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CROSSING THE RUBICON: THE CHALLENGE OF DEEP PROPERTY

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ABSTRACT

Deep property is a term which describes a profound emerging concept of property which has great or specified extensions of the conventional elemental land property right, and can be unfamiliar or even *sui generis*[1] within property theory and formal property law. Arguably emerging modern concepts of private property rights especially those within the aegis of deep property still remain trenchantly elusive, such as water, biota, and carbon.

Nevertheless, whilst only dimly understood the increasingly murky characteristics of deep property are slowly being revealed as imbued with inherent complexity and pervasive cultural baggage. However deep property is not incomprehensible or taciturn; a unique world of property rights is emerging with a genius which is sometimes indefinable, and yet often disconcertingly intelligible in its terrible simplicity. Nevertheless, any attempt to uncover deep property necessitates penetration and peeling of the layers comprising the conventional elemental land property right, many which remain inchoate.

Importantly, empirical interrogation of these layers of rights may need to occur repeatedly using different lenses if an understanding of the characteristics of deep property is to develop, and the reasons for its complexity and culture uncovered, especially in water, biota, and carbon. In attempting to garner the concept of deep property, such inquiries may be placed on a seemingly vulnerable theoretical limb on the extremity of current thinking on property and what it means. Yet, in the process of doing so, current property theory and formal property law may be richly extended producing a valuable governance tool.

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[1] Of its own kind, unique.

Deep property is clearly a governance tool and focuses on the strong belief that natural resources require new modes of governance, particularly new forms of property rights. It is central to disentangling the comfortable bundles of property rights we have previously dealt with in natural resources such as water, biota, and very recently carbon. Established methods of governance of these natural resources is inadequate to deal with rapidly developing needs such as climate change mitigation. Indeed, property rights in carbon is a crucial example of this conundrum providing stark evidence of the inadequacy of existing modes of governance.

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INTRODUCTION

When Augustus Caesar returned in Rome in 29 BC from Egypt, the restoration of the property rights of the Roman citizen was a compelling *liet motif* [2] of the new but autocratic Augustan Empire, because:

…[t]o the Romans, security of tenure was a moral as much a social or economic good. [3]

Such action was necessary because much earlier in 49 BC, Gaius Julius Caesar and his legionaries had crossed the narrow stream known as the Rubicon, the border between the Roman Province of Gaul and Italy to the south. In crossing the Rubicon and illegally marching on Rome, Caesar had overturned such prized values as “private property” and “rights before the law” [4], resulting in the eventual collapse of the Roman Republic.

Recrossings of the iconic Rubicon to establish yet again such values were attempted through the French and American Revolutions[5], however arising from 21st century concerns over climate change, unexpectedly emerging property rights in water and carbon are arguably attempting to re-establish such ancient moral, social as well as economic values. Such climate-related notions of property struggle to describe necessarily profound concepts of property which have great or specified extensions of the conventional elemental land property right, and can be unfamiliar or even *sui generis*[6] within property theory and formal property law.

These proposed extensions of the conventional land property right expose the shallowness of current property tenures such as freehold and leasehold, and it is

[2] Dominant idea or theme
[3] Holland, Tom (2004) *Rubicon: The Triumph and Tragedy of the Roman Republic* (London: Abacus) 382
[4] Holland, xxi
[5] Holland, xxii
[6] Of its own kind, unique.

useful to describe these emerging climate-driven property rights as 'deep property'. Admittedly, this succinct term usefully describes these new and profound concepts of property however the aegis of deep property still remains trenchantly elusive. Nevertheless, whilst only dimly understood the increasingly murky characteristics of deep property are slowly being revealed as imbued with inherent complexity and pervasive cultural baggage. However deep property is not incomprehensible or taciturn; a unique world of property rights is emerging with a genius, which is sometimes indefinable, and yet often disconcertingly intelligible in its terrible simplicity. Nevertheless, any attempt to uncover deep property necessitates penetration and peeling of the layers comprising the conventional elemental land property right, many which remain inchoate.

