyclical Levels of Existence Theory
EIC	(The British) East India Company
FAO	Food and Agricultural Organisation
GDP	Gross Domestic Product
GIGO	Garbage In, Garbage Out
HBA	HIDEGRE BIES ADALAS
	HIDEGRE (For Framing and Principles)
H	Hextants: The division of a holon's functional circle highlighting six domains that must be engaged to address wicked problems
I	Identity: the identity of the holon
D	The interhextal developments of the holon to respond to the wicked problem, and its developments
E	Emergence: the identity's responses to the wicked problems through levels of emergence, every new emergent providing novel qualities and new simplicities.
G	Goldilocks: development may only occur within a limited zone of challenge intensity; required to pace the responses.
RE	Related Evolution: All evolution is co-evolution, and requires engagements with all hextants and in conformity to the above principles to occur.
BIES	(For Navigation)
B	Butterfly Effects and Black Swans. A reminder of the essential unpredictability and non-linearity of both holons and wicked problems.
I, E, and S	These signify three forms of valuation to be considered in the holon's resolution of its wicked problem: the intrinsic value, the extrinsic value, and the systemic value of matters of concern. Market value may emerge from these and other variables as defined by the IVSC.
ADALAS	(For Exploring the Landscapes)
AD	All domains, dimensions and degrees of the holon and its wicked problem (For example, drilling from heuristic to ansatz to science).

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AL	All levels of complexity and lines of development of the holon and its wicked problem.
AS	All scales and systems of the holon and its wicked problem.
HVN	The primary ontological heuristic of the trans-ontological process: “Being” as a web of changes, of Holarchic Vortex Networks in Heterarchic Fields.
I2S	Integration and Implementation Sciences
IVSC	International Valuation Standards Council
LEI	Land Equity International
LIS	Land Information System
MHC	The Model of Hierarchical Complexity (Commons 2008)
NDS	National Development Strategy
NECSI	New England Complexity Science Institute
NSEW	North, South, East and West (pronounced, “en sew”).
PECAPDISHD	The PEdagogical Counter-Apartheid-rule Psychological DIstortions on the Significance of Human Dignity.
PTSD	Post Traumatic Stress Disorder
SEAP	Swaziland Environmental Action Plan
SNL	Swazi Nation Land
TDL	Title Deed Land
TRA	Tenure, Rights and Access
UNDP	United Nations Development Program
UNEP	United Nations Environment Program

GLOSSARY

Part 1.9 points out why I have to use unusual words in this thesis, and also why I have to employ words with particular meanings from within their broader range of meanings. One example of why I need these words is my use of the word “heterarchy” (q.v.), which is both an unusual word, and here employed in a particular way. An example of my using words with both their general and particular meanings is the word “field”, which I use both in its general meaning, and the specific meaning used within HVN↔HBA, as defined below.

Antifragility: Becoming stronger as a result of addressing a challenge (Taleb 2012).

Ansatz: An educated guess, an expert first approximation to begin engagement with a problem.

Anthropological Machine:

The dissociating from other holons, in particular other humans, on the basis of their being less worthy of concern by dint of their otherness - race, tribe, religion, nationality etc. (Agamben 2004, pp. 33-38) or their species. It produces “not only subhuman homo sapiens who supposedly therefore deserve their subjugation and enslavement, but also other subhuman species that also deserve their subjugation and enslavement” (Oliver 2007, p. 11).

Arrow: Here I mean the double-headed arrow (↔) as an indicator of a complex adaptive system with feedback loops. For example, I use it in HVN↔HBA to indicate that HBA is an emergent of HVN, and must constantly refer back to HVN, as HVN changes ceaselessly.

Artefact: An inanimate manufactured product, which can be simple or complicated, but not complex. It can be in any hextant, but not all (c.f. holons below). Artefacts include artificial persons, being “a collection or succession of natural persons forming a corporation” (Osborn 1964, p. 240).

Autotelic and autotelaxic:

“Autotelic” is an existing word meaning “self-purpose”, some existent with a purpose. “Autotelaxic” is a neologism I have devised for the purpose of this thesis, to describe some existent both purposeful and meaningful in itself. It is cognate with another neologism here, “telaxiology” (see below). It also imputes “telax”, a noun meaning “valuable purpose”, adj. telaxic.

