

WHAT IS GOOD LAND USE? FROM RIGHTS TO RELATIONSHIP

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[Industrial agriculture is the dominant method for feeding an increasingly urbanised world. However, a growing body of literature suggests that industrial practices are unsustainable and risk global food security. This article examines the legal–philosophical dimension of this literature and the vision of good land use promoted in both industrial and agrarian farming practices. It argues that industrial agriculture is premised on a concept of private property that promotes individual preference satisfaction, separates people from place and fragments landscape. In response, this article examines agrarian farming practices as a means of re-conceiving private property so that it is seen to embrace not only human good, but also ethics and the land itself. By re-conceiving private property as embracing these factors, private property may offer but one solution to the agricultural crisis.]

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I INTRODUCTION

Food business is far and away the most important business in the world. Everything else is a luxury. Food is what you need to sustain life every day. Food is

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fuel. You can't run a tractor without fuel and you can't run a human being without it either. Food is the absolute beginning.¹

There are some basic truths that will shape the future of farming and land use in the 21st century. The first is that there will be 'a steady increase in the consumption of food and fiber produced by agriculture'.² The second is a deepening environmental crisis and the loss of healthy farming land.³ Jason Clay notes that these 'two trends are on a collision course'⁴ and present a significant challenge to global food security⁵ and environmental health. The western world's conversion from agrarian, local, fully integrated food systems to industrialised, monocultural agricultural production has a number of adverse consequences. Throughout each level of our food system we can trace this crisis as it manifests in soil erosion, poisoned groundwater, loss of biodiversity, toxic chemicals in food and fibre, loss of beauty and a myriad of other environmental and social problems. Exacerbating this crisis is the continued expansion of this farming system around the world.

The agricultural crisis is fundamentally a crisis of culture, a situation first described over 30 years ago in Wendell Berry's classic book, *The Unsettling of America*.⁶ A central theme in this book is the importance of relationship with community and with the land. Berry laments that we routinely neglect these relationships and regard the land as an abstract, fragmented entity, with individuals using distinct parcels of it.⁷ We value its parts and underestimate the ecological and social bonds.⁸ This perspective extends beyond the issue of land use and characterises human ethics and values.⁹ Speaking about the importance of relationship, Berry notes:

A healthy farm culture can be based only upon familiarity and can grow only among a people soundly established upon the land ... The growth of such a cul-

¹ Dwayne Andreas, quoted in Christopher D Cook, *Diet for a Dead Planet: How the Food Industry Is Killing Us* (New Press, 2004) 3.

² Jason Clay, *World Agriculture and the Environment: A Commodity-by-Commodity Guide to Impacts and Practices* (Island Press, 2004) vii. The global population is expected to rise by nearly 3 billion people during the first half of the century. For some areas, population growth currently threatens food security. For a detailed analysis, see Lester R Brown, *Outgrowing the Earth: The Food Security Challenge in an Age of Falling Water Tables and Rising Temperatures* (W W Norton & Company, 2004) 22–39; Lester R Brown, *Plan B 4.0: Mobilizing to Save Civilization* (W W Norton & Company, 2009) 31–51.

³ Clay, above n 2, vii.

⁴ Ibid.

⁵ Food security exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. See generally Food and Agriculture Organization of the United Nations, *Investing in Food Security*, UN Doc I/11230E/1/11.09/1000 (November 2009).

⁶ Wendell Berry, *The Unsettling of America: Culture & Agriculture* (Sierra Club Books, 1977). Lawrence Rosen, *Law as Culture: An Invitation* (Princeton University Press, 2006) provides an insightful introduction to the relationship between law and culture. For an introduction to cultural integration and legal evolution, see Michael McCann (ed), *Law And Social Movements* (Ashgate, 2006).

⁷ Berry, *The Unsettling of America*, above n 6, 39–50.

⁸ See Eric T Freyfogle, 'Wendell Berry and the Limits of Populism' in Jason Peters (ed), *Wendell Berry: Life and Work* (University Press of Kentucky, 2007) 173.

⁹ Berry, *The Unsettling of America*, above n 6, 17–26.

ture was once a strong possibility in the farm communities of this country. We now have only the sad remnants of those communities. If we allow another generation to pass without doing what is necessary to enhance and embolden the possibility now perishing with them, we will lose it altogether. And then we will not only invoke calamity — we will deserve it.¹⁰

The agricultural crisis provides a pertinent opportunity to consider a basic question: *what is good land use?* My intention in this article is to investigate one important aspect of this question, the legal–philosophical concept of private property.¹¹ Thus, I am focusing on the *idea* rather than the *institution* of private property.¹² Laura Underkuffler explains this distinction, noting that private ‘[p]roperty is both an *idea* and an *institution*; it is how people envision it — “that is, what concept they have of it” — and also how it is, as a social, political, and legal institution, implemented to resolve particular conflicts in society.’¹³ Naturally, there are many points of connection between the two. However, an investigation into the idea allows one to understand the intellectual basis of the institution and to uncover the law’s main message about what it *means* to own the land.¹⁴

In investigating the idea of private property, I will contrast two visions of land use, described broadly in terms of industrial and agrarian perspectives. From the industrial perspective, the question of good land use is considered in economic terms. Land use is good if it increases production and maximises profit. To achieve these goals, it preferences large-scale monocultures, machinery, genetic technology and inorganic pest control.¹⁵ Industrial practices reflect a vision of good land use that developed during the industrial revolution, when commercial interests played a key role in developing the legal idea of private property¹⁶ and reshaping this institution to expand the types of land use it prescribed.¹⁷ The changes initiated during this period are reinforced by current industrial land use practices.

From this analysis of the industrial perspective, I will note that the idea of private property is premised on individualism and the liberty to use one’s property in a manner that maximises individual preferences. Further, the idea

¹⁰ Ibid 43–4 (emphasis altered).

¹¹ In taking this focus, I expressly acknowledge other separate and intersecting contributions to the agricultural crisis, including free trade agreements, commercial pressure and the role of consumer pricing.

¹² For an introduction into the ‘idea’ of private property, see generally J E Penner, *The Idea of Property in Law* (Clarendon Press, 1997); Margaret Davies, *Property: Meanings, Histories, Theories* (Routledge-Cavendish, 2007).

¹³ Laura S Underkuffler, *The Idea of Property: Its Meaning and Power* (Oxford University Press, 2003) 121 (emphasis in original) (citations omitted).

¹⁴ See Eric T Freyfogle, ‘Ownership and Ecology’ (1993) 43 *Case Western Reserve Law Review* 1269.

¹⁵ See Andrew Kimbrell, ‘Learning to See What You Are Looking at’ in Andrew Kimbrell (ed), *Fatal Harvest: The Tragedy of Industrial Agriculture* (Island Press, 2002) 84, 84–9.

¹⁶ My analysis will focus particularly on private property. For ease of communication I will use the term ‘property’ where appropriate. I will also use the term ‘liberal theory’ to describe the mainstream or orthodox conception of private property.

¹⁷ See Eric T Freyfogle, ‘Property Rights, the Market, and Environmental Change in Twentieth-Century America’ (Research Paper No 00-01, College of Law, University of Illinois, November 2001) 3–4.

focuses on interactions between people, rather than with physical nature. By removing land from the equation, private property separates people from place and provides no legal reason for 'relationship'. Following from this point, private property views the land as a 'bundle of rights', which can be divided into discrete parcels and used with no overarching vision of natural health. Taken together, I contend that this understanding of private property is integral to the industrial vision of land use and represents one of the primary elements of the agricultural crisis. While other authors have critiqued the idea of private property in a similar fashion,¹⁸ this article is unique in contextualising the critique and demonstrating its specific application to the pressing issue of industrial agriculture.

If we are to sustain a growing population and preserve a healthy environment, I contend that our idea of private property needs to be reformed to recognise relationship as a guiding principle. In order to do this, I will consider an alternative vision of good land use, described broadly as agrarianism. Agrarian farming methods concentrate on small-scale polycultures and seek to shape human practice to fit the contours, climate and attributes of the land. Pests are controlled organically and/or through companion planting and permaculture principles.¹⁹ Importantly, agrarianism does not offer an official theory of private property.²⁰ However, it is a system of land use premised on the existence of private property, and from close analysis of its practices I will attempt to extrapolate an alternative idea of private property. This article is unique in attempting this synthesis and will shift our discussion beyond human property rights to include relationship with place, ecosystem relationships and ethical considerations.

I will conclude by noting that agrarianism provides a viable alternative to the way we produce food and offers guidance as to how we can revise our idea of private property to reflect growing ecological needs. Agrarian philosophy is being practised by a growing number of people throughout the world who recognise the environmental impacts of current land use practices and are

¹⁸ See, eg. John M Meyer, 'The Concept of Private Property and the Limits of the Environmental Imagination' (2009) 37 *Political Theory* 99; David B Hunter, 'An Ecological Perspective on Property: A Call for Judicial Protection of the Public's Interest in Environmentally Critical Resources' (1988) 12 *Harvard Environmental Law Review* 311; J Peter Byrne, 'Green Property' (1990) 7 *Constitutional Commentary* 239; Joseph L Sax, 'Property Rights and the Economy of Nature: Understanding *Lucas v South Carolina Coastal Council*' (1993) 45 *Stanford Law Review* 1433; Terry W Frazier, 'The Green Alternative to Classical Liberal Property Theory' (1995) 20 *Vermont Law Review* 299; Terry W Frazier, 'Protecting Ecological Integrity within the Balancing Function of Property Law' (1998) 28 *Environmental Law* 53; Lynda L Butler, 'The Pathology of Property Norms: Living within Nature's Boundaries' (2000) 73 *Southern California Law Review* 927; Carl J Circo, 'Does Sustainability Require a New Theory of Property Rights?' (2009) 58 *University of Kansas Law Review* 91.

¹⁹ See Kimbrell, above n 15, 84–9. I do not wish to imply that agrarian communities all officially practise permaculture.

²⁰ Wendell Berry notes that 'agrarianism is primarily a practice, a set of attitudes, a loyalty, and a passion; it is an idea only secondarily and at a remove': Wendell Berry, 'The Whole Horse: The Preservation of the Agrarian Mind' in Andrew Kimbrell (ed), *Fatal Harvest: The Tragedy of Industrial Agriculture* (Island Press, 2002) 7, 8.

choosing to enter into a new relationship with nature.²¹ The freedom to choose a new idea of ownership, as individuals and as a community, is central to the liberal theory of private property. Further, as an evolving social institution, collective action is fundamental to the reform of private property.