Importantly, interrogation of these layers may need to occur repeatedly using different lenses if an understanding of the characteristics of deep property is to develop, and the reasons for its complexity and culture uncovered. In attempting to garner the concept of deep property, such inquiries may be placed on a seemingly vulnerable theoretical limb on the extremity of current thinking on property and what it means. Yet, in the process of doing so, current property theory and formal property law will be richly extended.

The following account canvasses an Australian attempt to uncover this world of deep property in the area of emerging climate-related property rights, notably water and carbon.

PROBLEMATIC GOVERNANCE OF EMERGING PROPERTY RIGHTS

Emerging property rights in water and carbon have literally exploded Anglo-Australian property law. Absent now is the notion all rights except minerals are held in the conventional elemental land property right, which Australians are so familiar with. The metaphorical "bundle of rights [7]" can comprise not only different but contemporaneous rights, obligations and restrictions over a particular piece of land, which are also capable of being held by disparate individuals. The unbundling of the various rights originally embedded in land has resulted in the emergence of a raft of hitherto unknown separate property rights such as water and carbon. In addition we have seen the emergence of other more exotic forms of property such as electro-magnetic spectrum, all of which must be defined in order that they may be attributed moral social and economic worth by Australian society.

Natural resources such as water and carbon have been viewed until recently as commons in Australia, for which the existing methods of governance have been found to be increasingly inadequate. The Australian approach has been markedly similar to experiences in the developing world where natural resources such as

[7] The notion of a bundle of legal rights was arguably first advanced in Maine, Henry S. (1861) *Ancient Law: its Connection with the Early History of Society, and its Relation to Modern Ideas* (New York: Charles Scribner).

land, forests and water have been "paperised" [8] in the manner of property rights rather than as traditional commons. Australia has sovereign control over more land and surface area than any other country except for the USA, Russia and Canada, and hence better forms of governance for increasingly valuable natural resources such as water and carbon is urgent.

In the context of natural resources governance, the crucial High Court decision in *Mabo v Queensland* (No.*2*) (1992*)* 175 CLR 1 (*Mabo)* was not so much about native title but about the pervasive notion of a legal "bundle of rights" within anglo-Australian law. In addition, some Aboriginal and Torres Strait Islanders may hold the "bundle of rights" in a palaeo-property right which is now known to be native title. While these ancient rights have survived the intervention of British sovereignty in the late 18th century, their recognition in the 1992 *Mabo* decision flagged the commencement of new directions in the conceiving of property rights in Australia. The subsequent progressive unbundling of the legal "bundle of rights" originally embedded in land has resulted in the emergence of a raft of hitherto unknown separate property rights such as water and carbon.

In addition, there are subsets of some of these main classifications of emerging property rights which are or will be created specifically by statute to deal with a particular need, such as carbon property rights, saline property rights, and even transferable development rights. Interestingly the first two of these subsets are part of the broad class known as biota property rights.

At the outset of this paper, a historical analogy pertinent to these emerging property rights was provided – one describing the historical importance of moral social and economic values, which are the current overarching issues of water and carbon in Australia. These historical roots and the current crystallisation of property rights are coalescing to ensure that deep property will have a pivotal role in the ensuing decades. The resilience and appropriateness of conventional land titling systems for the newly emerging property rights in water and carbon have raised fundamental issues for property theory. Even archaic rights such as native title have shown that existing notions of property as governance tools are probably incapable of accommodating the changes necessitated by the emergence of these property rights. Fundamental to the creation of property rights in natural resources such as water and carbon is the question of territoriality – the placement of an individual right on the cadastre.

Increasing recognition of the need to introduce appropriate and robust regimes of property rights which meld those most evident desirable features of conventional land titling with growing understanding of the nature and content of natural resources such as water and carbon, clearly show the issue of definition of these rights is pivotal. The conceiving of property rights in a particular natural resource

[8] Molebatsi, C. & Griffith-Charles, Charisse & Kangwa, John (2004) "Conclusions" in Home, Robert & Lim, Hilary (eds.) *Demystifying the Mystery of Capital: Land Tenure and Poverty in Africa and the Caribbean* (London: The Glass House Press) 149.

lies in the realm of property theory, if legal private rights are to emerge. Property theory explains that there are a minimum number of characteristics, which must be present for legal rights to property to exist, and using this established matrix we can identify which of those characteristics may be problematic and require concerted effort for resolution.

