

Tiptoeing round the Slumbering Dragon: Property Rights and Environmental Discourse in Rural Australia

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If a man have these gifts, and be young and energetic when he begins work, he will not have chosen badly in becoming a squatter. The sense of ownership and mastery, the conviction that he is the head and chief of what is going on around; the absence of any necessity of asking leave or of submitting to others — these things in themselves add a great charm to life. The squatter owes obedience to none, and allegiance only to the merchant — who asks no questions so long as the debt be reduced and not increased. He gets up when he pleases, and goes to bed when he likes. Though he should not own an acre of the land around him, he may do what he pleases with all that he sees. He may put up fences and knock them down. He probably lives in the middle of a forest — his life is always called life in the bush — and he may cut down any tree that he fancies. He has horses to ride, and a buggy to sit in, and birds to shoot at, and kangaroos to ride after. He goes where he likes, and nobody questions him. There is probably no one so big as himself within twenty miles of him, and he is proud with the conviction that he knows how to wash sheep better than any squatter in the colony. But the joy that mostly endears his life to him is the joy that he need not dress for dinner.

(Trollope, 1873, cited in Dow, 1966:91-92)

Introduction

Anthony Trollope, who wrote the above description of the lives of the pastoralists on the Darling Downs when he travelled there in the 1870s, was clearly impressed by the freedom that pastoral lessees experienced. Were it possible for Trollope to return in the 1990s, he would probably be struck by the disappearance of many of the 19th century freedoms under the weight of bureaucratic restrictions — the vegetation management plan restricting tree felling, the licence needed for shooting kangaroos, the complete protection of some bird species.

Trollope's catalogue of the freedoms of the squatter is not all that different from the approach that will be taken in this chapter. Landownership can be thought of as conferring upon the owner a bundle of various rights to act in particular ways with respect to the land itself and with respect to others who might also have an interest in, or be affected by, those actions. These types of rights are known as property rights and apply not only to physical objects such as land or a motor vehicle, but also to such things as trade marks, patents, intellectual property, and musical compositions. This chapter draws on two perspectives from the literature that deal with property rights in agricultural land and natural resources¹.

The first perspective comes from certain strands within historical institutionalism, 'the new institutionalism' and, more recently, ecological economics. The study of the sustainability of what are known as 'commons' or common property resources, such as grazing lands to which all the members of a particular tribe or community have access for their livestock, has necessarily had to consider the property rights of the participants in the common. These are a fundamental part of the political and social arrangements which maintain the condition of the common in the face of a possibly perverse incentive structure, termed 'the tragedy of the commons' by Hardin (1968). The institutionalist perspective as articulated in works such as Bromley (1989, 1991) and Ostrom (1990) is central to the argument presented later in this chapter, that the resistance of many land degradation problems to remedial efforts by the state has its origins in the emergence of commons that are now coexisting with land in private freehold ownership.

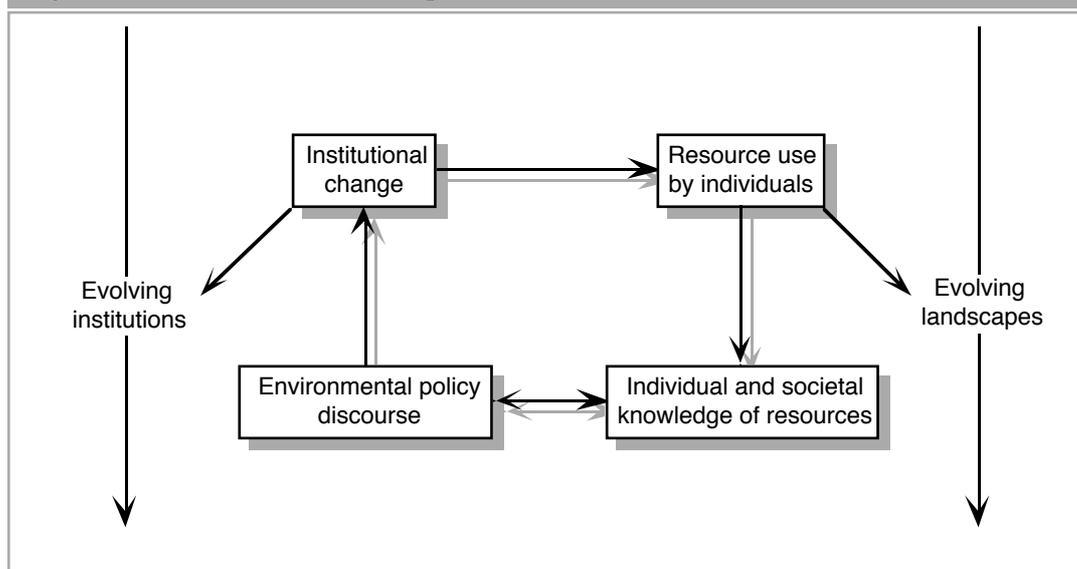
The second perspective is provided by the study of environmental law in Australia. The historical accounts provided by, for example, Bonyhady (1992), Bradsen (1988) and Fisher (1993) pay particular attention to property rights associated with land ownership and allow the comparison of the property rights that are claimed in rural political and environmental discourse with what would be defensible in a court of law. This raises the possibility that some property rights might be socially constructed, or as Bromley (1992a) puts it, 'presumed', or as jurisprudence would see the exercise of such rights, 'de facto'. This then leads to the question of what role the representation or presumption of property rights and their exercise as *de facto* rights might play in rural politics and institutional change.

Institutional and Landscape Evolution

All societies have some system of beliefs, social norms or formal rules that regulate the access of individuals to resources in the natural environment. Access to resources ranges in scale from indigenous people harvesting traditional foods, to multinational corporations mining coal. Furthermore, resource access is not confined to the consumption of renewable and non-renewable resources, it also includes access to the assimilative capacity of the environment — for example the access of farmers to the ability of rivers to absorb nutrients in the runoff from agricultural land.

Institutions affecting access to resources range from the spiritual beliefs of traditional societies that regulate agricultural and harvesting activities (see, for example, Rappaport, 1968), through social norms of resource using behaviour (see, for example, Brennan and Pettit, 1991), to the vast volume of environmental legislation that has arisen since the 1960s in industrial societies. Regardless of whether they are spiritual beliefs, social norms or enforced rules, or some combination of the three, these institutions mediate in the actions of individuals upon the environment. The environment itself evolves over time as a consequence of these actions and these changes may or may not be detected by society. If these changes are detected and are considered problematical, environmental policy debate may ensue, perhaps leading to changes in the institutions regulating access to resources. In this sense, the environment and institutions comprise co-evolutionary systems which evolve in parallel over time (figure 1).