II THE INDUSTRIAL PERSPECTIVE

Industrial agriculture is the largest industry on the planet. It has ‘modified the natural landscape more than any other human activity.’²² It arose as a product of the industrial revolution during the late 18th and 19th centuries. Felipe Fernández-Armesto notes that the first stage of the intensification of food production was scientific stockbreeding and soil management, followed by the introduction of new technology into planting, fertilising, harvesting and drainage.²³ There was no pattern beyond these basic steps because conditions were so various. In the Americas and Australasia the focus turned to ‘huge-scale, increasingly mechanized farming and ranching.’²⁴ The transition from agrarian to industrial agriculture in America has been described as follows:

People first filled and then departed the landscape. Engine-driven machines had essentially finished replacing draft-horse and human labor by the 1950s. Hybrid corn and other highly bred crops requiring synthetic fertilizers and pesticides replaced well-established varieties. Increasingly, farmers’ traditional knowledge and agrarian culture were displaced by a managerial and industrial culture — a profound shift in the foundations of society.²⁵

To carry out these activities, industrial interests promoted a new vision of private ownership and the rights and responsibilities of landowners.²⁶ Harvard legal historian Morton Horwitz notes:

Law, once conceived of as protective, regulative, paternalistic and, above all, a paramount expression of the moral sense of the community, had come to be thought of as facilitative of individual desires and as simply reflective of the existing organization of economic and political power.²⁷

Fundamental to this shift was the idea that private property entailed the right to use the land more intensely than had been practised by previous generations. For example, communities that once enjoyed water laws that protected natural flow had these removed so that industries could draw more water and even pollute the

²¹ Aspects of agrarian philosophy can be seen in community gardens, urban farms, community-supported agriculture, and guerrilla gardening. For a fascinating account, see Joel Salatin, *Everything I Want to Do Is Illegal: War Stories from the Local Food Front* (Polyface, 2007); Andrea Gaynor, *Harvest of the Suburbs: An Environmental History of Growing Food in Australian Cities* (University of Western Australia Press, 2006); Sharon Astyk and Aaron Newton, *A Nation of Farmers: Defeating the Food Crisis on American Soil* (New Society Publishers, 2009).

²² Clay, above n 4, 3.

²³ Felipe Fernández-Armesto, *Near a Thousand Tables: A History of Food* (Free Press, 2002) 191.

²⁴ *Ibid.*

²⁵ Paul Hawken, Amory B Lovins and L Hunter Lovins, *Natural Capitalism: The Next Industrial Revolution* (Earthscan, revised ed, 2010) 190–1 (citations omitted).

²⁶ See Morton J Horwitz, *The Transformation of American Law: 1780–1860* (Harvard University Press, 1977) 253.

²⁷ *Ibid.*

system. Industrial parties required the right to emit smoke that degraded air quality, to make noise that scared livestock, and on occasion to emit sparks which had the potential to set wheat fields on fire. Waterwheels disrupted the migration of fish and tall buildings blocked sunlight.²⁸ The legal idea of private property was reconceptualised to promote market growth ‘at the expense of farmers, workers, consumers, and other less powerful groups within the society.’²⁹

Over the next hundred years, western lawmakers entrenched this shift in positive law.³⁰ Land was redefined as a commodity, which could be used, exploited and even destroyed to satisfy production and profit. We can learn a great deal more about the changes in property law that occurred during this period by investigating the legal ideas that informed them. I will begin this analysis with the notion of individual liberty, which is central to the modern idea of private property.

A Individualism and Preference Satisfaction

Private property received its first sophisticated definition in the Roman concept of *dominium*.³¹ Roman jurists did not describe the normative content of *dominium* and left its meaning to develop from use.³² However, during the revival of Roman law during the 11th century, jurists defined *dominium* as akin to ‘lordship’ and further noted that it was a ‘sovereign, ultimate, or “absolute” right to claim title and hence the possession and enjoyment of a thing.’³³ While the institution of private property has never reflected such absolute language,³⁴ the idea of dominion has been maintained in cultural narratives³⁵ and ‘lay’³⁶

²⁸ Freyfogle, ‘Property Rights’, above n 17, 4.

²⁹ Horwitz, above n 26, 253–4.

³⁰ *Ibid.*

³¹ Richard Pipes, *Property and Freedom* (Alfred A Knopf, 1999) xv. This early conception is important because ‘Roman ideas about private and public property provide a kind of DNA of legal ownership, the intellectual structure within which most later legal thought has developed’: Joshua Getzler, ‘Roman Ideas of Landownership’ in Susan Bright and John Dewar (eds), *Land Law: Themes and Perspectives* (Oxford University Press, 1998) 81, 81. Getzler notes further (citations omitted):

It can no longer be doubted that the English common law of property was deeply influenced by the Roman doctrines of possession, title, and servitudes. It follows that all cultivated law students in common law ... should have some awareness of Roman and Civilian doctrines of landownership.

See also S F C Milsom, *Historical Foundations of the Common Law* (Butterworths, 2nd ed, 1981) 119, which notes that common law ideas of ‘seisin’ and ‘right’ were ‘for ever dazzled by the Roman vision of possession and ownership’.

³² Barry Nicholas, *An Introduction to Roman Law* (Oxford University Press, 1962) 153–7.

³³ Getzler, above n 31, 82.

³⁴ Despite such absolute language, *dominium* was qualified, for as Peter Birks notes, ‘no community could tolerate ownership literally unrestricted in its content’: Peter Birks, ‘The Roman Law Concept of Dominium and the Idea of Absolute Ownership’ [1985] *Acta Juridica* 1, 1.

³⁵ Certainly the most influential cultural narratives addressing this point are Stoic humanism and the biblical granting of dominion in Genesis.

³⁶ I am borrowing the term ‘lay’ from J W Harris, *Property & Justice* (Clarendon Press, 1996) 119, who observes that ‘[c]ontemporary property theorists in the English-speaking world commonly pose a contrast between the lay and the legal view of property.’

understandings of property. From this perspective it matters a great deal how ‘real, socially-situated, flesh and blood people’³⁷ understand private ownership. Underkuffler notes:

From the earliest moments of childhood, we feel the urge to assert ourselves through the language of possession against the real or imagined predations of others. ‘Property’ as an assertion of self and control of one’s environment provides human beings with a place of deep psychological refuge. With its concreteness and its unfailing assurances, property promises to protect us from change and from our fear that we will leave no evidence of our passage through this world.³⁸

During the agricultural revolution, the notion of dominion was given tangible legal support through the popularisation of liberal political theory. The principles most commonly associated with liberal theory include freedom, toleration, autonomy and individual rights.³⁹ Of these ideals, the ‘deepest commitment of liberal political philosophy is to individualism’⁴⁰ and to providing freedom to fulfil individual potential.⁴¹ Indeed, liberals hold that individual human persons are the most important factor in social and political matters. One may have an interest (and indeed many liberals do) in community, the environment and non-human animals, but ‘for a liberal such interest is always secondary or derivative.’⁴²

Under the influence of liberalism the ‘idea’ of private property strengthened in its pursuit of personal preferences and desires. The important idea of the ‘common good’, which limited individual property rights for the good of the community, was soon eroded.⁴³ Joseph William Singer encapsulates this shift in the concept of the ‘ownership model’. He explains:

We presume that most uses of property are self-regulating, in that only the owner is legitimately interested and others have no legitimate claims to control what the owner does with his own property. Substantial freedom to control one’s property without interference by government regulation is believed to promote both individual autonomy and economic efficiency.⁴⁴

The ownership model is pervasive in western law and in countries that have imported western property law and theory. However, there is a growing recognition that it is misleading, morally deficient and contributes significantly to environmental harm. Indeed, the ownership model encourages landowners to use their property with no regard for the needs of others. It focuses on self-interest

³⁷ Paul Babie, ‘How We Control the Environment and Others’ in Peter Burdon (ed), *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Wakefield Press, 2011) 279.

³⁸ Underkuffler, *The Idea of Property*, above n 13, 1 (citations omitted).

³⁹ Jeremy Waldron, ‘Liberalism’ in Edward Craig (ed) *The Shorter Routledge Encyclopedia of Philosophy* (Routledge, 2005) 570, 570.

⁴⁰ *Ibid* 572 (emphasis altered). See generally Andreas Kalyvas and Ira Katznelson, *Liberal Beginnings: Making a Republic for the Moderns* (Cambridge University Press, 2008).

⁴¹ Frazier, above n 18, 300.

⁴² Waldron, above n 39, 572.

⁴³ Freyfogle, ‘Property Rights’, above n 17, 4–5.

⁴⁴ Joseph William Singer, *The Edges of the Field: Lessons on the Obligations of Ownership* (Beacon Press, 2000) 3.

and abhors obligation. As Singer notes, ‘ownership and obligation are opposites’ in this framework, as are ‘property and regulation.’⁴⁵ Indeed, if private property is conceived of as individual ownership, and ownership means power without obligation, we have fashioned a framework which advances the owner above all else. According to Singer, ‘we are invited to live as if we were the only ones that mattered ... we are invited to live as if we were alone.’⁴⁶

Yet property does not exist in a vacuum, and our choices have real and very important impacts on human beings and the environment.⁴⁷ Leaving theory aside for one moment, we can discern the ownership model in the pervasive use of toxic products employed by industrial landowners. Here, the mantra is ‘if it is legal, it is acceptable’, and in the absence of regulation, landowners behave as though they were isolated and prioritise their own preferences and needs above the community and the land. As a consequence, global pesticide use has more than doubled in the past 30 years to approximately 5 million metric tonnes per year.⁴⁸ In Australia, pesticide sales increased from \$1100 million in 1996 to \$1600 million in 1999, representing a 40 per cent increase in nominal terms.⁴⁹ Sales during 2006–07 remained relatively constant at \$1648.81 million.⁵⁰ The ‘[w]orldwide environmental costs of pesticide is estimated to be \$100 billion per year.’⁵¹

Today, toxic residues from pesticides can be found everywhere: ‘in most of the major rivers and groundwater; “lodged in the bodies of fish, birds, reptiles and domestic and wild animals”; “stored in the bodies of the vast majority of human beings”; found even in that most sacred nectar, mother’s milk.’⁵² Certainly, what some landowners view as ‘individual’ or ‘isolated’ choices actually take place within a vast network of interconnected relationships. A sophisticated analysis of the environmental impacts from agricultural pesticides comes from the United States:

the evidence shows clearly that pesticides are, very likely, in your backyard: in your child’s schoolyard, in the stream by the park, in the river or lake in which you swim, in the water you drink. According to a 1998 analysis by the California Public Interest Research Group, nearly 4 million Californians live within half a mile of heavy applications of pesticides, a third of which are ‘designated

⁴⁵ Ibid 6.

