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Introduction

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‘Lost tribes, lost knowledge’

In September 1991, the cover of *Time* magazine featured the portrait of a man, identified only as ‘Highland Tribesman, Papua New Guinea’, wearing *cuscus* fur on his head and a stick through his pierced septum. In addition to the question ‘Is the CIA Obsolete?’ at the top of the page, the cover carried the title ‘Lost Tribes, Lost Knowledge’ and explained that ‘When native cultures disappear, so does a trove of scientific and medical wisdom’.

The cover story by Eugene Linden presented a popular view of indigenous knowledge, asserting that ‘an enormous trove of wisdom’ is ‘stored in the memories of elders, healers, midwives, farmers, fishermen and hunters in the estimated 15,000 cultures remaining on earth’. For Linden, ‘This largely undocumented knowledge base is humanity’s lifeline to a time when people accepted nature’s authority and learned through trial, error and observation’.

According to *Time*, ‘Western contempt’ for indigenous knowledge has gradually changed to a ‘growing appreciation’ of the value of indigenous knowledge. This change has come about because of a recognition that indigenous botanical and medical knowledge can assist in the search for plants with chemical properties useful in the treatment of AIDS and cancer, that the variety of crops grown by traditional farmers and the knowledge they have of those crops is critical for preserving the genetic diversity needed to resist insects and diseases, and that in an age of

global tourism 'An indigenous culture can itself be a marketable commodity if handled with respect and sensitivity'. The recognition of the value of indigenous peoples and their knowledge and ways of life, according to Linden, is a necessary step 'If the developed world is to help indigenous peoples preserve their heritage' (Linden 1991:52-5). But 'value' is always value for someone, and in the movement to preserve indigenous knowledge the value that matters is most often the commercial value of that knowledge for people in industrialised countries.

Linden explained the loss of indigenous knowledge in terms of the inherent glamour and attractiveness of Western ways of life, especially for young people, and the destabilising effects of education and money which undermine the perceived wisdom and authority of the elders. Such an explanation sets up a false dichotomy between tradition and modernity, and ignores the colonial histories of most developing countries as well as the continuing political and economic inequalities between industrialised and non-industrialised countries. The loss of indigenous knowledge, according to *Time*, is the inevitable result of individual choice, and saving indigenous knowledge will require the assistance of scholars and researchers motivated by the economic value of that knowledge for the West.

Like the images that accompanied the article, in which people from various parts of the world were photographed in front of the same studio backdrop, *Time* presented a decontextualised idea of indigenous knowledge in which knowledge can be saved in isolation from the cultural and social contexts in which it is produced and used.¹ As Linden (1991:52) noted, 'Scientists are learning to look past the myth, superstition and ritual that often conceal the hard-won insights of indigenous peoples'. The dangers of such an approach have been described by Peter Dwyer (1994) in an essay on the use of indigenous knowledge by Western conservationists. Dwyer argued that, by representing indigenous environmental knowledge as the basis for indigenous conservation of the environment, conservationists ignore critical differences in underlying assumptions and purposes between themselves and indigenous peoples (for example, global vs. local concerns). In so doing, conservationists place indigenous people in untenable positions. As Dwyer (1994:95) put it, 'In the final analysis the elders are acknowledged as wise only in the circumstance that they speak as we wish to hear them'.

While unexamined social evolutionary assumptions (assuming that contemporary indigenous peoples and their knowledge are somehow a link with the past), decontextualised ideas of indigenous knowledge as information 'stored' in people's memories, assumptions that indigenous peoples are not capable of preserving their own heritage, and the linking of preservation to commercial value remain common themes in contemporary discussions of indigenous knowledge, what is remarkably absent in the *Time* magazine article, at least from today's perspective, is any discussion of intellectual property rights.² It is hard to imagine that a similar article published today could so conspicuously ignore issues of property and ownership. This reflects a critical change in the last decade, a change that the essays in this book document in the context of Papua New Guinea.

Protecting intellectual, biological and cultural property in Papua New Guinea

The chapters in this book were presented at a conference on intellectual, biological and cultural property that was held in Port Moresby in August 1997. They raise issues that are critical both for Papua New Guinea and for other developing countries. With the exception of Brendan Tobin's chapter (which uses the analysis of an intellectual property agreement in the Peruvian Amazon to make general suggestions for legal frameworks within which intellectual property can be transacted), the essays reflect the Papua New Guinea context in which they were written, not only in their content but also in the social and historical contexts that are taken for granted—for example, understandings about social relations between persons; ideas about relationships between persons and things; Papua New Guinea's history of British, German and Australian colonialism; and the powerful economic position that Australia continues to have in Papua New Guinea.

The diverse chapters in this book are linked by their concern with the concept of property and property rights in intangible things. While they emerged from the particularities of Papua New Guinea, the essays also take up wider debates at the cutting edge of the development of international property law including globalisation and deregulation of trade, the balance of economic interests between industrialised and developing countries, and the rights of indigenous peoples both internationally and in relation to the nation states of which they are

citizens. There is much room for confusion and misunderstanding in determining how these questions should be answered. In taking up these issues, the essays bring into focus the question of how such developments might be applied in Papua New Guinea.