Figure 1: Co-evolution of landscapes and institutions.



The Nature of Property Rights

An institution by which individuals gain access to land and natural resources is land ownership. According to Becker (1977), the rights associated with ownership of land or other forms of property are:

- 1 — the right to possess, i.e. exclusive physical control of the object that is owned,
- 2 — the right to use the object for personal enjoyment,
- 3 — the right to manage, i.e. to decide how and by whom the object shall be used,
- 4 — the right to income derived from the use of the object by the owner or by others granted permission to use it,
- 5 — the right to the capital, i.e. the right to consume, waste, modify or destroy the object,
- 6 — the right to immunity from expropriation of the object,
- 7 — the right to decide how the object will be sold, gifted or bequeathed,
- 8 — the absence of term, i.e. indefinite length in time of ownership,
- 9 — the prohibition of harmful use, i.e. the owner's duty to forbear from uses of the object that are harmful to others,
- 10 — liability to execution, i.e. the liability to having the object taken away in repayment for debt, and
- 11 — residuary character, i.e. the rules governing the reversion of lapsed ownership rights.

It is clear from these definitions, that ownership can only have meaning when the owner is part of a society, some or all of the members of which will have duties to the owner of the object. For Robinson Crusoe, ownership of the resources of the island he found himself on only became an issue when a footprint on the beach or an approaching ship signalled that he was once again a member of society, other members of which might also have claims to these resources. As Rudmin (1991) expressed it 'to own is to be perceived to own' — ownership has little or no meaning outside of a society of cognitively able individuals.

Property Right Regimes

The law has long recognised *res propria* (something which belongs to an individual), *res aliena* (something which belongs to someone other than the person in question), *res nullius* (something which belongs to no one) and *res communis* (something which belongs to the community at large (Fisher, 1993:180). Macpherson (1978) distinguished between private property (exclusive rights held by individuals), common property (non-exclusive rights held by individuals and established by the state) and state property (exclusive rights held by the state). Both the sociological and jurisprudential literature have clearly distinguished between property as a possessed object and as the locus of a set of social or political relations. Despite these distinctions the literature of environmental economics and of the property rights and free market environmentalist schools introduced in the 1970s a number of fallacious concepts and arguments that conflate what are quite different property rights regimes. The term 'property rights regime' was introduced by the institutional economist Daniel Bromley (1992b) in an attempt to bring some clarity to the confusion. Bromley defined a property rights regime as the totality of social and

institutional arrangements by which individuals are aware of what is their and others' property, and what duties are imposed on them and upheld by the state by virtue of others' property rights. He was also careful to note that the concept of the state in this context applies not only to centralised government but also to local structures that are able to enforce the system of rights and duties constituting a property regime.

Bromley re-stated the jurisprudential distinctions among types of property as:

- state property regimes where a state has use and control of resources,
- common property regimes where a group of people has use and control of resources,
- individual property regimes where individuals have use and control of resources, and
- open access regimes where no person or entity has use and control.

With this institutionalist framing of common property regimes as a sustainable system of socially sanctioned rules for resource access, it is necessary to introduce two additional property rights omitted in the definition of ownership in the previous section. These concern the right to participate in the political processes by which collective decisions are made as to the content of, and conditions pertaining to, the ownership of a share in a resource under a common property regime. Building on suggestions by Schlager and Ostrom (1992), Townsend and Pooley (1995) and Jacobs (1992), these rights can be seen as operating at two levels. Firstly, and at what Schlager and Ostrom term the operative level, an owner may have the right to participate in decision-making about the levels and conditions of resource access under some set of rules of conduct of the decision-making process. For example, the ownership of a water right by an irrigator which included the right to participate in a collective decision-making process about the coming season's water allocation would constitute an operative level right. Secondly, and what Schlager and Ostrom term the collective-choice level, an owner may have the right to participate in decision-making about the set of rules. For example, if the irrigator, by virtue of his or her ownership of a water right, could participate in the decisions about what water allocation rules a water storage was operated under, and about the rules for issuing of additional water rights, then this would constitute a collective-choice level right. The historical over-allocation of irrigation licences by the State water resources agency that took place in the Gwydir Valley in New South Wales, for example, could be attributed to the absence of a collective-choice level right attached to existing irrigation licences, as existing irrigators would scarcely have lowered the reliability of their own allocations by allocating additional licences.

Property rights regimes can also be classified according to the distribution of property rights among individual owners, local or regional organisations, local or regional forms of government, and national organisations and governments. Townsend and Pooley (1995) suggested that there is a fifth form of resource governance — distributed governance — which falls into three forms:

- rights-based management, in which operative level rights and some ownership rights are assigned to individuals and the remaining property rights, and particularly the collective-choice rights, are retained by the national government,
- comanagement, in which the rights held by the state in rights-based management are shared between the state and a local or regional organisation or government, and
- contractual management, in which the property rights are split up between the national government, local or regional organisations or governments and individuals, with a system of contracts among these entities to provide the appropriate pattern of incentives for the behaviours needed to ensure sustainable use of the resource.

Changes in property rights regimes

Viewed across the broad sweep of history, property rights regimes and the discourse associated with them show a remarkable mixture of stasis and flux. The nature and concept of property had been transformed from an hierarchical system of social obligation in feudal times, to the absolutist possession as described by Blackstone that underpinned the rise of market capitalism and the industrial revolution:

...that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion to the right of any other individual in the universe.
(Blackstone, 1783; cited by Boer, 1990:45)

and thence to modern times with the fragmentation of the bundle of property rights inhering in land ownership and increasing restriction on some parts of the bundle (Macpherson, 1975, Grey, 1980).

Yet the absolutist view of land ownership has survived in rural Australia well beyond its origins in the circumstances of Australia's settlement by Europeans (Bradsen, 1988:3; Voyce, 1996). It emerges from time to time in rural Australia when rural land owners feel threatened by the actions of the state or other claimants. The example below comes from landholder reactions to the national park extensions that took place in the Blue Mountains in the 1980s.

Many people have had the courage to pioneer "the bush"; and had the guts to make the personal effort of hard physical struggle; to feed their babes at the side of the road in the blazing sun or rain, during the days-long, torturous trip by horse and cart over virtually unmade "roads" 40, 50, 60 and 100 miles to the nearest outpost or town to get food, clothing, medical assistance etc., and sell their produce; and to do with out essential food, reticulated water, sewerage, electricity, roads and a thousand and one other services taken for granted — nay, demanded — by the very people who are now demanding that these pioneers' properties be made part of their parks and tramping grounds.