⁴⁶ Ibid.

⁴⁷ See Joseph L Sax, ‘Takings, Private Property and Public Rights’ (1971) 81 *Yale Law Journal* 149, 152.

⁴⁸ Clay, above n 2, 53. See also Monica Moore, ‘Hidden Dimensions of Damage: Pesticides and Health’ in Andrew Kimbrell (ed), *Fatal Harvest: The Tragedy of Industrial Agriculture* (Island Press, 2002) 245; Rai Kookana and Ray Correll, *Environmental Impact of Pesticides: A Risk Based Approach* (2002) <http://www.clw.csiro.au/staff/KookanaR/Environ_Impact_Pesticides_Sept2002.pdf>.

⁴⁹ John C Radcliffe, Australian Academy of Technological Sciences and Engineering, *Pesticide Use in Australia* (2002) 9 <<http://www.atse.org.au/resource-centre/func-startdown/217/>>.

⁵⁰ CropLife Australia, *Some Facts about Pesticide Sales in Australia* (December 2008) <http://www.croplifeaustralia.org.au/default.asp?V_DOC_ID=1756>.

⁵¹ Kookana and Correll, above n 48. This figure is given in United States dollars.

⁵² Cook, above n 1, 160–1 (citations omitted).

by state or federal regulatory agencies as carcinogens, reproductive toxins or acute nerve poisons'.⁵³

Outside of the human community, pesticide use has greatly affected bird life. Every year in the United States agricultural pesticides alone kill an estimated 67 million birds.⁵⁴ For those that survive, many are left with an array of side effects, including '[w]eight loss, increased susceptibility to predation, decreased disease resistance, lack of interest in mating and defending territory, and abandonment of nestlings'.⁵⁵ Studies in Australia have also detected pesticide residue in over 15 ground and surface water systems.⁵⁶ Similarly, in the United States, more than 139 different types of pesticide have been detected in groundwater.⁵⁷ Atrazine⁵⁸ was found in 99.9 per cent of samples in one United States study⁵⁹ and the levels of atrazine found in most of the samples were unsafe for aquatic life or for human drinking. Further, a study in 1992 by the United States Environmental Protection Agency found that 10.4 per cent of community wells 'contained detectable levels of one or more pesticides'.⁶⁰ These statistics pale in comparison to levels found in rivers and streams. State regulators in California detected pesticides in 95 per cent of the locations tested in the Central Valley.⁶¹ Over half of these sites recorded levels of pesticides that exceeded safe levels for aquatic life and human consumption.⁶² In Kentucky, where farmers apply roughly 4.5 million pounds of pesticide each year, the State Department for Environmental Protection discovered atrazine and metolachlor⁶³ in all of the 26 river sites they examined. Simazine⁶⁴ was found in 91 percent of sites.⁶⁵

⁵³ Ibid 166 (citations omitted).

⁵⁴ Susan Kegley, Lars Neumeister and Timothy Martin, *Californians for Pesticide Reform, Disrupting the Balance: Ecological Impacts of Pesticides in California* (1999) 1 <<http://www.panna.org/sites/default/files/DisruptingtheBalance1999.pdf>>.

⁵⁵ Ibid. See also US Fish & Wildlife Service, *Pesticides and Birds* (2000) <http://library.fws.gov/pubs/mbd_pesticides-3-00.pdf>.

⁵⁶ See Kookana and Correll, above n 48.

⁵⁷ Roy F Spalding et al, 'Herbicides in Ground Water beneath Nebraska's Management Systems Evaluation Area' (2003) 32 *Journal of Environmental Quality* 92, 92.

⁵⁸ Atrazine is an organic compound consisting of a s-triazine-ring. Although banned in the European Union, it is still one of the most widely used herbicides in the world today. It is commonly used to stop pre- and post-broadleaf and grassy weeds in major crops.

⁵⁹ Spalding et al, above n 57, 95. See also Kookana and Correll, above n 48, where they draw specific attention to the risk of endocrine disruption from contamination.

⁶⁰ Edwin D Ongley, 'Control of Water Pollution from Agriculture' (FAO Irrigation and Drainage Paper No 55, Food and Agriculture Organization of the United Nations, 1996) 54 <<ftp://ftp.fao.org/agl/aglw/docs/idp55e.pdf>>.

⁶¹ California Sportfishing Protection Alliance, *Angling Groups Protest Agricultural Pollution Cite Impacts to Fishery Health and Human Consumption* (16 November 2002) The Fish Sniffer Online <<http://www.fishsniffer.com/guest/111602cspa.html>>.

⁶² Ibid.

⁶³ Metolachlor is an organic compound, commonly used in grass and broadleaf weed control in corn, soybean, peanuts, sorghum and cotton crops. It contains carcinogens and has been proven to be toxic for aquatic life.

⁶⁴ Simazine is an artificial compound used to control broad-leaved weeds and annual grasses.

⁶⁵ Department for Environmental Protection (Kentucky), *Pesticides in Kentucky River* (2000). Groundwater pollution is further exacerbated by non-point source pollution ('NPSP'). Unlike pollution from point sources such as industrial and sewage treatment plants, NPSP comes from many diffuse sources. Polluted run-off is caused by rainfall or snowmelt moving over and through the ground. As the run-off moves, it picks up and carries away human-made pollutants,

Importantly, pesticides are also carried in the air. The United States Geological Survey states that '[n]early every pesticide that has been investigated has been detected in air, rain, snow, or fog across the Nation at different times of year.'⁶⁶ A slow breeze can carry a pesticide vast distances and become 'a source of human exposure or environmental contamination several hundred feet or several hundred miles away.'⁶⁷ Diazinon,⁶⁸ a highly toxic agent sprayed on nuts and stone fruit, actually increases in concentration as time passes.⁶⁹ One community at high risk from agricultural pollution is California, where decades of expanding urban sprawl have bridged the gap between agricultural land and urban living. More than 90 per cent of pesticides used in California are likely to drift elsewhere and one third are highly toxic to humans.⁷⁰ A 2003 study by Californians for Pesticide Reform stated that 'Californians are routinely exposed to concentrations of pesticides in air that exceed levels of health concern, often by large margins.'⁷¹ Samples of two pesticides, metam-sodium⁷² and chlorpyrifos,⁷³ were found at levels some 111 and 184 times greater than the acute exposure standards set by the Californian government for young children.⁷⁴

Clearly, the ubiquitous spread of these toxins is a serious matter that affects both environmental and public health. It demonstrates how the idea of private property, grounded in individual preferences, can influence a form of land use that ignores our relationship with neighbours and the land. Indeed, the spread of these toxins throughout the environment demonstrates in a very tangible way that the choices we make as property owners have consequences that flow beyond our borders and ourselves. By ignoring these important relationships, the legal idea of private property is playing a fundamental role in the agricultural crisis.

finally depositing them into watersheds through lakes, rivers, wetlands, coastal waters, and even underground drinking water. For information on how NPSP contributes to environmental harm in the United States, see United States Environmental Protection Agency, *Protecting Water Quality from Agricultural Runoff* (March 2005) <http://www.epa.gov/owow/nps/Ag_Runoff_Fact_Sheet.pdf>.

⁶⁶ United States Department of the Interior and United States Geological Survey, 'The Quality of Our Nation's Waters: Nutrients and Pesticides' (US Geological Survey Circular No 1225, 1999) 26 <<http://pubs.usgs.gov/circ/circ1225/pdf/index.html>>.

⁶⁷ Zev Ross and Jonathan Kaplan, Californians for Pesticide Reform, *Poisoning the Air: Airborne Pesticides in California* (1998) iv <<http://www.pesticidereform.org/downloads/poisonAir.pdf>>.

⁶⁸ Diazinon is a non-synthetic organophosphate insecticide used for pest control. The United States Environmental Protection Agency has prohibited its use in golf courses, sod farms and common insect control. However, it is still approved for agricultural uses. Diazinon kills insects by inhibiting acetylcholinesterase, an enzyme necessary for proper nervous system function. Following application, traces can remain in soil for up to six weeks.

⁶⁹ Cook, above n 1, 170.

⁷⁰ Susan Kegley, Anne Katten and Marion Moses, Californians for Pesticide Reform, *Secondhand Pesticides: Airborne Pesticide Drift in California* (2003) 1, 7 <<http://www.pesticidresearch.com/docs/SecondhandPcides.pdf>>.

⁷¹ Ibid 2.

⁷² Metam-sodium is a soil fumigant widely used to kill insects.

⁷³ Chlorpyrifos is used to control insect pests. Chronic exposure to chlorpyrifos has been linked to neurological effects, developmental disorders and autoimmune disorders. It has also been linked to asthma, reproductive difficulties and acute toxicity.

⁷⁴ Kegley, above n 70, 2.

B *Separating People from Place*

The liberal theory of private property also presents a vision of land use which devalues the relationship between people and the land.⁷⁵ To understand this point, we need to consider further the legal definition of property. Singer notes that '[p]roperty concerns legal relations among people regarding control and disposition of valued resources. Note well: Property concerns relations *among people*, not relations between people and things.'⁷⁶ This statement reflects the modern view that property consists not of tangible or intangible objects, but of rights held between individuals in relation to the control and use of resources.⁷⁷ Thus, what we 'own' is not, in a legal sense, land. What we 'own' is a right against another person — the land is irrelevant. This strange abstraction was first proposed by Jeremy Bentham, who described property as 'metaphysical' and a 'mere conception of the mind.'⁷⁸ This perspective reflects a backlash against old forms of property that no longer reflected the emerging economy, where land no longer functioned as the most important source of social wealth and power. Bentham proposed a unified system of property that reflected equally 'newer proprietary interests such as shares in companies and copyright'.⁷⁹ Significantly, Bentham also sought to promote efficient management and security of land title following the enclosure movement,⁸⁰ which had forced many rural farmers off their land.⁸¹

On this shift, Kenneth Vandavelde notes that '[c]ourts ... began to define property as the right to value rather than to some thing.'⁸² Against this background, Wesley Newcomb Hohfeld presented two articles that would entrench the person–person idea of private property.⁸³ His central point was that property weighs the 'aggregates of *abstract* legal relations' rather than deferring to 'figurative or fictional'⁸⁴ categories of property according to distinctions between physical items. As a consequence of these influences, as Nicole Graham notes:

⁷⁵ I am indebted to Nicole Graham for bringing this point to my attention. For a comprehensive analysis, see Nicole Graham, *Landscape: Property, Environment, Law* (Routledge-Cavendish, 2010).