“Big V” valuations:

My term (McDermott 1992) to distinguish value judgements from merely monetary ones. I mean them as defined in 2015: “Any social practice where

the value or values of something are established, assessed, negotiated, provoked, maintained and/or contested” (Doganova et al. 2015 p. 87). That is, Big V values transcend and include market values.

Clumsy Theory: From Cultural Theory, clumsy theory looks to discoveries emerging “from a messy, noisy argumentative process; a constructive engagement between the three ‘active’ ways of organising: hierarchy, individualism and egalitarianism” (Thompson 2013, p. 430).

Complex and Complax Respectively, complex knowledge and complex values.

Complipex and Compliplax Respectively, complicated knowledge and complicated values.

Confirmation Bias: The tendency to acquire or process new information in a way that confirms one’s preconceptions and avoids contradictions with one’s prior beliefs (Allahverdyan and Galstyan 2014).

Development: The process of maturation and learning over time (Paul Bloom in Brockman 2013, p. 161). It always involves movement from a state of relative globality and lack of differentiation towards one of increasing differentiation, articulation and hierarchical integration (Werner 1957). Here, “differentiation” refers to the degree to which a system is composed of parts that differ in structure or function from one another, “integration” refers to the extent to which the different parts communicate and enhance one another’s goals (Csikszentmihalyi 1993, pp. 156-157), and “articulation” the way the differentiated and integrated parts join or interrelate. In this thesis, the main focus is on the animate, not the inanimate, so the focus is on holarchical integration, not hierarchic (see below).

Evolution: The constructive process of natural selection time (Paul Bloom in Brockman 2013, p. 161).

Existents: A term from ontology meaning phenomena “having being”. Preferred by ontologists because “things” imply stasis and existents include processes and their relationships and values (Lawson 2014a, p. 2). I consider this a very important differentiation for the purposes of this thesis, as the word “thing” can be both a mis-description and a collapse of contexts, segueing over intrinsic and systemic value to privilege extrinsic value. Consequently, within this thesis, unless within a quotation, I am using “existent” instead of “thing”, including avoiding words like “something”, “nothing” etc.

Extrinsic Value: Use or utility value: what an existent is good for.

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- Field:** Components' interactions in time and space, dependent upon kinetics and neighbours (Goodwin 1994, p. 49).
- Fitness Landscape:** The capacity of an organism in its environment, an emergent from its situative adaptation. In this thesis, its meaning is expanded to refer to the capacity of all existents, in particular land policies, valuations, and the artefacts of real property rights, in their environments.
- Fractal:** Similar at different scales.
- Framing** “A frame is a way of looking at the world that is value laden” (Hoggin and Litwin 2016, p. 67). “Frames are mental structures that shape the way we see the world. As a result they shape the goals we seek, the plans we make, the way we act, and what counts as a good or bad outcome of our actions” (Lakoff 2014, p. xv).
- Gestalt:** A structure, configuration, or pattern of physical, biological, or psychological phenomena so integrated as to constitute a functional unit with properties not derivable by summation of its parts.
- Goldilocks Zone:** A term derived from a children's story called Goldilocks and the Three Bears. Astronomers use it to describe the zone where water may be in its liquid state and therefore life may exist. Here I use it to describe the limited zone of challenge intensity wherein development may occur.
- Ground Value:** The value of an existent simply by dint of existing.
- Heterarchy:** “Hetero” means “other”. A system of organisation replete with overlap, multiplicity, mixed ascendancy, and/or divergent-but-coexistent patterns of relation.¹ Stark (2000) refers to heterarchies as “a new mode of organization”, enfolding “lateral accountability and organizational heterogeneity”, responses to the increasing complexities of strategy horizons or fitness landscapes (ibid, p. 6). They are “complex adaptive systems ... of competing and comparing value systems” (ibid, p.8). Here, I mean the term to enfold relationships between all existents and their hexants, including those within and between hierarchies and holarchies.