(Jensen, 1984:254)

And when the conser [sic - short for conservation] lobby (the pushers of national parks) decry "vested interests" as opposing national parks, landowners are the first to proudly admit that they do have "vested interests".

Yes! Our vested interests and particular concerns are in Liberty and Freedom — those tried and true values which have sustained our Society for centuries; in FAMILY, with all its warmth and needs; a man's home is his CASTLE; his family's BIRTHRIGHT to the piece of land they cherish or the ability to sell on the open market (if he wants to); the RIGHT TO WORK at the job he chooses and likes; and to live a useful and purposeful life WHERE HE CHOOSES; the right to live in balanced harmony WITH NATURE; to USE the land for his sustenance and recreation. [capitalisation in original]

(Jensen, 1984:25)

Absolutist rhetoric has been in some instances backed up pre-emptive threats or actions to thwart legislative intentions, as occurred in South Australia when the State Government attempted to restrict the rights of land owners to remove native vegetation (Bonyhady (1992:57). Bonyhady (1992) further pointed to a range of environmental legislation in which the land owner's consent was required before restrictions on the owners' property rights could be imposed in the public interest. The power of farmers in the USA to extract policy concessions has also been noted by Bromley and Hodge:

The modern industrial state has been willing to support incomes for farmers who, for a variety of reasons, have succeeded in resisting virtually all conditions on their producing behaviour—whether that behaviour results in redundant commodities, in chemical contamination of food and rural water supplies, in accelerated soil erosion, or in rural landscapes cleared to make way for larger machinery. Any change in the status quo production domain of the farmer must inevitably be purchased by the state with bribes, subsidies, or concessions at other places in the policy arena. In short, farmers in the industrialised nations deal with their governments from a position of strength—such strength arising from unquestioned property rights in land, with those property rights then successfully transmitted through the political process into a presumptive entitlement for favoured treatment at the hands of policy makers.

(Bromley and Hodge, 1990:199)

Bruckmeier and Teherani-Krönner (1992) observe that a similar phenomenon has occurred in Germany where the Polluter Pays Principle has been relaxed in the case of pollution from agriculture. Centner (1990) reports that in some USA states, farmers have been able to bring about the introduction of legislation to limit their liability for groundwater contamination by agricultural chemicals. Bromley (1982) points out that in addition to the rhetorical power of land ownership, if there is no mechanism for giving recognition to emerging environmental interests (such as the right to clean air or water), then property rights serve only to protect the interests of those with forms of property that were recognised in the past (such as absolutist land ownership) against those who have interests in new forms of property (such as environmental quality).

Despite such factors that might prevent restrictions on property rights, the property rights associated with land ownership in rural Australia have experienced considerable restriction by statute law, such as the removal of rights of land owners to minerals and wildlife (Bradsen, 1988; Bonyhady, 1992). Fowler (1984 :196) in his review of the South Australian legislation that impacted on land ownership, concluding that farming in that State had always been subjected to regulation and the amount of regulation was likely to increase in the future. Whether or not these increasing restrictions on property rights constitute an infringement of the rights of the individual depends on how land ownership is viewed. As Bonyhady (1992:44) points out, there is also a view, due to Honoré (1961) that ownership involves both rights and obligations, so that restrictions imposed by environmental legislation are an inherent part of land ownership, not an infringement of rights.

If it is accepted that the property rights associated with land ownership have in reality always been subject to restriction from the state, this then raises the question as to why the absolutist view of land ownership persists in rural discourse. One explanation has been put forward by Holmes and Day (1995:207-208), who refer to tight-knit social networks of South Australian pastoralists as reinforcing their views of the threats posed to their way of life by the intrusion of conservation issues. These networks also insulate them from the ideas of conservation groups which presumably, although Holmes and Day do not refer to this, have had greater influence and acceptance in the general populace, as has been shown by public opinion polling on environmental issues in Australia (see, for example, Lothian, 1994). However, the absolutist view of land ownership is not restricted to pastoral areas, which suggests there are other explanations. It is likely that rural conservative politics has played a role, insofar as farmer organisations or the National Party periodically enter into debates over the potential restrictions on the rights of land ownership, such as occurred in the debate over Wik, and over remnant native vegetation in New South Wales, thus providing updated articulations of the absolutist position rhetorically linked to what is at issue and to other rural conservative values such as the special position of agriculture in the economy and agriculture's pioneering heritage. The interweaving of absolutist rhetoric and other agri-political issues has also been noted in Germany (McHenry, 1996:379). Bromley (1996:8-10, 24-25) points out that despite the finding in American common law (the *Just v. Marinette County* and *Penn Central Transportation Co. v. City of New York* cases) that compensation to land owners was not warranted when the state restrains them from removing a public environmental benefit that their land provided prior to their acquisition of the land, it continues to be found to be politically expedient to pay compensation in many such cases, thus reinforcing the perception that the absolutist view of property rights pertains.

For property rights more generally, the broader literature identifies a number of factors that might encourage change over time. These include:

- demographic change and emergence of new political coalitions which bring pressure for restraints on the rights of land ownership (Braden, 1982),

- the inadvertent or purposeful creation of new property rights regimes by the state (Castle, 1978 and Campbell and Lindberg, 1990)
- technological change and economic structural change that results in formerly valueless or unused resources becoming the subject of claims for ownership by those who can profitably use them (Barzel, 1989).

Changes in property rights are, of course, fundamental to almost all environmental policy making. The discussion above, which was largely confined to property rights associated with land ownership, could be expanded by reference to the considerable literature on the influences on environmental policy and institutional change (see, for example, Goldblatt, 1996; Papadakis, 1996 and Jänicke, 1997). While Fowler and Bonyhady gave a fairly complete account of the effects of statute law on the property rights of the land owner (and see Environmental Defender's Office, 1994, for an account orientated to the riverine environment), there has been relatively little emphasis on how the statute law came about. Furthermore, property rights are being restricted, not due to new statute law, not due to the changes in common law brought about by the Mabo and Wik judgements, but through changing social norms and values, i.e. what some land owners perceive to be their rights is changing. Lastly, and perhaps most importantly, property rights regimes are changing, not because of restrictions imposed by law or by individual restraint, but because the use of the land itself has changed how the activities of land owners impact on other owners. This is to be expected in the co-evolutionary system depicted in Figure 1 but as has been suggested by this author (Reeve, 1997; Reeve 1998) and others (Musgrave and Pigram, 1994; Pigram et al., 1994) relatively little attention has been directed to the fact that open access or common property regimes are emerging in rural Australia, embedded within the individual property regime represented by freehold and leasehold land ownership

Rights of ecosystem intervention and embedded open access regimes

One way to view some of the property rights associated with land ownership in rural Australia is as *de facto* rights to intervene in the functioning of ecosystems (using 'ecosystem' in the broad sense to include hydrological systems). For example, the right of the land owner to use soluble fertilisers in agriculture necessarily must include the right to increase nutrient accessions into waterways. The right to clear land in the recharge areas of a saline aquifer must include the right to increase accessions to groundwater and raise the water table in other areas. The right to an irrigation allocation from a storage dam must include the right to use the river downstream as a conduit for conveying the water to the farm, and the right to alter the aquatic species composition in the river due to changing the temperature and seasonality of flows.