⁷⁶ Joseph William Singer, *Introduction to Property* (Aspen Publishers, 2nd ed, 2005) 2 (emphasis in original) (citations omitted).

⁷⁷ *Ibid.* See also Harris, above n 36, 119.

⁷⁸ Jeremy Bentham, 'Security and Equality of Property' in C B Macpherson (ed), *Property: Mainstream and Critical Positions* (University of Toronto Press, 1978) 41, 51.

⁷⁹ Mary Sokol, 'Bentham and Blackstone on Incorporal Hereditaments' (1994) 15 *Journal of Legal History* 287, 287.

⁸⁰ See *ibid* 290.

⁸¹ See generally Jeremy Burchardt, *Paradise Lost: Rural Idyll and Social Change since 1800* (I B Tauris & Co, 2002); Jeremy Burchardt, *The Allotment Movement in England, 1793–1873* (Boydell Press, 2002).

⁸² Kenneth J Vandavelde, 'The New Property of the Nineteenth Century: The Development of the Modern Concept of Property' (1980) 29 *Buffalo Law Review* 325, 333.

⁸³ See Wesley Newcomb Hohfeld, 'Some Fundamental Legal Conceptions as Applied in Judicial Reasoning' (1913) 23 *Yale Law Journal* 16; Wesley Newcomb Hohfeld, 'Fundamental Legal Conceptions as Applied in Judicial Reasoning' (1917) 26 *Yale Law Journal* 710. Note that Hohfeld's work was addressed to legal concepts generally. His work is important for its clarification and reduction of concepts relating to the recent changes experienced in property.

⁸⁴ Hohfeld, 'Some Fundamental Legal Conceptions', above n 83, 24 (emphasis in original).

Property was no longer defined absolutely, by categories of ‘real’ or ‘personal’ things, because these ‘things’ were now, as ‘things’, meaningless. Instead, property was defined as relative, that is, by relating the rights of persons to each other.⁸⁵

Under Hohfeld’s influence, the person–person conception of private property became the dominant framework in law. Stephen Munzer notes that ‘Hohfeld’s vocabulary has no serious rival of its kind in intellectual clarity, rigor, and power.’⁸⁶ While this claim will be contested in this article,⁸⁷ few orthodox writers have questioned the environmental consequences of separating our idea of property from physical or intangible objects. To return to our overarching theme of industrial agriculture, there is no question that Hohfeld’s analysis buries the significance and meaning of the land that is being farmed. Relationship to place is irrelevant and ‘[a]ny thought to the contrary, Hohfeld argued was “fallacious”.’⁸⁸

This is a most extraordinary idea and one that would surely puzzle many farming communities that have farmed sustainably and lived on the land for generations. Many would certainly ignore such a suggestion and continue to operate in relationship with the land. However, for industrial farmers the legal idea of private property promotes a vision of land use that separates people from place. This is crucial, because without a relationship to the land, a farmer cannot appreciate and respond to its ecological limits. Instead, we are left with what Berry terms a culture of the ‘one-night stand’.⁸⁹ He writes, ‘the industrial eater says to the svelte industrial hog, “We’ll be together at breakfast. I don’t want to see you before then, and I won’t care to remember you afterwards.”’⁹⁰ The industrial method of food production forgets the ground on which it stands. It has the potential to treat the land as alien, something that we can exploit and wreck, because it is other. Further, as Hannah Arendt warns, it ‘harbors the grave danger that eventually no object of the world will be safe from consumption and annihilation through consumption.’⁹¹ Certainly we are already realising this danger in industrial agriculture.

C Fragmentation of Landscape

Finally, the industrial system of agriculture seeks to maximise productivity by planting large-scale monocultural crops rather than focusing on the diverse needs

⁸⁵ Graham, above n 75, 142.

⁸⁶ Stephen R Munzer, *A Theory of Property* (Cambridge University Press, 1990) 19.

⁸⁷ See also the social relations theory of property, which reinterprets Hohfeld to advance its claim of the social origin and importance of property. For an introduction, see Joseph William Singer and Jack M Beermann, ‘The Social Origins of Property’ (1993) 6 *Canadian Journal of Law and Jurisprudence* 217.

⁸⁸ Graham, above n 75, 143.

⁸⁹ Berry, ‘The Whole Horse’, above n 20, 7.

⁹⁰ *Ibid.*

⁹¹ Hannah Arendt, *The Human Condition* (University of Chicago Press, 1958) 133. This is of critical importance for Arendt, because she views the destruction of nature as a destruction of the self. Nature is a condition of human life, not something that we should be separate from or destroy.

of the broader 'bioregion'.⁹² This vision is supported by the liberal idea of private property, which is an individual right and provides owners with distinct 'bundles of rights' over land.⁹³ Owners have no obligation to use the land in a manner that is consistent with or provides benefits to living systems. Freyfogle notes:

Our legal conception of ownership tells us ... that the land can be divided into distinct, discrete parcels, and that division of the Earth in this manner is sensible. ... The law's implicit message is that the physical world divides easily into component parts, with the water owned by A, the land by B, and the subsurface mineral rights by C.⁹⁴

With individual authority, owners may choose to alter the land, erect fences, change the direction of natural watercourses, or remove habitat and species from an area. While coordinated management of these ecosystems is possible in theory, commentators have noted that such a process is 'costly' and that 'many people balk at them for social and cultural reasons.'⁹⁵

The biggest environmental impact caused by fragmentation is loss of biodiversity caused by habitat destruction.⁹⁶ 'A global assessment of the status of modern species indicates that 11 percent of birds, 18 percent of mammals, 5 percent of fish, and 8 percent of plant species are facing extinction.'⁹⁷ Harvard biologist Edward O Wilson estimates that 27 000 species are lost each year due to tropical deforestation alone.⁹⁸ 'Agriculture is the leading cause of habitat destruction in terrestrial ecosystems.'⁹⁹ Indeed, from the middle of the 19th century to the mid-1990s, some 1 billion hectares of forests, wetland and grassland were converted into farmland.¹⁰⁰ Between 1970 and 2000 this conversion occurred at the extraordinary rate of 13 million hectares per year.¹⁰¹ As a result, over 40 per cent of global net primary productivity (the base of all food chains) has been taken for human use.¹⁰² Catherine Badgley notes that '[o]f the 8.9 billion hectares of the Earth's land area that are capable of supporting sustainable vegetation, 1.5 billion hectares are currently used for production of agricultural crops and 3.3 billion hectares are used to pasture livestock.'¹⁰³

⁹² The term 'bioregion' was coined by Peter Berg and refers to landscape that is defined through physical and environmental features, including watershed boundaries and soil and terrain characteristics: see Peter Berg (ed), *Reinhabiting a Separate Country: A Bioregional Anthology of Northern California* (Planet Drum Foundation, 1978) 218.

⁹³ See Eric T Freyfogle, *Justice and the Earth: Images for Our Planetary Survival* (Free Press, 1993) 49–53.

⁹⁴ *Ibid* 51.

⁹⁵ Eric T Freyfogle, *The Land We Share: Private Property and the Common Good* (Island Press, 2003) 170.

⁹⁶ Anthony B Anderson and Clinton N Jenkins, *Applying Nature's Design: Corridors as a Strategy for Biodiversity Conservation* (Columbia University Press, 2006) 1–2.

⁹⁷ Catherine Badgley, 'Can Agriculture and Biodiversity Coexist?' in Andrew Kimbrell (ed), *Fatal Harvest: The Tragedy of Industrial Agriculture* (Island Press, 2002) 279, 280.

⁹⁸ Edward O Wilson, *The Diversity of Life* (Harvard University Press, 1992) 280.

⁹⁹ Badgley, above n 97, 280.

¹⁰⁰ Clay, above n 2, 46.

¹⁰¹ *Ibid* 3.

¹⁰² Badgley, above n 97, 280.

¹⁰³ *Ibid*.

This transformation of landscape has led to some notable species changes. The best documented cases concern birds. According to Kelley Tucker:

in the past, agricultural practices left edge and field habitats that resulted in Neotropical migratory bird use; the recent decline of dense edge habitats and related larger field sizes has effected significant declines in these species. Avian conservationists are increasingly aware that grassland birds in eastern and western North America are declining rapidly, according to recent analyses of Breeding Bird Survey data.¹⁰⁴

Tucker notes further that '[a] decline in bird species diversity suggests not only decreases in gross avian habitat but also decreases in diversity of plants and subsequently of insect and pollinator species in agricultural environments.'¹⁰⁵ Similar concerns for birds have been noted by a member of the United Kingdom's Game Conservancy, which stated, '[w]e are facing a second silent spring.'¹⁰⁶

Biodiversity loss has also been studied in freshwater and marine habitats. Striking examples can be noted in the Gulf of Mexico and Baltic Sea where pesticide and agricultural run-off have created large dead zones.¹⁰⁷ Before reaching the ocean, this run-off destroys the habitat of countless freshwater species.¹⁰⁸ In Australia, the main threat to the Great Barrier Reef is 'agricultural in origin.'¹⁰⁹ In this case, 'suspended solids from erosion and pollution from agrochemicals' enter the ocean and kill many species that are dependent on them.¹¹⁰ Thus it is not just terrestrial habitats that are affected by industrial agriculture, but also the adjacent freshwater and marine habitats.

III THE AGRARIAN PERSPECTIVE

What, then, is the countervailing idea by which we might correct the industrial idea? We will not have to look hard to find it, for there is only one, and that is agrarianism.¹¹¹

In the preceding section I described how the modern industrial system of agriculture is affecting human and natural health, biodiversity, the wilderness and ultimately food security. I also noted that underlying industrial land use practice is an idea of private property premised on individual preference satisfaction, a separation of people from place and the fragmentation of landscape. Despite the difficulties, we must learn to see the industrial vision for what it is and reconsider what it means to have ownership of land. In this section I will begin this

¹⁰⁴ Kelley R Tucker, 'Wildlife Health' in Andrew Kimbrell (ed), *Fatal Harvest: The Tragedy of Industrial Agriculture* (Island Press, 2002) 287, 288.