¹ As defined at <http://en.academic.ru/dic.nsf/enwiki/596896>

NB: this differs from Wilber's use of the term, which in his meaning refers to “differentiation without integration ... heaps not wholes” (Wilber 1995, p. 21). He thereby sees heterarchy as destroying quality and reducing everything to mere quantities. In contrast, I mean it to describe inter-relationships between various levels inside and between holons and inside and between their hexants, because such a discernment is vital for my intrinsic valuation purposes.

- Hexant:** One sixth of a circle, dividing from the centre. Used here to highlight six domains of holons that must be engaged to address wicked problems.
- Hextal Helix:** Just as DNA requires a double helix, this thesis articulates that development requires a hextal (6-strand) intertwining and inter-relating helix).
- Hierarchy:** A system in which members of an organization or society are ranked according to relative status or authority. It is often loosely used to include “holarchy” or heterarchy”, but their differentiation is important in this thesis.
- Holarchy:** An organisation of holons of various emergent levels of increasing complexity, the latter enfolding the former. A “ranking of orders or events according to their holistic capacity” (Wilber 1995, p. 17).²
- Holon:** A whole that is also part of some other existent. Here, I limit the word to mean the animate and complex: a pan-hexal gestalt of gestalts, in order to differentiate life from the inanimate. It means human and biological “clumped patterns” within the Panarchy (Gunderson and Holling 2002, p. 405). Above, I define artefacts, while recognising that they, too, can be a whole and a part of something else, as inanimate.
- Homeorhesis:** A dynamic system’s return to a developmental trajectory.
- Homeostasis:** A system’s return to equilibrium.
- Identity:** The tendency in human beings, individually and in groups, to establish and maintain a sense of self-meaning, predictability and purpose (Northrup 1989, pp. 63).
- Intrinsic value:** A valuation based upon the development and complexity of an existent: how many levels of emergence it enfolds, and how differentiated, articulated and hierarchically integrated the existent is.
- Land:** “Land is a delineable area of the Earth’s terrestrial surface, encompassing all attributes of the biosphere immediately above or below this surface including those of the near-surface climate, the soil and terrain forms, the surface hydrology (including shallow lakes, rivers, marshes, and swamps), the near-surface sedimentary layers and associated groundwater reserve, the plant and animal populations, the human settlement pattern and physical results of past

² Wilber uses “hierarchy” and “holarchy” interchangeably because he also differentiates between pathological and normal hierarchies, while observing that many have a visceral reaction to all hierarchies because of the pathological (dominator) hierarchies. However, I repeat that in this thesis differentiation between hierarchies, holarchies and heterarchies is vital (Stark 2000, Lamont 2012).

and present human activity (terracing, water storage or drainage structures, roads, buildings, etc.)” (FAO/UNEP 1997).

Land Policy: A set of coherent decisions about land with common long-term purpose(s) (adapted from International Livestock Research Institute 1995).

Landscape: The word is used to mean both the land under consideration and a particular area of activity, such as a fitness landscape (q.v.). The title refers to both meanings. Hence “places” (q.v.) are included in the term “landscape”, but not in the term “land” (q.v.).

Land Tenure: The way real property rights are held.

Machine “A combination of resistant parts, each specialized in function, operating under human control, to utilize energy and to perform work” (Mumford 1967. p. 191).

Machinism: Machinism conflates machines and people, artefacts and holons. Per se, it does not differentiate between a machine, that functions, and an animal, that lives, that restructures its own world and body (Merleau-Ponty and Séglaard 2003, p. 162).

Market Value: “Market value is the estimated amount for which an asset or liability would exchange on the valuation date between a willing buyer and a willing seller in an arm’s-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion” (IVSC).

Master and Emissary: The terms for the functions of right and left hemisphere hemispheres of the brain used by McGilchrist (2009). In this thesis’s terms, the Master better addresses the Landscapes, and the Emissary, the Machine.

Meme: Imitated existents in the psyche hextant, similar to genes in the soma hextant.

Memplex: A coadapted complex of memes (Speel 1995).