Early in the agricultural development of rural Australia, ecosystem processes served to insulate land owners from each other's activities. If farms were sufficiently far apart along rivers, then natural processes would restore water quality affected by one farm's nutrient accessions before it reached the next farm. With the saline water tables at depths of 30 metres or more, the increased accessions due to clearing on recharge areas could initially be accommodated in water table rises that did not result in the surface manifestations of dryland salinity. This capacity for ecosystem processes to insulate land owners from the impacts of the activities of other land owners is a further reason for the persistence of the absolutist view of land ownership in rural Australia. While the landscape response time for the appearance of soil erosion was fairly rapid (but it still took over one hundred years between the first written accounts of soil erosion problems and the first institutional responses), the response time for problems like dryland salinity, waterway eutrophication and biodiversity decline has been on a longer time scale, thus delaying the realisation that one land owner's freedom was at the expense of other land owners or the public generally.

As time has passed, and agricultural and urban development in rural Australia has intensified, the very same ecosystem processes that were serving to insulate land owners

from each other's actions now tend to transmit harmful effects among them. The actions taken by landowners in the upper parts of catchments or in recharge areas impact upon land owners and the public in the lower parts of catchments as declining water quality or increasing loss of productive land to salinisation. The use of rivers as conduits for transporting irrigation water degrades their value for other users.

From the perspective of property rights regimes, the emergence of these problems is due to the 'tragedy of open access' (or what Hardin, 1968, incorrectly termed the 'tragedy of the commons'). Because the property rights associated with land ownership include *de facto* rights of intervention in ecosystem processes, various resources that are provided by ecosystem processes are being utilised under open access regimes. These resources are not just physical entities like water or soil, but dynamic ecosystem properties. For example, in the case of dryland salinity, the resource is the amount of freeboard between the water table and the surface. This resource is 'used up' by groundwater accessions caused by clearing. For eutrophication, the resource is the capacity of waterways to absorb nutrient accessions without degrading their other values.

The situation, then, in rural Australia today, is considerably more complex than the single resource and single property rights regime that is implicit in much of the institutionalist literature. The land itself is under an individual property regime, but the many ecosystem processes that provide resources or services essential to the continuing agricultural use of that land and the public use of its surrounds are under open access regimes. In effect, a series of open access regimes are embedded within the individual property regime. An action such as clearing or ploughing a paddock which is an unquestioned and unfettered property right of land ownership is simultaneously a depletion of the freeboard between a saline watertable and the surface and of the nutrient assimilative capacity of nearby waterways — depletions that others may have a legitimate interest in because of the effect on their own livelihoods or amenity. While land ownership, as it has always done, confers exclusive use of the physical property on the owner, it now also provides the owner with an undefined share in a number of additional resources to which the land owner does not have exclusive possession. The situation is not unlike, building on Musgrave and Sinden's (1988) analogy, a group of strata title holders in a block of home units discovering that they are in conflict over their use of the common property areas such as the front garden or a swimming pool.

While ever the exercise of the rights of ecosystem intervention did not seriously affect others, the invisibility of these resources has provided little incentive to users or governments to avoid an open access regime and the inevitable 'tragedy' that accompanies it. However, now that costly and visible manifestations of the overuse of these resources occur over wide areas of rural Australia, the question arises as whether these open access regimes could be replaced with some other property rights regime. Should land owners' access to these resources be under a common property regime, or private property regime? In the former case, the rights of ecosystem intervention would be subject to the restraint of rules formulated by the land owners and others who had the potential to be affected through the exercise of these rights. In the latter case, the rights of ecosystem intervention would be owned separately from land ownership. Depending on which of Becker's list of rights of ownership were conferred upon the rights of ecosystem intervention, these latter rights might also be saleable in markets (see Reeve and Kaine, 1992, for a hypothetical example of this applied to phosphorus discharge rights).

As there has been some experience in rural Australia with the separation and creation of transferable water rights in irrigation areas, it is worth briefly reviewing this experience, both as a means of identifying further processes by which property rights associated with land ownership are changing, and of canvassing the prospects for privatisation of ecosystem intervention rights as a response to the problem of embedded open access regimes.

Transferable water rights

For the growing discipline of agricultural economics in the 1970s and 1980s, the Australian water economy promised to be a fertile field for the application of neo-classical economic theory to water allocation policy. Economists such as Musgrave (1972), Watson and Rose (1980), and Randall (1981) argued that the Australian water economy was entering a mature phase in which the focus on development of infrastructure in the earlier growth phase would be replaced with concerns about allocation, efficiency and externalities. Because irrigation development in Australia in the late 19th century and early 20th century had been dominated by the goal of settling people on the land and providing the necessary government support, Randall (1981:26) was able to observe that:

... pricing policy in the Australian water industry is so grossly inefficient — or, more accurately, so blissfully unaware of efficiency concerns — that the place to start is at the beginning.

It was argued by economists that the best way to ensure that the price of water more closely reflected its value in its best alternative use was to establish a market in water rights. This would have the effect of shifting water use from low value uses such as irrigated pasture to high value uses such as horticulture. In addition, it would encourage irrigators to use water more efficiently and so reduce some of the environmental externalities in irrigation areas.

The claim that water markets would free the State agencies of the burden of determining efficient allocation and pricing found favour with State agencies facing pressure to cut costs and by the mid 1980s a number of State agencies were trialing transferable water rights. The experience of the 1980s and early 1990s has been reviewed in a number of studies (see, for example Pigram et al., 1992; James 1993, 1997). These have been cautiously optimistic, reporting that some water was moving to higher valued uses, although the short run effect on environmental externalities had been in several cases to exacerbate them rather than reduce them. This was due the activation of 'sleeper' licences which had resulted in the water market, in one case, increasing the drawdown on a groundwater resource it was intended to conserve and increasing saline discharges other cases. Transferable water rights have since become a fundamental part of the Council of Australian Governments (COAG) Water Reforms, the political attraction presumably being the win-win outcome that is possible if efficiencies can be achieved, and the water saved directed to satisfying the demands for increased environmental flows.