Water, for example as arguably the most ephemeral of all emerging property rights provides a major conceptual test for those attempting to construct a property rights regime. The "bundle of rights" now firmly embedded within anglo-Australian law since *Mabo* underpins all such endeavours, and provides a conceptual base for the development of these neophyte water property rights. As the six Australian States have responded to federal competition policy over the last decade, we have seen the progressive emergence of State legislation breaking the historic nexus between land and water. For example in New South Wales, the *Water Management Act 2000* swept aside a century of legislation based upon a previously indissoluble link between land and water.

However it is clear such legislative regimes have not recognised how difficult the task is of conceiving property rights in water, given as said earlier that water is the most ephemeral of all of the property rights. The release on 18 February 2004 of the groundbreaking report entitled *An Effective System of Defining Water Property Titles*[9] by the Commonwealth Government revealed how vexed the task of defining of water as a property right has been, let alone creating the governance tools for this former common. Water has always been scarce in the Australian continent, and the current move away from water as commons has been driven by "market-based solutions to climate change"[10] as a means of water conservation. The "hegemonic preference"[11] for natural resource markets are understandable in the context of the global economy, however water is not merely a speculative pawn in the climate market. Continuing open access to water for a raft of uses necessitates the presence of public rights to water in the manner of traditional commons alongside with some private property rights of access to water.

Obvious limits in the amount of naturally occurring water in Australia are starkly revealing the difficulties in resource governance, given water has not only economic value, but also moral and social value. The two latter values were firmly articulated by the High Court in *Yarmirr v Northern Territory* [2001] HCA 56 (*Yarmirr)* enabling traditional owners to contemplate successfully asserting water as part of the "bundle of rights" of their native title. Mary Yarmirr, a traditional owner of Croker Island which was the area of concern in the *Yarmirr* decision explained traditional terrestrial and maritime water rights as follows:

[9] ACIL Tasman in association with Freehills (2004) *An Effective System of Defining Water Property Titles.* Research Report PR040675 (Canberra: Land and Water Australia)
[10] Pearse, Rebecca (2010/2011) "Making a Market? Contestation and Climate Change" *Journal of Australian Political Economy* 66 (Summer), 172.
[11] Pearse, 173.

> *My Mandilarri sea country is at the top end of Croker Island. When I use the word "country", I am talking about dry land, fresh water and the sea. And when I talk about sea country, I am not talking only about the waters of the sea.*
> *I am talking about the sea bed and the reefs, and the fish and animals in the sea, and our fishing and hunting grounds, and the air and clouds above the sea, and about our sacred sites and ancestral beings who created all the country.*
> *Our ancestors are still there. Our country, both land and sea, belongs to us, and we belong to it. For we cannot survive without the land and the sea, for it breathes, controls and gives life.*[12]

Clearly, traditional owners of sea rights such as Mary Yarmirr have a holistic view of the extent of their rights and interests, a view which is somewhat different to the current Anglo-Australian dissection into defined sectoral property rights of previously inchoate rights or commons. There is difficulty for non-Indigenous persons in understanding how sea country is not only about waters, but also seabeds, the flora and fauna in the sea, and fishing rights and apparently air rights. In addition, sea country has a metaphysical facet which is evidenced in the presence of sacred sites and heroic stories about creation beings. This mixture of Indigenous and non-Indigenous values in the context of natural resources is helpfully described by Mitchell as follows:

> *On indigenous or communal land…[separate rights from the rights to land] may be even more complex if a system of legal pluralism exists or a formal statutory framework operates in parallel with a well-established and socially legitimate customary system of property rights*.[13]

However, for the purpose of this paper I have chosen to consider in some detail the somewhat more difficult and challenging topic of carbon property rights. In the following section of this paper I will canvass the notion of property rights in carbon, and the critical issue of defining and governing carbon in a rights environment of both private property and commons.