Multiplex and Multiplax Respectively, wide-ranging knowledge and wide-ranging values North, South, East and West (NSEW):

Here, the four directions, when capitalised and quoted together, have their cultural and economic meanings rather than directional:

- North: The developed world
- South: The underdeveloped world
- East: Asia
- West: Europe, North America and Australasia.

Natural Capital: Natural capital consists of those components of the natural environment that provide a long-term stream of benefits to individual people and to society as a whole (Costanza et al. 2006, p. ii).

Necessary Fallibility:

“A term related to the chaos theory that explains the unpredictability of events results in nonlinear, noncoupled, nondeterministic systems” (McGraw-Hill 2002) Concise Dictionary of Modern Medicine. © 2002 by The McGraw-Hill Companies, Inc.

Octo My name for an imaginary holon (q.v.), derived from the eight points of a cube, which I introduce in part 7.2 to make a distinction between the external world, as perceived by the holon concerned, and the external world as inclusionary as we can make it.

Omniplex and Omniplax Respectively, all knowledge and all values

Ontology: “The branch of metaphysics concerned with the nature or essence of being or existence”, and at another level “a rigorous and exhaustive organization of some knowledge domain” (Cruickshank 2004, Carrithers et al. 2010, Pedersen 2012).

Orthogenic Principle:

The principle that all development proceeds from a state of relative globality and lack of differentiation to one of increasing differentiation, articulation and hierarchical integration (Werner 1957). In HBA, I refer to this as the “Development Principle”.

Place: “A place is a space where one can imagine living, a home to which values, in ethical and aesthetic terms, are attached” (Lovino 2014, p. 102).

Trans-ontological process:

The term was first coined by Enrique Dussel as part of his trans-modernist decentralisation of The Machine (and its valuation of machinism as epistemically totalitarian) (Irvine 2011). Following Whitehead’s process philosophy (1978), Heraclitus, the Taoist and Buddhist insight of impermanence Unger’s (2007, pp. 85-86) rejection of ontology, and McGilchrist’s (2009) analysis of the West’s imbalanced emphasis of left hemisphere’s machinism, HVN↔HBA as a trans-ontological process is a rejection of the “thinging” (Bateson 1979, p. 112) aspects of ontology *as prime*. However, the term as used here further recognises that our minds

require imaginings to address realities, and transcends and includes them within HVN↔HBA to examine Landscapes and the Machine and their interrelationships. That is, a trans-ontological process is permanently impermanent and provisional, a process not a thing.

Psyche: The mind (including imagination, intellect, desires, will, emotions et al.).

Real Estate: “The physical land and those human-made items, which attach to the land. It is the physical, tangible ‘thing’ which can be seen and touched, together with all additions on, above, or below the ground” (IVSC, n.d.).

Real Property: Immovable property which could be recovered by a real action. “Including all the rights, interests and benefits relating to the ownership of real estate. An interest or interests in real property is normally demonstrated by some evidence of ownership (e.g., a title deed) separate from the physical real estate. Real property is a non-physical concept” (IVSC, n.d.).

Rights: Recognised and protected interests. Note that in this thesis the term enfolds formal (legally protected) and informal (otherwise socially recognised) rights, the term “formal property rights” being adopted when they alone are being referred to.

Simplex and Simplex Respectively, simple knowledge and simple valuations

Simplex, Complex, Multiplex, Omniplex etc.:

Simplex, multiplex and omnipler are words adopted by Stewart and Cohen (1995), “simplex” meaning simple knowledge, “multiplex” wide-ranging knowledge, and “omnipler”, all knowledge. To these, I have added “compipler”, to maintain the vital distinction for this thesis between complicated and complex, and “simplex”, “complex”, “multipler” and “omnipler” as the axiological equivalents of Stewart and Cohen’s terms.

Social Imaginary:

“A general belief about the world that has ‘no ontological status’ but comes to exist through the distinctions and intersections that constitute ordinary life and the various means we invent to appreciate and measure the differences that exist between individuals and cultures” (Dick 2013, p. 4). I use it neither to condemn nor to embrace, but rather to identify them as a means towards valuing them.