Another property right associated with land ownership (or mining rights) which has been separated into an entity for exchange in markets is the right to discharge saline waters into streams. This has occurred for parts of the Hunter River and of the Murray-Darling Basin but, according to James (1997) it is too soon to draw any conclusions as how these arrangements are performing, although he noted that uncertainties as to future needs was acting as a disincentive to trading in the Hunter (James, 1997:58).

The examples of transferable water rights and salinity discharge permits clearly fall within the category of property rights change described above as purposeful creation by the state. It would be tempting simply to attribute this to the outcome of scientific policy analysis that has pointed the way to overcoming inefficiencies of historical origin in the use of resources. However, closer examination of the case that was made by economists for the introduction of transferable water rights reveals a rationale that is far from comprehensive. For example, while identifying the need for rights to clearly specified, the economists' case concentrated only on those rights necessary for a market to function efficiently, assuming that "market transactions guarantee fairness between buyer and seller, by definition, since each must be made better off, or one would refrain from trading" (Pigram et al., 1992:8). However, the work of Syme, Nancarrow and McCredlin (1998) shows that perceptions of fairness among irrigators, and the community generally, are much more complex. These perceptions will depend not only on the simple incidents of ownership needed for markets to function, but also on Schlager and Ostrom's operative and collective-

choice rights and on the distribution of rights between local and state governance. As shown by the work of Syme, Nancarrow and McCreddin and the early implementation efforts for the COAG Water Reforms at the State level, perceptions of fairness may be more important to the success of the reforms than the promise of efficiency gains.

Lea (1998) lists a further range of important considerations that have generally received little more than passing mention in the case for transferable water rights. These include:

- the social costs of structural change as water moves to higher valued uses,
- the social costs if concentration of ownership occurs as it has in other instances where markets in resource rights have been created, and
- when water is an owned entity rather than something provided by the state, any future restriction of the rights of ownership that might be required in the public interest is made politically more difficult and more costly.

But perhaps the most telling threat to the claimed superiority of markets in rights to resources currently under state property regimes (as was the case with water for irrigation) or open access regimes (as is the case for a wide range of ecosystem services under threat from land degradation) comes from Baland and Platteau (1996) who, from a comprehensive theoretical review and analysis, concluded that:

... if (1) information is perfect and (2) there are no transaction costs, regulated common property and private property are equivalent from the standpoint of efficiency of resource use. In other words, a common property regime has no structural trait which makes it inherently inefficient. Both the above property regimes can therefore support a Pareto-optimal equilibrium.

(Baland and Platteau, 1996:175)

If this conclusion is accepted, then the justification for individual property regimes (private property in Baland and Platteau's terminology) in preference to common property regimes hinges less on efficiency gains and more on the sorts of considerations outlined above that are held to have received insufficient attention in the case for transferable water rights.

On these and other grounds, it could be argued that the body of economic analysis that has informed the policy process leading to the COAG Water Reforms has consistently mis-specified the problem. Firstly, the justification for transferable water rights has been in terms of a choice between a state property regime and an individual property regime, to the exclusion of common property regimes. It is only recently (Challen, Lindner and McLeod, 1996) that this latter property rights regime has been afforded any attention in economic analysis of alternatives to the state property regime, despite detailed accounts in the institutionalist literature of irrigation systems in traditional agricultural societies that have been used sustainably for centuries under common property regimes (see, for example, Ostrom, 1990). As the States work towards implementation of the Water Reforms with the development of participative planning procedures, it is apparent that the future property rights regime is likely have some of the characteristics of a common property regime, particularly with respect to the setting of consumptive and environmental allocations. It is also likely to have some of the characteristics of what Townsend and Pooley termed comanagement and contractual management (on the latter, see Musgrave, 1996:54). It is a matter of some concern that this implementation is proceeding with little attention to the not inconsiderable literature in game theory, political science and sociology (not to mention the extensive experience that urban planners have acquired in the course of several decades of participative planning) that could inform the institutional design of the participative planning procedures. The first position paper on the Water Reforms in 1995, for example, contained just under ten pages outlining the principles of the creation of property rights in water, and less than one third of a page on participative planning (Standing Committee on

Agriculture and Resource Management of the Agriculture and Resource Management Council of Australia and New Zealand, 1995).

There are a number of reasons that participative planning processes are critical to the success of the Water Reforms. Firstly, there is a tension (infrequently acknowledged in economic analysis) between the market requirement of clearer specification of property rights and increased security of tenure on the one hand and, on the other, the ability of the state to respond to unanticipated environmental problems that arise in the future. The greater the security for the irrigator, the more difficulty the government will experience in responding to unanticipated environmental problems. In effect, reduction of financial risk for the irrigator increases environmental risks for the whole community. Secondly, there is a tension (more frequently acknowledged) between the free movement of water rights necessary for markets to achieve efficiency and the social and service provision impacts in the areas water is traded away from.

For these and other tensions, 'optimal' solutions cannot be specified in advance by rationalist policy analysis. As Majone (1989:118) has noted: 'the performance of [policy] instruments depends less on their formal properties than on the political and administrative context in which they operate'. The process by which communities adapt to environmental limitations and maximise the return from the available water in the face of pervasive uncertainty and multiple competing and interdependent demands will necessarily involve both satisficing behaviour (Simon, 1979) and communicative rationality (Habermas, 1979) (notwithstanding the desire of local agency professionals for 'neutral and objective' solutions based on science and planning). In this situation, the politics of participative planning will be all important in determining whether the Water Reforms achieve outcomes that are an improvement on the what pertained formerly — the politics of state water control. To the extent that nature of the Water Reforms means that water markets will be operating under conditions relatively distant from what economic analysis has assumed, the contribution of these markets to improved outcomes is highly uncertain (Challen, Lindner and McLeod, 1996:120), and undoubtedly no more certain than the outcomes from the politics of participative planning.

It is these considerations that point to the second mis-specification in the economic framing of the need for policy change that led to the Water Reforms. Much of the early argument from economists for policy change was framed as a choice between the inefficient politics of state control and an efficient market in water rights that would be free of this politics. What is now being discovered as the Reforms are implemented, is that the choice is, if a binary choice is to be insisted upon, between the politics of state control and the politics of participative planning. It is unfortunate that most of the policy analysis on the Water Reforms has revolved around the market issues with little attention being paid to the comparative politics of state control and participative planning, let alone the politics of distributed governance and common property regimes.