¹⁰⁵ *Ibid.*

¹⁰⁶ See *ibid.* The reference to 'silent spring' is to Rachel Carson, *Silent Spring* (Houghton Mifflin, 1962).

¹⁰⁷ Clay, above n 2, 49.

¹⁰⁸ *Ibid.*

¹⁰⁹ *Ibid.*

¹¹⁰ *Ibid.*

¹¹¹ Berry, 'The Whole Horse', above n 20, 8.

discussion by describing agrarian agriculture as a practice. I contend that by studying this practice, one can discern an alternative understanding of private property and its internal characteristics.¹¹² Specifically, whereas the modern view focuses on individual rights, the agrarian view focuses on relationship and incorporates notions of obligation and ethical considerations. Understood in this way, I contend that agrarian practice can guide the development of the concept of private property to meet growing ecological needs.

Perhaps the best way to introduce agrarianism is in the words of Wendell Berry. The ‘fundamental difference’ between agrarianism and industrial agriculture is that ‘industrialism is a way of thought based on monetary capital and technology’ whereas ‘agrarianism is a way of thought based on land.’¹¹³ Furthermore, agrarianism is both a culture and an economy. Industrialism is primarily an economy and any notion of culture is an ‘accidental by-product of the ubiquitous effort to sell unnecessary products for more than they are worth.’¹¹⁴ Agrarianism is also place-specific and arises from the attributes of a particular bioregion. An agrarian farmer must know intimately the lay of the land, local plants and animals, soil content, rainfall patterns and potential hazards. They must deeply consider questions such as:

What is the best location for a particular building or fence? What is the best way to plow *this* field? What is the best course for a skid road in *this* woodland? Should *this* tree be cut or spared? What are the best breeds and types of livestock for *this* farm?¹¹⁵

Further to these physical concerns, the agrarian farmer ‘depends and insists on knowing very particular local histories and biographies.’¹¹⁶ This allows a farmer to learn from the past and to keep the land healthy for future generations.

Eric T Freyfogle provides a framework for considering the broad set of factors inherent to the agrarian vision of good land use. These elements can be summarised under the headings ‘human good’, ‘ethics’ and ‘the land’.¹¹⁷ I will use his framework as a means to consider the agrarian vision of ownership and good land use.

¹¹² Freyfogle notes that ‘agrarians are themselves committed to private property’: Eric T Freyfogle, ‘Private Property Rights in Land: An Agrarian View’ in Norman Wirzba (ed), *The Essential Agrarian Reader: The Future of Culture, Community, and the Land* (University Press of Kentucky, 2003) 237, 237. Wendell Berry speaks highly of private property for the security and longevity it provides and the corresponding incentive to become stewards of place: see Wendell Berry, *That Distant Land: The Collected Stories* (Shoemaker & Hoard, 2005) 289–308.

¹¹³ Berry, ‘The Whole Horse’, above n 20, 8.

¹¹⁴ *Ibid* 9.

¹¹⁵ *Ibid* (emphasis in original).

¹¹⁶ *Ibid*.

¹¹⁷ See Eric T Freyfogle, *Why Conservation Is Failing and How It Can Regain Ground* (Yale University Press, 2006) 144–57. Note that Freyfogle does not state that this framework represents the agrarian perspective. Note also that Freyfogle uses the following headings to describe his ethical concept of private property — ‘human utility’, ‘ethical considerations’ and ‘ignorance and precaution’.

A *The Human Community*

Human beings are interconnected and dependent on the land for survival. For this reason, good land use needs to meet the basic requirement of sustenance for all people, including food, clothing and shelter.¹¹⁸ There is no question that our current system of large-scale, centralised agriculture is failing this most basic requirement.¹¹⁹ For example, approximately 800 million people go hungry each day and millions live on the brink of starvation.¹²⁰ Kimbrell notes that:

In Brazil, 70 million people cannot afford enough to eat, and in India, 200 million people go hungry every day. Even in the United States, the world's number one exporter of food, 33 million men, women, and children are considered among the world's hungry.¹²¹

One of the popular myths of industrial agriculture, and one that keeps many of us tied to this system, is the idea that world hunger is a consequence of food scarcity and population growth.¹²² For example, Monsanto states on the home page of its website: 'By 2050, the population is expected to reach 9 billion. To feed the growing population, farmers will need to produce more food in the next 40 years than they have in the past 10,000 years combined.'¹²³

While population growth is an important issue, there are deeper causes underlying world hunger. Indeed, Kimbrell notes:

food production has kept pace with population growth. Studies conducted by the UN Food and Agriculture Organization (FAO) clearly indicate that it is abundance, not scarcity, that best describes the world's food supply. Every year, enough wheat, rice, and other grains are produced to provide every human with 3,500 daily calories. In fact, enough food is grown worldwide to provide 4.3 pounds of food per person per day, which would include two and a half pounds of grain, beans, and nuts, a pound of fruits and vegetables, and nearly another pound of meat, milk, and eggs.¹²⁴

A narrow focus on population growth ignores more important considerations such as landlessness, centralisation and food dependence. 'The industrial system has, over centuries and in virtually every area of the globe, "enclosed" farmland, forcing subsistence peasants off the land'.¹²⁵ This process is ongoing and as a consequence 'untold millions of peasants lose their land, community, traditions, and most directly their ability to grow their own food — their food independence.'¹²⁶ Once uprooted from the land, they are forced into the cities where they

¹¹⁸ See generally Hawken, Lovins and Lovins, above n 25, 190–212.

¹¹⁹ See generally Food and Agriculture Organization of the United Nations, *Investing in Food Security*, UN Doc I/11230E/1/11.09/1000 (November 2009).

¹²⁰ Andrew Kimbrell, 'Myth One: Industrial Agriculture Will Feed the World' in Andrew Kimbrell (ed), *Fatal Harvest: The Tragedy of Industrial Agriculture* (Island Press, 2002) 50, 50.

¹²¹ *Ibid.*

¹²² See Astyk and Newton, above n 21, 233–41.

¹²³ Monsanto, *Home* <<http://www.monsanto.com>>.

¹²⁴ Kimbrell, 'Myth One', above n 120, 50.

¹²⁵ *Ibid.* 51.

¹²⁶ *Ibid.*

quickly join the growing ranks of the urban poor competing for low paying jobs and dependence. Victims of the modern enclosure are becoming increasingly numerous:

Just 50 years ago, only 18 percent of the population of developing countries resided in cities; by the year 2000 the figure jumped to 40 percent. Unless current policies change, by 2030 it is estimated that 56 percent of the developing world will be urban dwellers. A United Nations report has found that close to 50 percent of this urban population growth is due to migration, much of it forced, from rural to urban communities.¹²⁷

Following this enclosure, ‘both the urban and rural poor are completely food dependant’¹²⁸ and they must purchase their food from an increasingly narrow market.¹²⁹ Like many urban poor, the rural poor do not always have the means to take part in the system and as a result they starve. A report by NGO Food First summarised the situation as follows: ‘If you don’t have land on which to grow food or the money to buy it, you go hungry no matter how dramatically technology pushes up food production.’¹³⁰

In contrast to the industrial vision for land use, there is abundant evidence that agrarian methods can sustain and keep pace with world population growth.¹³¹ Numerous studies have shown that small-scale agrarian farming is more productive than large-scale industrial agriculture.¹³² Brian Halweil from the Worldwatch Institute calculates productivity at 1000 per cent more for agrarian farms.¹³³ For some, this fact is counterintuitive and contradicts the industrial mantra that ‘bigger is better’. Halweil reconciles this fact by noting that:

big-farm advantages are always calculated on the basis of how much of one crop the land will yield per acre. The greater productivity of a smaller, more

¹²⁷ Ibid.

¹²⁸ Ibid.

¹²⁹ For example, in Australia the largest 10 per cent of farms are responsible for 60 per cent of total agricultural output, and this share is growing: Department of Agriculture, Fisheries and Forestry (Cth), *Future Harvest: The Way Ahead for Australian Agriculture and Food* (2007) 2. Concentration is even more pronounced in the retailing of Australia’s food, with two supermarket chains, Coles and Woolworths, controlling almost 80 per cent of food sales: Department of Agriculture, Fisheries and Forestry (Cth), *Australian Food Statistics 2006* (2007) 16. Globally, 70–80 per cent of the world’s grain trade is controlled by two corporations, Cargill and Archer Daniels Midland: see Brian Halweil, *Eat Here: Reclaiming Homegrown Pleasures in a Global Supermarket* (W W Norton & Company, 2004) 47.

¹³⁰ Kimbrell, ‘Myth One’, above n 120, 51, quoting a Food First report.

¹³¹ This is particularly so when combined with urban farms, community gardens, community supported agriculture and other means of local food production.

¹³² See Astyk and Newton, above n 21, 233–4. See generally Carl F Jordan, *Can Organic Agriculture Feed the World?* <http://www.springvalleyecofarms.org/UserFiles/File/Can%20Organic%20Ag%20Feed%20the%20World_08132009.pdf>; David Pimentel et al, ‘Environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems’ (2005) 55 *BioScience* 573; Christos Vasilikiotis, *Can Organic Farming ‘Feed the World?’* (November 2000) <<http://www.cnr.berkeley.edu/~christos/articles/CV-Organic%20Farming.pdf>>; Catherine Badgley et al, ‘Organic Agriculture and the Global Food Supply’ (2007) 22 *Renewable Agriculture and Food Systems* 86.