THE CHALLENGE OF CONCEIVING CARBON PROPERTY RIGHTS

The issue of property in carbon has both complexity and simplicity, more so than for other property rights such as land, minerals or even water. As a subset of biota property rights, carbon can be allocated to the admittedly simplistic category of terrestrial flora, which has an inherent territoriality making the definition of

[12] Yarmirr, Mary cited in *Land Rights Queensland* (2000) "Sea Rights", (June) 9.
[13] Mitchell, David (2010) *Land Administration Systems for Climate Mitigation Payments* Background paper prepared for the Expert Meeting on land tenure issues for implementing climate change mitigation policies in the AFOLU sectors (Rome: Food and Agriculture Organization of the United Nations,November), 6.

carbon property somewhat less problematic than for other subsets such as fauna, which are often much more mobile.

This easier approach to the definition of territory is not available in some other property rights, notably water property rights. As stated earlier, water has been described as the most ephemeral of property rights not without reason; this inherent fluidity rather than a pun is the inescapable reality of conceiving property rights in such a natural resource.

The other biota categorisation, fauna has already been addressed to some extent by the High Court in the decision *Yanner-v-Eaton (1999) 201 CLR 351,(Yanner)* and it is worthwhile noting that the Court saw in Yanner's crocodile the inherent problem of constructing a property right in that category of biota. Nevertheless, while terrestrial fauna can often exhibit territoriality analogous to terrestrial flora, other forms of fauna such as marine animals or avifauna do not have the benefit of this fixity when one attempts to construct a property right.

There is clearly a whole raft of sub classes within the broad biota categorisations of flora and fauna, however the legal notion of biota property rights requires that the outcome of interactions between different biota should still result in a national reductive stereotype. To conceive different property rights regimes for biota in various States or Territories would result in an untenable situation producing unnecessary confusion across the Australian continent. There is no argument that can be advanced in favour of differential legal regimes between States or Territories, given that biota does not respect the human definition of territory – the cadastre. This applies somewhat to carbon as a subset of biota property rights, notwithstanding any inherent territoriality.

Hence, the biophysical environment requires that a regime of carbon property rights must be an endogenous enterprise derived from the reality of carbon in its milieu. If a legal platform in natural resources is to be extended to carbon with the aim to produce moral social and economic values in this biota, then continent-wide security of tenure must be available[14]. At the outset, a titling system rooted in the legal notion of property in carbon will be required in order for the creation of legally enforceable economic values, given that banking and financial institutions have over the last 150 years grown comfortable with the security of tenure offered by Robert Torrens' land titling system, wherein the State agency certifies:

> *…on behalf of the State that the person thereby entitled holds such an estate or interest to the extent of his entitlement, subject to such interests recorded in the relevant folio of the Torrens Title Register and as appear*

[14] The concept of property in carbon is discussed in detail in Boydell, Spike, Sheehan, John & Prior, Jason (2009) "Carbon Property Rights in Context" *Environmental Practice* 11(2) June, 105-114.

> *(or should appear) on the Proprietor's certificate of title or duplicate Crown grant.*[15]

However in attempting to construct a regime of carbon property rights, it is also necessary to recognise there will always be a demand for natural carbon stock, notwithstanding that significant substitutes such as single species carbon forests will be developed in lieu of naturally occurring forests. There is inter-species variation and intra-species variation in natural carbon forests, which can have a significant effect upon the naturally occurring sequestration rates present in natural forests.

Carbon, as terrestrial flora already has a recognised market value in terms of carbon sequestration, however there is disagreement as to whether "conservation of old forests is a better policy for tackling global warming than planting new ones."[16] As early as 1992, Riccardo Valentini of CarboEurope highlighted the questionable economics of sequestration, stating that:

> *"[countries]…will be able to claim carbon credits for the new planting, while in reality releasing huge amounts of CO_2 into the air."*[17]

Terrestrial flora has also in the past been the subject of proposals to introduce tax incentives for the protection of high conservation value native vegetation, which is a very specific approach which uses conservation covenants to target such financial incentives[18]. Moral and social values in addition to economic values emerge through such proposals, revealing property rights in natural carbon stock are indeed a form of deep property imbued with inherent complexity and pervasive cultural considerations.