To give the early economic analysis its due, it correctly identified that the mature water economy required policy adjustment. But unfortunately, the mis-specification of the problem as a policy choice between a state property rights regime or an individual property rights regime and between the politics of state water control or markets free of politics has resulted in a decade or more of stunted policy development that has failed to acknowledge explicitly and evaluate the possibilities of common property regimes and distributed governance. While it is possible that the public consultation that started as a fashionable accessory to the main game of restructuring property rights may, as it is institutionalised into State statute law, evolve with time into something resembling common property regimes or distributed governance, this learning process is, in the absence of supporting analysis commensurate with that devoted to markets in water rights, bound to be costly in both time and the goodwill of the communities involved.

There are several insights into property rights change that can be drawn from the experience with transferable water rights. Firstly, in hindsight, it is clear that the

problem framing promoted by a policy elite can, through the structuring of policy discourse bring about substantial change in property rights. The discourse of transferable water rights deflected political attention from the possibility of alternative institutional forms and restructuring of property rights (for a similar deflection of political attention in Landcare, see Lockie, 1997 and Martin, 1997). It is likely that Hajer's (1995) theory of discourse coalitions and the evolution of story-lines would have utility in explaining the course of policy development that led to the Water Reforms, as the mis-specified policy choice framed in economic analysis would have certainly found favour in policy communities within the State agencies and farmer organisations where commitment to the ideology of economic rationalism was growing during the 1980s and 1990s.

Secondly, and looking to the future, as pressure grows for policy adjustments to deal with the emerging open access regimes pertaining to resources such as the use of the freeboard above saline watertables and the nutrient assimilative capacity of rivers, it is important that these issues not suffer the same mis-specification of policy choices that occurred with the economic analysis of the maturing water economy. If 'maturation' of an economy is taken to mean increasing scarcity of resources and increasing interdependence among resource users, then the agricultural economy in rural Australia has also matured. The possibilities for market based policy instruments and individual property rights regimes as a response to salinity, eutrophication and biodiversity problems have already received some attention (see, for example, Hodge, 1982; Dumsday, Oram and Lumley, 1983; Poulter and Chaffer, 1991; James, 1993; Reeve and Kaine, 1992; Kaine and Reeve, 1993; Young et al., 1996; Industry Commission, 1997). Interestingly, in 1986 a respected economist argued that a common property regime was superior to an individual property regime for dryland salinity (Quiggin, 1986). However, the discussion of changes to property rights regimes has been dominated by consideration of individual property regimes, although there has not been the rapidity of problem closure and subsequent institutional change that occurred with transferable water rights. While this difference would warrant closer examination (and Hajer's discourse analytic approach is likely to be helpful here), the important implication for the future is that there is still time to redress the imbalance in policy discussion by directing greater attention to common property regimes and distributed governance.

Such discussion must of necessity make it explicit that it is farmers' *de facto* rights of ecosystem intervention that are at issue — rights that receive little explicit recognition in the catchment plans and salinity or algal or vegetation 'management strategies' that are the embodiment of the limited institutional change that has occurred in response to these land degradation problems. In attempting to explain the absence of property rights considerations in this rural environmental policy domain, it is necessary to recognise that economics is not the only discipline that has been influential in the framing of policy choices.

Integrated Catchment Management and Landcare

One of the great successes of the Victorian and New South Wales soil conservation agencies in the 1950s and 1960s was the rehabilitation of eroded catchments to protect water quality and the life of water storages. The planning, coordinating and group extension capabilities developed by these agencies in catchment wide projects such as the Eppalock project in Central Victoria put in place the tools of the trade that were seen as the obvious answers when new a class of interdependent land degradation problems emerged in the 1970s and 1980s. While the agricultural economists were wielding the tools of their trade and proposing taxes or market based instruments as the solution, the conservation agency professionals saw state planning and coordination as the solution. As described above, the economists' proposals have found expression only in transferable water rights and, to a much lesser extent, in tradeable salinity permits. In contrast, planning and coordination has become the favoured approach for a wide range of degradation problems, from eutrophication of waterways to remnant native vegetation.

Initially, the planning and coordination was seen as being between various levels of government or between State agencies, rather than as a partnership between the state and 'the grassroots'. The Report of the 1975-77 Commonwealth and State Government Collaborative Soil Conservation Study contains a section titled 'The case for public involvement' which is completely devoid of any of the elements of the 'empowerment' and 'problem ownership' discourse that justified integrated catchment management in the 1980s and Landcare in the 1990s. To the extent that can be ascertained from the carefully oblique language of this section, the case for public involvement revolved around an implicit acknowledgment of the power of private property.

Traditionally, primary producers have used and managed their land in whatever manner they choose. The concept of soil resources as communal property to be managed wisely and, as it were, held in trust for future generations has not been developed or accepted in Australia.

(Department of Environment Housing and Community Development, 1978:75)

While tacitly accepting that the power of private property made public involvement in the form of government assistance with 'voluntary negotiations' and 'cost-sharing' a practical necessity, the Report was not beyond framing soil erosion as an environmental problem and invoking the then recently enunciated Polluter Pays Principle to argue that the land owners had 'a central responsibility' for soil conservation measures and could not expect government assistance for land degradation that was 'carelessly self-inflicted' (Department of Environment, Housing and Community Development, 1978:81-82). While the Collaborative Study Report failed to develop the discursive resources that would enable catchment planning to sidestep the potentially contentious issue of restrictions on the property rights of land owners in the name of integration of land uses, its recommendations contained the seeds of those resources:

69. It is recommended that local communities and industry groups be more closely involved with soil conservation authorities in advisory and consultative capacities.

70. It is recommended that local communities and industry groups be encouraged to assume greater responsibility in the promotion, planning and implementation of soil conservation programs.

(Department of Environment Housing and Community Development, 1978:143)

During the 1980s, the themes of local empowerment and participation emerged within the discourse of integrated catchment and provided the discursive resources that enabled the state to be seen to be taking action to deal with the new class of interdependent degradation problems. Integrated catchment management assumed a framing in which 'land managers' and 'stakeholders' 'all lived in a catchment', 'owned the problems' and achieved its aims by, in the words of Cunningham (1986:5):

people talking to one another, understanding one another's problems and co-operatively setting about solving them with a common objective in mind.

The brochures explaining the new approach showed aerial oblique views of imagined soil and water utopias stretching from forested upland water catchments to the sea, where externalities had been banished forever by the power of rational participative planning by stakeholders and land managers (an inclusive term that concealed the distinctions between those who managed in the public interest and those who did so in their own private interest).