¹³³ Halweil, *Eat Here*, above n 129, 75. See generally Brian Halweil, *Can Organic Farming Feed Us All?* (2006) Worldwatch Institute <<http://www.worldwatch.org/node/4060>>; Peter M Rosset, ‘The Multiple Functions and Benefits of Small Farm Agriculture in the Context of Global Trade Negotiations’ (Policy Brief No 4, Food First, September 1999) 5–10 <<http://www.foodfirst.org/files/pb4.pdf>>.

complex farm, however, is calculated on the basis of how much food overall is produced per acre. The smaller farm can grow several crops utilizing different root depths, plant heights, or nutrients on the same piece of land simultaneously. It is this “polyculture” that offers the small farm’s productivity advantage.¹³⁴

To illustrate the difference between these two kinds of measure, Halweil analysed an average United States Midwestern corn farm. He notes that while industrial farming may produce more corn per hectare than a small farm, the latter grows corn ‘as part of a polyculture that also includes beans, squash, potato, and “weeds” that serve as fodder.’¹³⁵ Under the care of a knowledgeable farmer, who understands the land and the network of relationships that exist therein, the polycrop produces much more food. This holds true ‘whether you measure in tonnes, calories, or dollars.’¹³⁶ This final point was supported by the 2002 United States Agricultural Census, which noted that the smallest category of farm ‘produced \$15,104 per hectare and netted about \$2,902 per acre.’¹³⁷ The largest farms, ‘averaging 15,581 hectares, yielded \$249 per hectare and netted about \$52 per hectare.’¹³⁸ Consistent findings have been observed in every farm-size category. Halweil concludes that:

The inverse relationship between farm size and output can be attributed to the more efficient use of land, water, and other agricultural resources that small operations afford, including the efficiencies of intercropping various plants in the same field, planting multiple times during the year, targeting irrigation, and integrating crops and livestock. So in terms of converting inputs into outputs, society would be better off with small-scale farmers. And as population continues to grow in many nations, and the amount of farmland and water available to each person continues to shrink, a small farm structure may become central to feeding the planet.¹³⁹

Of course, sustenance is not the only measure for how good land use benefits people. The agrarian perspective also fulfils the timeless human desire to exist in harmony with nature. As environmental philosopher Holmes Rolston III notes, ‘[n]one of us lives to the fullest who does not study the natural order, and, more than that, none is wise who does not ultimately make peace with it.’¹⁴⁰ Following this wisdom, agrarian farming views nature as a teacher, and the boundaries of a crop plot or location of a farmstead are informed by nature.¹⁴¹ The result is a ‘lovely, environmentally sound, and socially nurturing countryside.’¹⁴² Far from

¹³⁴ Halweil, *Eat Here*, above n 129, 75.

¹³⁵ *Ibid.*

¹³⁶ *Ibid.*

¹³⁷ *Ibid.*

¹³⁸ *Ibid.*

¹³⁹ *Ibid.* 75–6. See also Astyk and Newton, above n 21, 233–4.

¹⁴⁰ Holmes Rolston III, *Environmental Ethics: Duties to and Values in the Natural World* (Temple University Press, 1988) 44.

¹⁴¹ By far the most comprehensive source book on this point is Bill Mollison, *Permaculture: A Designers’ Manual* (Tagari Publications, 1988).

¹⁴² Kimbrell, ‘Learning to See What You Are Looking at’, above n 15, 89.

mythical, this perspective recognises our proper place in nature and situates human behaviour in accordance with this recognition. Wendell Berry notes:

The true measure of agriculture is not the sophistication of its equipment, the size of its income, or the statistics of its productivity, but the good health of the land. As many as possible should share in the ownership of the land and thus be bound to it by economic interests, by the investment of love and work, by family loyalty, by memory and tradition.¹⁴³

B *Ethical Considerations*

Standing alongside human benefit is a constellation of factors that can be grouped under the heading ‘ethical considerations’.¹⁴⁴ Here two points stand out as critical — future generations and the moral worth of nature itself.¹⁴⁵ Turning first to future generations, agrarian practice holds that land use is only good if it is a practice that future generations can continue without diminishing the health and fertility of the Earth.¹⁴⁶ This perspective marks a shift from the short-term focus of modern property rights towards responsibility and obligations for stewards yet to come. This could prove exceptionally influential if the obligation were defined in a comprehensive fashion. Freyfogle notes:

If we feel obligated to protect all life forms for future generations to enjoy (a widely held ideal), then land use will be good only when it achieves this conservation result. If our duties (instead or in addition) include the maintenance of representative examples of all types of natural areas, or perhaps the protection of the land’s overall natural productive capacity, then land use again will be good only if these duties are fulfilled. Land use is not good when these duties are breached.¹⁴⁷

A duty towards future generations must be a collective duty and ‘require[s] planning at large spatial scales.’¹⁴⁸ Currently, the industrial system and its focus on private property promote land use for the benefit of current generations and the property owner above all.¹⁴⁹ Although the market does permit landowners to farm in a manner that respects future generations, individuals can have little overall impact acting alone. Only through collective action is it possible to fulfil this duty in any meaningful way.¹⁵⁰ To argue otherwise is to deny that duties to future generations exist at all.¹⁵¹

Aside from duties to future generations, there is a growing movement towards the recognition of nature’s intrinsic value. Intrinsic value can be defined as ‘all value possessed by nature that is unrelated to human utility.’¹⁵² While philoso-

¹⁴³ Ibid. Kimbrell attributes the passage to Wendell Berry.

¹⁴⁴ Freyfogle, *Why Conservation Is Failing*, above n 117, 148–53.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid 149.

¹⁴⁷ Ibid.

¹⁴⁸ Ibid 150.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.

¹⁵¹ Ibid.

¹⁵² Ibid 151. Note that intrinsic value has been legally recognised in some jurisdictions. For example, s 7(1)(a) of the *Natural Resources Management Act 2004 (SA)* states that an object of

phers rigorously debate whether nature can have 'value' independent of human consideration,¹⁵³ for our purpose it is sufficient to note that if nature is valuable, then good land use ought to respect its value. This applies whether the value is intrinsic or extrinsic. Recognition of nature's value can reside at the level of the biotic community¹⁵⁴ or at the level of species. This would first require humans to respect nature, and then perhaps a duty not to interfere with nature's functioning.

In several farming communities in rural Pennsylvania in the United States this idea has been taken one step further, and municipal ordinances have been passed that recognise that nature has the *right* to exist and flourish.¹⁵⁵ For example, the town of Tamaqua was facing devastating health and environmental impacts from sludge being dumped by local agribusiness. Thomas Linzey and Anneke Campbell describe the situation further:

After years of absorbing egregious amounts of toxic waste, Tamaqua grew tired of trying to get environmental protection laws to work for them. ... Because they had come to recognize that their lives were not separate from nature, but instead profoundly interdependent, the people in Tamaqua sought to have their local laws reflect this new understanding. This meant they would have to discard the old notion of 'environmental protection' and instead learn to think of ecosystems as having their own inalienable rights.¹⁵⁶

An extract from the ordinance passed by the Tamaqua council reads:

It shall be unlawful for any corporation or its directors, officers, owners, or managers to interfere with the existence and flourishing of natural communities or ecosystems, or to cause damage to those natural communities and ecosystems.¹⁵⁷

Municipal ordinances like this have been adopted elsewhere in the United States, for example in New Hampshire and Virginia, and are currently being debated in Spokane in Washington and Pittsburgh in Pennsylvania.¹⁵⁸ The proposed ordinance for Spokane uses more explicit language:

the Act is to promote the use and management of natural resources in a manner that 'recognises and protects the intrinsic values of natural resources'.

¹⁵³ See, eg, Rolston, above n 140; Nicholas Agar, *Life's Intrinsic Value: Science, Ethics, and Nature* (Columbia University Press, 2001); Lawrence E. Johnson, *A Morally Deep World: An Essay on Moral Significance and Environmental Ethics* (Cambridge University Press, 1991).

¹⁵⁴ The term 'biotic community' was coined by Karl Möbius to describe interacting organisms living together in a habitat. See Karl Möbius, *The Oyster and Oyster-Culture* (H J Rice trans, United States Commission of Fish and Fisheries, 1880) [trans of: *Die Auster und die Austernwirtschaft* (first published 1877)]. This translation is contained in United States Commission of Fish and Fisheries, *Report of the Commissioner for 1880* (1880) 683.

¹⁵⁵ See Peter Burdon, 'The Rights of Nature: Reconsidered' (2010) 49 *Australian Humanities Review* 69, 73. For samples of these ordinances see Thomas Linzey and Anneke Campbell, *Be the Change: How to Get What You Want in Your Community* (Gibbs Smith, 2009).

¹⁵⁶ Linzey and Campbell, above n 155, 67.

¹⁵⁷ *Ibid* 78.

¹⁵⁸ See *ibid* 133. Note also that in 2008 the *Constitution of Ecuador* recognised the rights of nature: see at 134–5. Bolivia has also drafted and put before the United Nations a Declaration for Mother Earth Rights: see Mother Earth, *Mother Earth: Harmony with Nature* <<http://motherearthrights.org>>.

Ecosystems, including but not limited to, all groundwater systems, surfacewater systems, and aquifers have the right to exist and flourish. River systems have the right to flow and have water quality necessary to provide habitat for native plants and animals, and to provide clean drinking water. Aquifers have the right to sustainable recharge, flow, and water quality.¹⁵⁹

The primary consequence of recognising legal rights in nature is that it places duties on human property owners. In Hohfeld's terminology, the most suitable legal category for nature is a claim right, defined as 'claims correlative to other persons' duties'.¹⁶⁰ Put another way, claim rights generate reasons for action for people who are in a position to help in the promotion or protection of the underlying right. In discussing human obligations, Immanuel Kant drew a helpful distinction between perfect and imperfect duties.¹⁶¹ A perfect duty is a direct and immediate duty to take a course of action or refrain from a particular enterprise.¹⁶² However, for others there are responsibilities, even though they are less specific and come in the general form of what Kant called 'imperfect duties'. In the context of claim rights, the obligation is to consider ways through which environmental harm can be prevented (or minimised) and then decide on a reasonable course of action. Properly conceived, this framework has the potential to radically alter human interaction with nature and marks a shift away from exclusive rights to a reciprocal relationship which includes duties and responsibilities.

C The Land

A well-conceived definition of good land use will consider at length the first two themes. However, at a minimum, the agrarian perspective requires us to consider the question of good land use from the perspective of the land and the non-human community that dwells upon it. This entails an intimate understanding of place and knowledge of its needs and the roles it performs. For Kirkpatrick Sale, this is the most important element of good land use:

The kinds of soils and rocks under our feet; the source of the waters we drink; the meaning of the different kinds of winds; the common insects, birds, mammals, plants, and trees; the particular cycles of the seasons; the times to plant and harvest and forage — these are the things that are necessary to know. The limits of its resources; the carrying capacities of its lands and waters; the places where it must not be stressed; the places where its bounties can best be developed; the treasures it holds and the treasures it withholds — these are the things that must be understood. And the cultures of the people, of the populations native to the land and of those who have grown up with it, the human social and

¹⁵⁹ Spokane Municipal Council, *Envisioning a Sustainable Spokane: A Community Bill of Rights*, cl 5 <<http://www.envisionspokane.org/Community%20Bill%20of%20Rights%20-%20Amendments.doc>>.