Notwithstanding that some forms of property rights currently exist in terrestrial flora for the limited purpose of carbon sequestration, it is clear an overarching regime of carbon property rights has to be conceived capable of accommodating moral and social values well as economic values. In the concluding section of this paper, the ambit of this critical task will be canvassed.

TOWARDS EMERGING CLIMATE-RELATED PROPERTY RIGHTS

[15] Hallmann, Frank (1973) *Legal Aspects of Boundary Surveying as apply in New South Wales* (Sydney: The Institution of Surveyors, Australia, New South Wales Division), 140.
[16] *New Scientist* (2002) "Tree farms won't save us after all", (26 October) 10.
[17] Riccardo Valentini cited in *New Scientist, 10.*
[18] Binning, Carl & Young, Mike (2002) *Talking to the Taxman About Nature Conservation: Proposals for the introduction of tax incentives for the protection of high conservation value native vegetation.* National Research & Development Program on Rehabilitation, Management and Conservation of Remnant Vegetation, Research Report 4/99 (Canberra: Environment Australia).

It is posited the conceiving of property rights in water and carbon should evidence the historical importance of prized moral social and economic values contemporaneously imbedded with such Roman Republican values as "private property" and "rights before the law" [19]. Novel theory is not needed to generate an omnibus narrative on water and carbon property rights, as the fundamentals of property rights, the history and logic of property and existing property regimes reveal that property rights in water and carbon are attainable within anglo-Australian property law.

It is worthwhile focussing briefly on the specific issue of carbon in this context. At present carbon exists as a private good attached to the elemental land property right. If it was a public good, it could be better conceived as traditional commons, however as a private good attached to the elemental land property right it is implicitly part of the bundle of rights conveyed into private hands by freehold or leasehold title. Some aspects of carbon may be either sufficiently mobile, or sufficiently distributed, to make a linkage to specific land titles impossible. The commercial exploitation of the potential opportunities arising from carbon may not neatly align to individual land parcels and could conceivably entail some degree of privatisation of common property. These aspects of carbon would not be problematic if it was a public good, even if one that had some degree of spatial definition. However, the challenge of designing private property in carbon lies in harnessing departures from the cadastre without producing such a degree of innovation that the common law understanding of private property is betrayed.

The construction of a system of private property in carbon must be embarked upon from the standpoint that such rights must meet a defensible test of what a durable private property right is. If these property rights are to be meaningful to users, purchasers, and especially the banks and financial organisations that will use these rights as collateral for mortgage-based loans, then the test of whether they are property rights is crucial.

In constructing such a test, it is essential to gain an appreciation of existing judicial considerations of the notion of "property". Starke J. in *The Minister of State for the Army-v-Dalziel (1944) 68 CLR at* 290 (*Dalziel*) indicated that such a definition:

> *…extends to every species of valuable right and interest including real and personal property, incorporeal hereditaments such as rents and services, rights of way, rights of profit or use in land of another, and chooses in action.*

Starke J. (at 290) also comments that:

[19] Holland, xxi

> *…to acquire any such right is rightly described as an acquisition of property.*

As previously mentioned this approach to constructing a definition of "property" has been further strengthened in *Yanner*, where the High Court took the opportunity to contrast property in the conventional sense with the "property" or "ownership" that the Crown asserts over natural resources.

The Court stated that:

> *The word "property" is often used to refer to something that belongs to another…."property" does not refer to a thing; it is a description of a legal relationship with a thing. It refers to a degree of power that is recognised in law as power permissibly exercised over the thing. The concept of "property" may be elusive. Usually it is treated as a "bundle of rights".*
>
> *But even this may have its limits as an analytical tool or accurate description, and it may be…that "the ultimate fact about property is that it does not really exist; it is mere illusion".*[20]

Also, the Court usefully stated that the common law position of natural resources including biota was as follows:

> *At common law there could be no "absolute property", but only "qualified property" in fire, light air, water and wild animals.*[21]

Nevertheless, as stated earlier in this paper, "property"[22] is generally understood as a titled right to land or to exploit natural resources such as minerals. Commonly these property rights are referred to by the terminology "real estate", with its emphasis on the immoveable nature of the "property" concerned such as land, buildings and minerals.