Social messes: Heaps of wicked problems (q.v.).

Soma: The physical body.

Spatial Imaginary:

A subset of social imaginary, it is the space that “is visible or thinkable for each society and culture, that which grants meaning to the social, to the individuals and their experiences” (adapted from Cornelius Castoriadis’s definition of “social imaginary” in Castro Nogueira (1997, p. 16). As such, it is a core part of a person’s umwelt (see below).

Spirituality: “Spirituality is a state of interconnectedness with the Other - the divine, the self, the human, the natural, or any combination thereof - that nourishes the soul (the integration of mind, will and emotions), resulting in a state of security with a sense of worthwhile purpose in life” (Rosado 2003). Note the definition neither privileges nor refers to any religion: They are hextally distinct phenomena (see part 7.2.1). Nor does it ascribe spirituality to natural or any other causes: It simply recognises it as fundamental to the behaviour of many humans, and absent from machines.

Systemic Value:

The value of a holon or artefact in the context of its role as part of a system working towards how existents should be.

Telaxiology: The study of meaningful purpose (a neologism for this thesis, following Vallicella (2009) as quoted in part 1.8), by which I mean differentiating evil, trivial and futile purposes from good, significant and useful ones in their various contexts and scales. Also see “autotelaxic” above.

Theory Generally, a theory provides an explanation for some existent based on some research. More particularly, it provides a general explanation for observations made over time, explains and predicts behaviour, can never be established beyond all doubt, and may be modified but seldom has to be discarded if thoroughly tested. However, sometimes a theory may be widely accepted for a long time and later disproved (Dorin, Demmin & Gabel, 1990).

Thintelligence A word coined by Michael Crichton for seeing the immediate situation, thinking narrowly and calling it “being focussed”, and missing both the surround and the consequences.

Thomas Theorem:

If one defines situations as real, they are real in their consequences (Thomas and Thomas 1928; Merton 1995).

Tool “ A practical method to achieve a defined objective in a particular context”
(Selabalo 2016).

Transdisciplinary:

Weak transdisciplinarity is conflational with interdisciplinarity, but not with multidisciplinary. Here, I mean it in its strong sense, involving three pillars: levels of reality, the axiom of the included middle, and complexity (Max-Neef 2005). So multidisciplinary refers to many disciplinary “silos”, not necessarily relating to each other. The silos relate in interdisciplinarity, and with the complex interactions of its three pillars, a transdisciplinarity process may emerge. As such, multi-, inter- and trans-disciplinarity are “better treated as complementary rather than being mutually exclusive” (Brown, Harris and Russell 2010, p. 21).

Ubuntu As with many foreign words and phrases Ubuntu is not directly translatable into English, but involves the recognition of the high intrinsic value of one another’s common humanity. Moreover, in contrast to the Cartesian “I think, therefore I am”, Ubuntu means “whatever happens to the individual happens to the whole group, and whatever happens to the whole group happens to the individual. The individual can only say: ‘I am, because we are; and since we are therefore I am’” (Mbiti 1990, p. 106).

Umfeld: The world that objectively influences an organism.

Umwelt: The world as perceived by an organism; all the semiotic processes of an organism as perceived in its innenwelt (inner world). The circumscribed portion of the environment which is meaningful and effective for a given species (English and English 1958)

Usury: In this thesis, I use this term for the lending of money at an exploitative rate of interest (either immediate or accruing) not its broader meaning of lending money at any rate of interest whatsoever.

Welt: German for “world”.

Wicked Problems:

Difficult or impossible complexly interrelated problems. “A wicked problem is a complex issue that defies complete definition, for which there can be no final solution, since any resolution generates further issues, and where solutions are not true or false or good or bad, but the best than can be done at the time. Such problems are not morally wicked, but diabolical in that they resist all the usual

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attempts to resolve them” (Brown, Deane, Harris and Russell in Brown, Harris and Russell 2010, p. 4).

Wisdom: Integrated thought (Labouvie-Vief 1990). “The ability to make sense of complexity, context specificity, and to integrate moral perspectives, balancing part and bigger systems” (Mulgan 2014 at 29min 57secs).