¹⁶⁰ Brian H Bix, *Jurisprudence: Theory and Context* (Thomson Reuters, 5th ed, 2009) 134.

¹⁶¹ Immanuel Kant, *Critique of Practical Reason* (Lewis White Beck trans, Bobbs-Merrill, 1956) 69 [trans of: *Kritik der praktischen Vernunft* (first published 1788)]; Immanuel Kant, *Groundwork for the Metaphysics of Morals* (Arnulf Zweig trans, Oxford University Press, 2002) 222 [trans of: *Grundlegung zur Metaphysik der Sitten* (first published 1785)]. See also Amartya Sen, 'Consequential Evaluation and Practical Reason' (2000) 97 *Journal of Philosophy* 477, 494–8.

¹⁶² Kant, above n 161, 222.

economic arrangements shaped by and adapted to the geomorphic ones, in both urban and rural settings — these are the things that must be appreciated.¹⁶³

Consistent with this task, Wes Jackson notes that farmers must look to nature as the standard or as the measure for their action.¹⁶⁴ With his colleagues at The Land Institute,¹⁶⁵ Jackson has carried out this idea through the Natural Systems Agriculture program.¹⁶⁶ The goal of the program is to carry out agriculture by relying on naturally occurring ecological benefits and disturbing the pre-existing ecosystem as little as possible. Jackson notes that ‘[w]e look to the never-plowed native prairie to be our teacher.’¹⁶⁷ Prairies are excellent teachers because they sustain a great diversity of species, which are nearly all perennial. Because their roots do not rot away like annual roots, they hold soil through all seasons¹⁶⁸ and, as a consequence, can be studied all year round. Moreover, perennial plants actually build soil and give back to the ecological system. The ecosystem thus maintains its own health, is fuelled by the energy from the sun and recycles nutrients. All of this is achieved at no cost or detriment to human beings or to the planet.¹⁶⁹ Jackson notes further that:

wherever there is prairie, four functional groups are featured: warm-season grasses, cool-season grasses, legumes, and composites. Other species are present, but these groups are featured. Different species fill different roles. Some thrive in dry years, others in wet ones. Some provide fertility by fixing atmospheric nitrogen. Some tolerate shade, others require direct sunlight. Some repel insect predators. Some do better on poor, rocky soils while others need rich, deep soil. Diversity provides the system with built-in resilience to changes and cycles in climate, water, insects and pests, grazers, and other natural disturbances.¹⁷⁰

The challenge set by Jackson and his team is to combine ‘species diversity and perennialism.’¹⁷¹ To match the needs of the prairie they use four functional groups in their polyculture and seek to ensure that the groups produce harvestable grain for direct human consumption.¹⁷² They then imitate the prairie and produce harvest through the services it naturally performs. The results of this work have been extraordinary, and as Jackson notes, ‘[p]roperly designed, the system itself should virtually eliminate the ecological degradation characteristic of conventional agriculture and minimize the need for human intervention.’¹⁷³

¹⁶³ Kirkpatrick Sale, *Dwellers in the Land: The Bioregional Vision* (Sierra Club Books, 1985) 42.

¹⁶⁴ Wes Jackson, ‘Farming in Nature’s Image: Natural Systems Agriculture’ in Andrew Kimbrell (ed), *Fatal Harvest: The Tragedy of Industrial Agriculture* (Island Press, 2002) 41, 43. See also Wes Jackson, *New Roots for Agriculture* (Friends of the Earth, 1980).

¹⁶⁵ See The Land Institute, *The Land Institute* <<http://www.landinstitute.org/>>.

¹⁶⁶ See The Land Institute, *Natural Systems Agriculture* (28 March 2006) <<http://www.landinstitute.org/vnews/display.v/ART/2000/08/05/377bbbe53>>.

¹⁶⁷ Jackson, ‘Farming in Nature’s Image’, above n 164, 44.

¹⁶⁸ *Ibid.*

¹⁶⁹ *Ibid.*

¹⁷⁰ *Ibid.*

¹⁷¹ *Ibid.*

¹⁷² *Ibid.*

¹⁷³ *Ibid.*

This method of agriculture is spreading across the globe and being imitated in smaller family farms. For example, just north of Adelaide is the Brookman family's farm, The Food Forest.¹⁷⁴ This farm is situated on just 15 hectares, but supports agroforestry and over 150 organically certified crops, and it has maintained the local ecosystem for hundreds of varieties of birds, lizards and small mammals.¹⁷⁵ Pest and weed control is assisted by the introduction of geese and bettongs. Soil fertility is maintained through composting organic waste, planting legumes, and animal waste. Through intelligent design, the Brookmans also estimate that their water use is between four per cent to 10 per cent of that used by the average Australian orchard.¹⁷⁶ Consistent with Jackson's Natural Systems Agriculture program, land use for the Brookmans is a constant process of reassessment and adjustment. It is a practice of listening to the land and learning from natural systems. Finally, it is the express recognition that good land use is a mutual relationship that includes obligations and not just rights.

IV CONCLUSION: FROM RIGHTS TO RELATIONSHIP

Property belongs to a family of words that, if we can free them from the denigrations that shallow politics and social fashion have imposed on them, are the words, the ideas, that govern our connections with the world and with one another: property, proper, appropriate, propriety.¹⁷⁷

Over the centuries, western culture has never seriously considered giving up the institution of private property or reducing its importance. However, there has been rigorous debate about what it means to own land. This is where agrarianism can exercise the most influence, in particular its emphasis on relationship as an integral part of ownership. In this context, the term 'relationship' is broader than interpersonal relationships and includes relationship with place, recognition of ecosystem relationships and ethical considerations. I contend that an approach to land use that overlooks any of these considerations is deficient and deserves to be labelled as such.

Importantly, the key to evolving the idea of private property lies within the theory itself. For all its shortcomings, liberal theory allows us, both as individuals and as a collective, to choose our own idea of land ownership. Where we are provided with the choice to destroy, we can preserve; to separate, we can bond; and to fragment, we can integrate. This freedom is demonstrated in local ventures such as The Food Forest, and more extensively, in international peasant movements such as La Via Campesina¹⁷⁸ and Navdanya.¹⁷⁹ If conducted on a

¹⁷⁴ See The Food Forest, *The Food Forest: Permaculture Farm and Learning Centre* <<http://www.foodforest.com.au/>>.

¹⁷⁵ See The Food Forest, *The Food Forest* <<http://www.foodforest.com.au/theFoodForest.htm>>.

¹⁷⁶ Annemarie Brookman and Graham Brookman, 'Commercial Scale Permaculture at The Food Forest' (Paper presented at the 2005 National Permaculture Convergence, Melbourne, 2005) 5 <<http://www.foodforest.com.au/academic%20papers.html#academic%20papers>>.

¹⁷⁷ Wendell Berry, 'Whose Head Is the Farmer Using? Whose Head Is Using the Farmer?' in Wes Jackson, Wendell Berry and Bruce Colman (eds), *Meeting the Expectations of the Land: Essays in Sustainable Agriculture and Stewardship* (North Point Press, 1984) 19, 30.

¹⁷⁸ See La Via Campesina, *La Via Campesina* <http://viacampesina.org/main_en/>.

¹⁷⁹ See Navdanya, *Navdanya* <<http://www.navdanya.org/>>.

broad scale, this positive action can transform our understanding of what it means to own a piece of land — it can transform our idea of private property. In considering this point, it is important to note that private property is not a fixed institution. Instead, just like every other aspect of our law, it changes to reflect the shared values of society.¹⁸⁰

From studying the agrarian vision of good land use, we can extrapolate the following principles that are relevant to revising the current idea of private property. To begin, the ownership model, which isolates the landowner from the community and focuses on individual freedom,¹⁸¹ needs to be fundamentally revised. This is the starting premise behind a growing social relations movement in property theory. The first advocates of this view were the early American legal realists.¹⁸² For example, while maintaining that private property grants a type of ‘sovereignty’ to property owners, Morris Cohen added that a property right also creates a relationship between the right holder and others.¹⁸³ Felix Cohen added an important modification to the conventional absolutist view of private property:

Private property is a relationship among human beings such that the so-called owner can exclude others from certain activities or permit others to engage in those activities and in either case secure the assistance of the law in carrying out his decision.¹⁸⁴

From this perspective, private property is a dynamic social construct. Indeed, property rights are best viewed as legal rules that shape the contours of human relationships concerning the use and allocation of valuable resources. Rather than being acontextual, property is deeply informed by the cultural, political and ideological beliefs of a given society.¹⁸⁵ As Jennifer Nedelsky argues, ‘what rights in fact do and have always done is construct relationships — of power, of responsibility, of trust, of obligation.’¹⁸⁶ Property law thus creates a setting in which people live their lives and interact with each other. While this might appear an affront to autonomy, Nedelsky reminds us that ‘[w]hat makes autonomy possible is not separation, but relationship.’¹⁸⁷ We respect individuals, not through isolation, but by acknowledging that they best function and achieve their own ends through social relations that support their potential to flourish. Interde-

¹⁸⁰ For a comprehensive account, see generally Richard Schlatter, *Private Property: The History of an Idea* (Allen & Unwin, 1951).

¹⁸¹ See Eric T Freyfogle, *Boundless People, Boundless Lands: Envisioning a New Land Ethic* (Island Press, 1998) 100.

¹⁸² Note that Hohfeld also described rights as constituting jural relations: Hohfeld, ‘Some Fundamental Legal Conceptions’, above n 83, 30–2.

¹⁸³ Morris R Cohen, ‘Property and Sovereignty’ (1927) 13 *Cornell Law Quarterly* 8, 12.

¹⁸⁴ Felix S Cohen, ‘Dialogue on Private Property’ (1954) 9 *Rutgers Law Review* 357, 373.

¹⁸⁵ Babie, ‘How We Control the Environment and Others’, above n 37. Commenting on this point, Michael A Heller notes that ‘[u]nderstanding what is private property is an inductive and iterative process, one that looks to the chaos of real world relations’: Michael A Heller, ‘Three Faces of Private Property’ (2000) 79 *Oregon Law Review* 417, 432.

¹⁸⁶ Jennifer Nedelsky, ‘Reconceiving Rights as Relationship’ (1993) 1 *Review of Constitutional Studies* 1, 13.