The range of interests that are classed as "property" while limited only by our imagination, has however been restrained by the Courts of common law countries who have only recognised a few kinds of interests in land, which are regarded as usual property rights. Some of these rights will be readily recognised such as freehold and leasehold, however a few such as mining rights, fishing rights, and water entitlements have also been recognised.

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[20] *Yanner* at 8 per Gleeson CJ, Gaudron Kirby & Hayne JJ.
[21] *Yanner* at 11.
[22] For a wide-ranging discussion of the term "property" see Gray, Kevin (1991) "Property in Thin Air" *The Cambridge Law Journal* 50 (2), 252-307

As stated earlier in this paper there has also been the more recent recognition of carbon as a property right, and legislation in various states is developing this concept.[23] The objective in recognising carbon as "property" is:

> *…to provide secure title for carbon sequestration rights through registration on the land title system. The practical effect of this will be that a carbon right attached to property will be held separately from the land ownership, and the carbon right attached to land will be viewable on a property title search, putting the world on notice of the obligations that flow with that land.*[24]

In support, the findings of a Commonwealth Public Inquiry (known as the *Voumard Inquiry*)[25] were published in July 2000, where it was recommended:

> *…the applicant [seeking access to biological resources] would be required to negotiate, with the holder (or owner) of the biological resources, a benefit – sharing contract which covers the commercial and other aspects of the agreement.*[26]

Underpinning the above recommendation was the issue of ownership of biota, and whilst in the context of terrestrial flora in Commonwealth areas, it is pertinent that the Inquiry noted that:

> *[a]t common law, ownership of land includes all the substrata below the surface. Natural things attached to land (or its substrata) or growing on (or in) it, whether cultivated or not, form part of the land and will be the property of the owner of the land. It would seem to follow that biological resources generally that are attached to or growing on or in land would be regarded as the property of the landowner. The common law rule would be subject to valid legislation or to any agreement (lease, licence, contract) to the contrary into which the landowner had entered.*[27]

Importantly, the above comments were only raised in the context of Commonwealth areas and clearly any policy narrative must be conducted in the light of the existing land tenure within Australia much of which is privately held.

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[23] Bredhauer, Jacqueline (2000) "Tree Clearing in Western Queensland – a Cost Benefit Analysis of Carbon Sequestration", *Environmental and Planning Law Journal* 17(5) 389.
[24] Bredhauer 389
[25] Voumard, John (2000) *Access to Biological Resources in Commonwealth Areas,* Report of Commonwealth Public Inquiry (Canberra: Natural Heritage Division, Environment Australia) July. (Voumard Inquiry)
[26] Voumard vii.
[27] Voumard 42.

Whilst a nationally consistent approach underscored the Inquiry's recommendations, it is instructive that it was recommended:

> …*[t]hat further consultations be held with State and Territory governments to address the broader issue of a nationally consistent approach cross jurisdictions.*[28]

Clearly it was recognised by the Inquiry that the former Australian colonies and now States have always been "invested"[29] with the control and management of Crown lands, and administer the title systems for alienated land. Hence, the pervasiveness of private property rights in the Australian milieu must underpin any attempt to elucidate a private property rights regime for water and carbon.

Arguably, the views expressed in the *Voumard Inquiry* are evidenced in the text of the N*ationally Consistent Approach for Access to and the Utilisation of Australia's Native Genetic and Biochemical Resources* (*NCA)*[30] which was executed on 12 October 2002 by the Commonwealth States and Territories. The presence of private property rights in land and therefore carbon, are recognised in the common elements of access and benefit-sharing arrangements which the NCA sets out, in particular stating that:

> *So as to facilitate biodiscovery and maximise certainty…reassurance should be provided that arrangements do not alter existing property or intellectual property law:* [31]