The 'integrated' catchment and the language that went with it provided a *lingua franca* (generative metaphors and normative dualisms, respectively, in the terminology of Hajer, 1995:61-62 and Schön and Rein, 1994:28) necessary for communicatively rational problem closure amongst interests that were diverse and often irreconcilable without substantial restraints on property rights. Also, the discourse of integrated catchment management enabled the issue of compensation for restrictions on property rights to be sidestepped — an important consideration for governments seeking to reduce public expenditure. From

Luhmann's (1989) perspective, it might be argued that the discourse of catchment planning became self-referential and so impervious to the kind of absolutist property rights rhetoric that might take the planning process out of local control and into higher level political debate on the kind that has surrounded the Mabo and Wik decisions.

Throughout the late 1980s and the 1990s catchment planning has proceeded apace as the process has been formalised into statute law such as the 1989 New South Wales Catchment Management Act. The media focus on salinity and tree death in the mid to late 1980s transformed the formerly 'brown' issue of land degradation into a 'green' issue that made it possible for a joint proposal between the Australian Conservation Foundation and the National Farmers' Federation for a National Land Management Program. A major thrust of the Program was that Landcare groups (hitherto supported by State initiatives such as LandCare in Victoria) would implement integrated catchment at the farm level (Toyne and Farley, 1989). While this role for Landcare groups did not eventuate to the extent intended by Toyne and Farley (Martin and Woodhill, 1995:7-8), it would appear that catchment planning was able to take on much of the 'participation' and 'empowerment' discourse that developed around Landcare.

The abundance of catchment planning 'strategies' (more correctly long term plans) that have been produced are a triumph over the genuine strategic behaviour that brought at least some of the state and landholder representatives to the committee table, *viz.* the desire on the part of state agencies to simultaneously depoliticise potentially contentious resource issues and reduce expenditures (see, for example, Writing Group of the National Workshop on Integrated Catchment Management, 1988:xx; Martin, 1996:224; Ewing, 1996:274); and the desire on the part of landholders to pre-empt urban conservation interests gaining control of the rural environmental agenda (Barr, 1995:2).

Turning to the question of whether these catchment planning strategies have brought about any change in the property rights associated with land ownership, it is apparent that property rights simultaneously structure, and are structured by, the practice of integrated catchment management. In the Collaborative Study Report in 1978, the notion of cost-sharing was based on the primary responsibility of the landholder to fund remedial works, with support from the state where their financial situation made it difficult for them to carry out this responsibility. By the end of the 1980s, cost-sharing had been broadened to include those who benefited from such remedial works. For example, those at the lower end of a catchment who enjoyed an improvement in water quality due to changes in land management upstream are deemed under the beneficiary-pays principle to have a duty to contribute to the costs of such changes. In such a situation, the rights of the downstream water user to the water quality provided by ecosystem processes in the past are inferior to the property rights of the upstream land owner — the payment by the beneficiary is required to have the land owner refrain from the exercise of particular *de facto* rights of ecosystem intervention, i.e. the land owner is protected by a property rule (Bromley, 1978).

However, it could be argued that the power of property rights in land has done more in the evolution of the catchment planning process that simply extract some financial concessions for land owners. The language of catchment planning seems to have emerged in a form that makes it possible to negotiate the restriction of the property rights in land ownership, *without mentioning the restriction of property rights*. This enables catchment planning to, as it were, tiptoe past the slumbering dragon of absolutist property rights rhetoric which, if roused, has the potential to politicise the process and remove it from local control, an outcome that would be unattractive to both the local state agency staff and landholders. This interpretation is supported by Lockie's (1997:36) observation of the reluctance of Landcare members to challenge individual property rights, despite their recognition that integration of catchment management required sanctions against offenders. This is the concealed obverse of the alluring appeal of the 'integrated' catchment — integration cannot be achieved without restrictions on individual rights. There are clear parallels here with the rural depoliticisation discussed by Martin (1997). As for Landcare, this depoliticisation has occurred in part through the discourse of empowerment and

participation. However, for catchment planning the discourse of integration also neutralises the threat of politicisation of the restrictions in property rights that are inevitable in a mature agricultural landscape.

It would be relatively simple to conclude that property rights in land have remained unchanged while the state resource management bureaucracy and sympathetic professionals outside the bureaucracy have laboured mightily to produce a new language and complex of abstract concepts in an attempt to defuse the environmental critique of the state without waking the slumbering dragon of absolutist property rights rhetoric. This type of organisational behaviour is not uncommon in bureaucracies faced with implementing politically appealing but infeasible policies (Torgerson, 1990:122-123). Certainly the plans and strategies produced by integrated catchment management appear to have brought relatively little change on the land in private ownership on the catchments covered by the process (Marshall, 1998:23). This is partly attributable to the lack of statutory power it has been afforded, although as Marshall (1998:21) notes, this lack of power has been rationalised by some as a necessity for the hoped for effectiveness of integrated catchment management: 'it would have killed ICM to have given it power (Booth and Hooper, 1996:5 — cited by Marshall) and 'the underlying belief is that peer pressure will be much more effective than the threat of penalties' (Verhoeven, 1997:5 — cited by Marshall). Of course, the validity of such rationalisations depend greatly on integrated catchment management operating in the Pollyanna world of altruism and communicative rationality described by Cunningham (1986:5) above.

However, such idealistic explanations overlook the more subtle structuring influences of discourse. As Martin (1997:48) has discussed with respect to Landcare, the normalising power of discourse can gradually establish norms as to how problems are to be framed and thereby sideline competing framings. It is likely that, as the landholder members of catchment management committees absorb the language and framings of integrated catchment management from the State agency representatives, and as the committees develop patterns and norms of communicative relationships, it will become increasingly difficult for the landholder members to express any concerns they have about the restriction of property rights in terms of absolutist and libertarian arguments for property. With the discourse of integrated catchment management established as the norm, such arguments are then easily dismissed as 'playing politics'. But this does not mean that the dragon's teeth have been drawn — the disaffected landholder committee member always has the option of becoming active in a farmer organisation or the National Party or One Nation and playing the same politics on a State or national stage where such rhetoric can be effective in protecting the interests of property (as, for example, occurred with the Native Title Amendment Act, 1998).