¹⁸⁷ *Ibid* 8.

pendence is the foundational characteristic of free individuals.¹⁸⁸ Underkuffler notes that this presents a ‘different concept of individual well-being and autonomy: one that recognizes the individual’s need for freedom as well as the need for the development and expression of that freedom in the context of relatedness to others.’¹⁸⁹

The social origin of property requires us to reconceptualise rights as establishing socially contingent boundaries.¹⁹⁰ Property law must establish a setting in which individuals can live their lives and have meaningful relationships with others. This setting consists of rules requiring individuals to respect the legitimate interests of others, including the community and the environment. From this perspective, ownership is not strictly an individual entitlement and is justified by reference to the aggregate good of all.¹⁹¹ The common good is fostered when people are free to flourish as individuals and when laws constrain socially harmful activities.¹⁹² Thus, individual liberty is promoted only to the extent that its recognition promotes the overall good. Singer notes further:

Rather than understanding rights and autonomy as ‘an effort to carve out a sphere into which the collective cannot intrude,’ we understand that because rights conflict, we must define them partially in terms of the relationships they instantiate. Property law can therefore be seen as ‘a means of structuring the relations between individuals and the sources of collective power so that autonomy is fostered rather than undermined.’¹⁹³

Our idea of private property can also shift from interpersonal rights to recognise the importance of the object itself, ie the land. David Lametti, a Canadian theorist, recognises this point by defining private property as a ‘relationship between or among individuals *through* objects of social wealth’.¹⁹⁴ This ‘apparently slight change’ expressly provides that the object of a property relation has a

¹⁸⁸ Ibid.

¹⁸⁹ Laura S Underkuffler, ‘On Property: An Essay’ (1990) 100 *Yale Law Journal* 127, 129.

¹⁹⁰ Singer, *The Edges of the Field*, above n 44, 3.

¹⁹¹ Note that this has long been the practice in indigenous communities. While certainly a valuable point of comparative analysis, this discussion is beyond the scope of the present article. For a useful introduction, see Deborah Bird Rose, *Dingo Makes Us Human: Life and Land in an Australian Aboriginal Culture* (Cambridge University Press, 2000) 106–22. See generally Poh Ling Tan et al, *Collaborative Water Planning: Context and Practice — Literature Review: Volume 1* (September 2008) <<http://lwa.gov.au/files/products/track/pn21213/pn21213.pdf>>; Janice Gray, ‘Watered Down? Legal Constructs, Tradable Entitlements and the Regulation of Water’ in Devleena Ghosh, Heather Goodall and Stephanie Hemelryk Donald (eds), *Water, Sovereignty and Borders in Asia and Oceania* (Routledge, 2009) 147.

¹⁹² See generally Freyfogle, *The Land We Share*, above n 95, 101–34. A broad discussion on the justifications for private property can be found in Harris, above n 36, 163–369.

¹⁹³ Joseph William Singer, *Entitlement: The Paradoxes of Property* (Yale University Press, 2000) 131 (citations omitted).

¹⁹⁴ David Lametti, ‘The Concept of Property: Relations *through* Objects of Social Wealth’ (2003) 53 *University of Toronto Law Journal* 325, 326 (emphasis in original). Lametti offers the following definition of private property:

Private property is a social institution that comprises a variety of contextual relationships among individuals through objects of social wealth and is meant to serve a variety of individual and collective purposes. It is characterized by allocating to individuals a measure of control over the use and alienation of, some degree of exclusivity in the enjoyment of, and some measure of obligation to and responsibilities for scarce and separable objects of social wealth.

role in the property relationship itself.¹⁹⁵ Further, recognition of the object can shape the contours of the property relationship and define its rights and duties. Lametti notes, '[c]ontrary to the dominant rights-based paradigm, the re-definition allows specific objects of property to carry with them duties of stewardship or obligations to use in a certain manner.'¹⁹⁶ Lametti describes this aspect as the '*deon-telos*' or the deontology of private property. The term '*deon*' derives from Greek and means 'duty' or 'that which binds'. In the context of private property, this term 'identifies specific duties and responsibilities contained in legal property norms and their justification, emanating from a variety of sources, whether universal imperatives or more specific types of moral and ethical duties.'¹⁹⁷ The term '*telos*' also stems from Greek and means 'goal' or 'end point'. In advancing this concept, Lametti is seeking to include societal goals and values into the idea of private property.¹⁹⁸

The function of the *deon-telos* is to limit the free choices of property holders. In the liberal view of private property, it is accepted that limitations can be placed on property rights. Legislation regulating noise pollution and environmental pollution are good examples. However, such limitations are considered external to the rights themselves and thus outside the concept of private property. Lametti is not concerned with such external limitations. For him, any discussion of private property that excludes the *deon-telos* and its goals, guides, and responsibilities, is incomplete, so that '[t]hose aspects of private property captured by the rubric of the *deon-telos* are an intrinsic component of the concept of private property itself'.¹⁹⁹ This is particularly important in the absence of express external limitation rules. Paul Babie explains further:

In other words, the *deon-telos* is not a mere external property-limitation rule, it is part of private property itself. It acts as an internal moral or ethical, rather than a merely external legal, limitation on the way in which the holder of private property may exercise, in a preference-satisfying way, any particular right encompassed by the bundle of rights.²⁰⁰

Lametti's argument is groundbreaking, particularly the suggestion that limitations to property rights are internal to the concept itself. With an understanding of *deon-telos*, property theorists can begin to frame their discussion in light of the obligations, responsibilities and other ethical considerations that are pertinent to land use practices. While Lametti's work is theoretical, it resembles the concept of property currently articulated in German law. For example, art 14(2) of the *Basic Law* states: 'Property creates responsibilities. Its use shall at the

¹⁹⁵ Ibid.

¹⁹⁶ Ibid.

¹⁹⁷ David Lametti, 'Property and (Perhaps) Justice. A Review Article of James W Harris, *Property and Justice* and James E Penner, *The Idea of Property in Law*' (1998) 43 *McGill Law Journal* 663, 670.

¹⁹⁸ Ibid.

¹⁹⁹ Ibid 671.

²⁰⁰ Paul Babie, 'Private Property, the Environment and Christianity' (2002) 15 *Pacifica* 307, 313-14 (emphasis in original).

same time serve the common good.²⁰¹ This provision has been interpreted to highlight the importance of ‘social connectedness and social bonding ... without encroaching upon the intrinsic value of the person.’²⁰² Further, it has also been interpreted to include environmental responsibility²⁰³ and a social responsibility to refrain from anti-social uses of property.²⁰⁴

Finally, by conceptualising private property as person–thing relationship, the ‘thing’ itself, with its unique attributes and needs, comes back into focus. In the context of land use, the duties and responsibilities recognised as inherent in the concept of private property could be specific to the land itself. Indeed, a dry field is not the same as a fertile plain and property law should not treat the two land types alike. This reasoning was specifically recognised by the Supreme Court of Wisconsin in *Just v Marinette County*.²⁰⁵ In the context of damage done to a sensitive wetland, the Court held:

An owner of land has no absolute and unlimited right to change the essential natural character of his land so as to use it for a purpose for which it was unsuited in its natural state and which injures the rights of others. The exercise of the police power in zoning must be reasonable and we think it is not an unreasonable exercise of that power to prevent harm to public rights by limiting the use of private property to its natural uses.²⁰⁶

In this case, the rights associated with private property were expressly limited to uses that were ‘consistent with the nature of the land’.²⁰⁷ In regard to the wetland in question, its use had to be consistent with its continued ecological health. Such a perspective is clearly the reverse of many ecologically insensitive agricultural practices, such as growing rice in arid South Australia. Yet if this idea were taken seriously it could serve several functions. Linking property rights to the land could promote relationship to place and increase understanding of the ecological systems that support human life. Further, landowners could manage their land with greater awareness and respect for the living system that surrounds their

²⁰¹ *Grundgesetz für die Bundesrepublik Deutschland* [Basic Law of the Federal Republic of Germany] art 14(2). This article was derived from art 153 of the *Die Verfassung des Deutschen Reichs (Weimarer Reichsverfassung)* [Weimar Constitution]. The German liberal conception of private property has a long history of limitation on the grounds of social responsibility: Murray Raff, *Private Property and Environmental Responsibility: A Comparative Study of German Real Property Law* (Kluwer Law International, 2003) 165. See also Rudolf Dolzer, *Property and Environment: The Social Obligation Inherent in Ownership — A Study of the German Constitutional Setting* (International Union for Conservation of Nature and Natural Resources, 1976) 17–18.

²⁰² Raff, above n 201, 166, quoting *Economic Planning Case*, Bundesverfassungsgericht [German Constitutional Court], reported in (1954) 4 BVerfGE 7, 15–16.

²⁰³ For example, in one leading case of the Bundesgerichtshof (German Federal Court of Justice), the Court ‘held that the content of the environmental responsibility depended in turn upon the *environmental context* of the relevant property.’ The Court also held that ‘the natural features and landscape of the land [in question] imposed a social responsibility on the owner to preserve the trees, even in the absence of legal regulation, as a reasonable and economically oriented owner of that land, with the common good in mind’: Raff, above n 201, 173 (emphasis in original).

²⁰⁴ See *ibid* 174–5. See also Dolzer, above n 201, 51–4.

²⁰⁵ 201 NW 2d 761 (Wis, 1972).

²⁰⁶ *Ibid* 768 (Hallows CJ).

²⁰⁷ *Ibid*.

boundaries. Thus, rather than being a tool for fragmentation, private property could serve as a means for coordination and joint management.

At the dawn of the environmental movement, Aldo Leopold wrote '[w]e abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.'²⁰⁸ Such a shift in our attitudes is precisely what is required in the context of the agricultural crisis. For too long, individuals and industrial bodies have been operating under an individualistic and absolutist view of private property. There is now abundant evidence that this conception is facilitating a form of land use practice that is leading to environmental disaster. What is needed is not the abandonment of private property, but an informed shift in what it means to own the land. At the heart of this shift is the understanding that the land is one part of a comprehensive community to which human beings belong. This change in focus expands our attention from isolated individuals towards a network of relationships. Like any other worthwhile relationship, private property must be understood as including responsibilities, duties and obligations as well as rights. If we can reconceptualise our relationship with the land from rights to relationship then there is every chance that we can engage with the Earth in a way that is mutually beneficial. Forming this relationship is not only critical for the present generation, but for many generations to come.

²⁰⁸ Aldo Leopold, *A Sand County Almanac, and Sketches Here and There* (Oxford University Press, 1949) vii.