The establishment of new forms of specific private property rights such as water and carbon has highlighted the need to recognise the impact of isolating these rights from the "bundle of rights" currently residing within the conventional elemental land property right. It is instructive that this issue is canvassed in the area of carbon credit property rights,[32] and by extrapolation saline credits. There is clearly growing recognition of interconnectedness between these less familiar forms of property and even archaic property rights such as native title[33], and the prospect for conflict in some circumstances.[34]

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[28] Voumard, 118.
[29] Bartlett, Richard H (2000) *Native Title in Australia* (Sydney: Butterworths) 66.
[30] Natural Resource Management Ministerial Council, (2002) *Nationally Consistent Approach for Access to and the Utilisation of Australia's Native Genetic and Biochemical Resources (NCA)*, (Canberra) October.
[31] NCA- (Nationally Consistent Approach for Access to and the Utilisation of Australia's Native Genetic and Biochemical Resources) (2002) "Common Elements of Access and Benefit-sharing Arrangements Established in Australian Jurisdictions", 3(e).
[32] for a detailed discussion on property rights in carbon see Bredhauer.
[33] Davis, Michael (1999) "Indigenous Rights in Traditional Knowledge and Biological Diversity: Approaches to protection," *Australian Indigenous Law Reporter* 4(4), 1-32.
[34] Woodford, James (2003) "Hunters and protectors", *The Sydney Morning Herald,* (6-7 December), 4s, 5s.; see also a useful discussion on jurisprudential meaning given to Indigenous values in Burns, Marcelle (2011) "Challenging the Assumptions of Positivism: An Analysis of the Concept of Society in Sampi on behalf of the Bardi and Jawi People v Western Australia [2010] and Bodney v Bennell [2008]" *Land,*

A useful example of this interconnectedness is when carbon in wood fibre is unlocked through the removal of existing vegetation to permit agricultural pursuits. The connection is reasonably clear, however the impact of flow-ons such as rising water tables, and hence increasing salinity in soil is less clear. The substitution of salt tolerant vegetation and the adoption of altered farming practices in a more saline environment suggests that saline credits may be more difficult to create as a valuable property right, than say carbon or water. Early indications are that terrestrial carbon credits have already had a measurable impact on the price of rural land in various part of Australia.

All of the above illustrates the difficulties likely to be encountered when an Australian water and carbon property rights impact upon broader moral and social values, apart from economic values.

Nevertheless, a common feature of current property rights is that the interests in question are territorial, in so much as the right is contained only within defined boundaries. This is commonly achieved by way of "a boundary marking off the legal subject"[35] defined by means of a cadastre. In addition, these rights are also proscribed in so far as what activities can occur within the territory[36], the manner in which the right is to be paid for, and other obligations incurred or limitations imposed.

Some of these usual property rights can be acquired outright, while some such as fishing rights and water entitlements may be attached to rights that are or were once held in a parcel of land adjacent or nearby.

Whilst carbon property rights are capable of construction within anglo-Australian property law, it is the view of the author that there remains an intellectual quantum leap to understand how existing property law will interface with property theory in the context of carbon. This interface lies somewhere between these boundaries, and if true property rights in carbon are to emerge the positioning of this interface is of critical importance.

Arguably there are gaps in both law and property theory, and it is necessary that there be a debate over such issues which should not be undertaken lightly. History could condemn us for underestimating the task ahead.

Rights, Laws: Issues of Native Title, 4 (Issues Paper 1) (Canberra: Native Title Research Unit, Australian Institute of Aboriginal and Torres Strait Islander Studies).

[35] Blomley, Nicholas (2010) "Cuts, Flows, and the Geographies of Property" *Law, Culture and the Humanities* 7(2), 206.

[36] Denman, Donald (1981) "Recognising the property right" *The Planner* 67(6), 161.

Finally, the task of conceiving water and especially carbon property rights is one embedded with the issues of definition (or territoriality) and the ascribing of correct value to those rights - moral social as well as economic worth. As stated in the introduction to this paper, this task is one of both complexity and simplicity, and will severely test the capacity of anglo-Australian property law to accommodate these neophyte property rights.

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