At the local level, and for a subset of landholders, then, it seems possible that integrated catchment management has the kind of disciplining power noted by Martin (1997:47) in relation to Landcare. For those landholders who have internalised the logic and concepts of integrated catchment management, and for those fora where such logic and concepts hold sway, it could be argued that the social representations of property rights are considerably more restricted than what the common law would uphold (the ability of common law actions to scuttle the best laid catchment plans of professionals and producers was demonstrated in the case of *Gunnedah Shire v, Hansen*, 1993 in the Supreme Court — Burton, Junor and Whitehouse, 1994:4). So, it is possible that the discourse of integrated catchment management has brought about a form of self-regulated restriction of the property rights associated with land ownership, at least for some landholders.

Concluding Comments

The enduring lesson from the European settlement of rural Australia is that what you see in the landscape is not what you get. The western flowing rivers promised inland seas to the early explorers but were found to end in marshes and deserts. The park-like grasslands that

promised rich grazing, when cleared of their Aboriginal inhabitants, either sprouted dense forests of Eucalypts or turned to powdered dead grass and dust. The luxuriant rainforests, once cleared, revealed infertile soils. The deserts that were to be made to bloom with irrigation, had plentiful but salty water below the surface which has risen up and threatens to turn irrigated agriculture back to desert.

With such a treacherously deceptive landscape, perhaps the remarkable contradictions in the rural populace between ideology and reality should come as no surprise. The settlement of rural Australia was built on government land survey, government construction of roads, railways, bridges, bores, irrigation channels and dams, government settlement schemes, government provision of research and extension advice, government control of major agricultural pests, government subsidies on fertilisers and government control of marketing — the infant rural society was nurtured in the cradle of beneficent government support. Yet the farming populace has a deep and abiding mistrust of government intervention in their affairs.

Agriculture is only possible in much of Australia because of the intellectual efforts of the scientists who bred new varieties of wheat, who discovered and devised solutions for trace element deficiencies and major pests threats. Yet many farmers continue to devalue 'book-learning' compared to 'the school of hard knocks'.

Rural Australians pride themselves that in times of adversity they come together and lend each other a helping hand. Yet for almost two centuries, the original inhabitants of the continent lived in conditions of extreme adversity on the fringes of rural settlements and experienced, not the helping hand, but marginalisation, disenfranchisement, and genocide.

With these almost schizophrenic contradictions and a landscape that is rarely what it seems, great care needs to be taken in understanding the relationships between evolving landscapes, evolving institutions and rural environmental discourse that lie behind the arrows shown in Figure 1. To the traveller in rural Australia, the fences, gates and mailboxes speak of a landscape that has, almost in its entirety, passed into private property. Hidden and interwoven within the matrix of private ownership that covers rural Australia, there are open access property regimes and tragedies of open access crying out for collective action — which action could be coordinated either through further unbundling of the property rights inherent in land ownership, together with the action of market forces, or through the interleaving of common property regimes with existing private property. The seriousness of land degradation has brought some changes to property rights regimes, but rural Australia being what it is, the significance of these changes is quite different from what it might seem at first sight.

In irrigation areas, the solution to the syndrome of the mature water economy was seen by economists as the transformation of what had formerly been one of the property rights inhering in land ownership into an object of property itself, with the right to be exchanged in markets. However, as implementation of the Water Reforms proceeds, it is becoming apparent that the success of this unbundling of property rights will depend, not on the market forces that were the original attraction, but on whether or not the politics of participative planning is an improvement on the original politics of state control. Given the pivotal role that the rhetorical strength of the rights of private property has played in the unfolding of rural environmental policy and the limited effectiveness of this policy in halting land degradation to date, proposals for market-based approaches that create additional forms of private property, such as transferable water rights, require a degree of care in assessment that must go well beyond the simple attractions of efficiency.

The experience with integrated catchment shows that property rights can play a pivotal, yet invisible, role in shaping policy. What seemed for the soil conservation professionals to be a simple extension of the methods of the catchment projects of the 1950s and 1960s became a set of discursive resources essential to the legitimation of the state in its attempts bring about collective action to reduce the impact of the externalities of resource users. The

great strength of the language of integrated catchment management was its ability to plan restrictions on property rights while remaining impervious to absolutist and libertarian property rights rhetoric. But this strength is also its weakness. For the most part, the plans and strategies remain simply as symbolic expressions of problem closures obtained with the discursive resources of integrated catchment management. The plans and strategies remain unimplemented because to do so would bring a reality to the restrictions on property rights that would soon wake the slumbering dragon of absolutist and libertarian rhetoric. The willing landholder participants at the planning table would head straight for their lawyer or local member who can deploy such rhetoric with good effect on the floors of courtrooms, party rooms and legislatures.

As far as long term changes in land management practices are concerned, the unimplementable catchment plan is an irrelevance. What is important and likely ultimately to have gradual impacts on land degradation and externalities is the learning and reflection that occurred in the preparation of the plans and the normalising power of integrated catchment management discourse to bring about self-imposed restrictions by landholders on the property rights associated with land ownership. To a certain extent, participative catchment planning represented an institutional expression of a coming of age for a frontier society faced with the need to replace the individualism and freedoms of the frontier with the mutual interdependence and civic responsibilities of a mature rural society. If an ethic is to be promoted as a solution to land degradation, perhaps civic responsibility and cooperation is more appropriate to the current class of problems rather than the land stewardship ethic on which the logic of Landcare is based (which ethic Vanclay's, 1992:118, work shows has never been lacking among the majority of landholders). From this perspective, it is likely that integrated catchment will bring about some changes, but probably not in the ways anticipated in the plans and strategies. Whether these changes will be sufficient to reverse the current pace of land degradation remains to be seen.

Malouf in his Boyer lectures in 1998 argued that it was the institution of private property that transformed Australia's first settlements from penal societies to a civil societies (Malouf, 1998:15-16). Perhaps it is the institution of common property, rather than markets in unbundled property rights, that is needed to transform rural Australia from an overgrown frontier society to a mature rural society with the institutional capacity and norms of civic responsibility to use its resources sustainably. A 21st century Trollope might be able to comment, not on the freedoms of the pastoralist, but on his or her participation in the institutions needed for sharing the invisible commons that emerged in the late 20th century.

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¹A third perspective comes from the free market environmentalism and property rights schools and some parts of environmental economics. Much of this literature has been concerned with justifying the argument for increased private ownership of natural resources and the services provided by the environment (see, for example, Moran, 1991; Anderson and Leal, 1991). It has come under increasing criticism for its failure to distinguish between open access and common property rights regimes (see, for example, Randall, 1972; Bromley, 1978; Dasgupta and Maler, 1991; Baland and Platteau 1996) and, for this reason is not drawn upon in this chapter.