In this introduction we seek to provide historical background and to illuminate some critical distinctions and perspectives on intellectual property which will set the scene for the issues raised in the following chapters. We begin with a brief overview of the development of ideas about property and intellectual property in English law. The relevance of this lies in the Papua New Guinea Constitution which explicitly includes both custom and 'the principles and rules of common law and equity in England' (as they existed immediately before Papua New Guinea's independence in 1975) as the underlying law of the country.³ We then discuss the major international treaties and conventions regarding intellectual property and their significance for Papua New Guinea. We then turn to indigenous Papua New Guinean ideas about property and intellectual property, and a discussion of the status of custom in Papua New Guinea law, before concluding with comments on alternatives to the prevailing paradigm of intellectual property rights.

Property and property rights

In everyday contemporary English usage, the word property refers to objects or things, or to relationships between persons and things. Things and relations between persons and things constitute the two parts of the Oxford English Dictionary definition of property as 'owning, being owned; things owned, possession(s)'.⁴

While common usage emphasises property as objects or things, English-speaking scholars have generally considered property in terms of relations between persons. In this view, property is an abstraction rather than a thing. In English law, and in many of the legal traditions derived from English law, property is a right in something (or to something) rather than the thing itself. To own property is to have an enforceable claim (that is, a right) to some use or benefit of some thing. The idea of an enforceable claim—be it enforceable by custom, convention, or law—distinguishes property from mere occupancy or momentary physical possession (Macpherson 1978:3).

In this framework the claims that distinguish property from occupation or possession are claims in relation to other persons. When a

person buys a house or a car, what she or he purchases is the legal title, the enforceable right, to the tangible object. In the case of private property, such rights are exclusive or discriminatory in that they exclude others from using or benefiting from the object in question. In the case of common property, on the other hand, such rights are inclusive in that they guarantee that certain persons will not be excluded from the use or benefit of a tangible object. In this view, a system of property is a system of rights of each person in relation to other persons. In other words, property is a relation between persons with respect to things (Macpherson 1978:3–5; Hann 1998:4–5).

According to Macpherson (1978:7), the contemporary everyday use of ‘property’ to refer to things emerged in the seventeenth century with the spread of capitalist market economies and ‘the replacement of old limited rights in land and other valuable things by virtually unlimited rights’. Prior to this, ‘it was well understood that property was a right in something’ rather than the thing itself. This understanding of property as rights stemmed from feudal ideas about land in which simultaneous multiple claims were recognised and in which any one person’s claims were limited and not fully disposable. With the spread of capitalist economies, however, limited rights in land were increasingly replaced with almost unlimited rights including the right to sell or otherwise dispose of land. As these rights became more absolute, Macpherson (1978:7–8) argued

It appeared to be the things themselves, not just rights in them, that were exchanged in the market. In fact the difference was not that things rather than rights were exchanged, but that previously un-saleable rights in things were now saleable; or, to put it differently, that limited and not always saleable rights *in* things were being replaced by virtually unlimited and saleable rights *to* things (emphasis in the original).

Alan Macfarlane (1998) has recently painted a more complex picture of the history of European legal thinking about property. He contrasted Roman law and English feudal law regarding property in the following terms

Roman lawyers saw *the thing* as property and it could be divided almost *ad infinitum*. Thus a piece of land could be divided and sub-divided among heirs again and again. Feudal lawyers on the other hand saw the thing as indivisible, but the rights in it, that is the relationships between people, the bundle of social ties between people and resources, were almost infinitely expandable (Macfarlane 1998:113; emphasis in the original).

At the end of the twelfth century, land in most parts of Europe was thought of in these feudal terms. Around 1200, however, English law regarding property began to diverge from property laws in other parts of Europe in two critical ways. First, land in England became freely alienable. Whereas in other parts of Europe land was divided into small peasant family properties which could not easily be alienated because of the multiple claims that people had to them, by the thirteenth century in England people at all levels of society could alienate their land. Multiple claims were replaced by individual claims, the right to alienate land was added to the existing bundle of rights, and property relations became relations among persons. The second divergence between English property law and laws concerning property elsewhere in Europe resulted from the reintroduction of Roman law in most parts of Continental Europe between the thirteenth and fifteenth centuries. The renewed influence of Roman legal ideas, which are reflected in the present-day legal codes of countries such as France, Germany, Switzerland and Italy, included a tendency 'to identify ownership with the thing owned, and to limit [the] definition of things to movable or immovable property, as opposed to more abstract rights' (Macfarlane 1998:111). In contrast, English law 'has developed from the tenures of medieval feudalism and has been more ready to analyse ownership in terms of bundles of rights, obligations and interpersonal relations arising from the control and enjoyment of property' (Macfarlane 1998:111–2).

The point here is not the detail of European laws about property, but the fact that those laws have changed over time and in relation to broader social and economic changes. The divergence between property laws at the beginning of the thirteenth century, for example, reflected differences in the organisation of agriculture in England and on the Continent which began during the second half of the twelfth century. More recently, the expansion of property rights corresponded to the spread of capitalist economies (Macfarlane 1998:111).

Intellectual property

Intellectual property is generally defined as property that is intangible or which has no physical form. The challenges posed by this intangibility have been central to the history of ideas about intellectual property and debates about its legal status. The contemporary intellectual property categories of copyright, patent, trademark and

trade secrets, for example, which are described in detail in Leslie Harroun's contribution to this book, did not become fixed until the middle of the nineteenth century and their emergence was part of a critical transformation in how English law dealt with intangible property and rights in what was then called 'mental labour'.

English patent law had its origins in a medieval system of prerogative-based privilege. The English monarch could, usually for a fee, grant an individual or company the exclusive right to undertake various economic activities, for example, the manufacture of certain items (Drahos 1996:29). Successive monarchs abused this system because it was an easy source of revenue, and the English courts responded by striking down the monopolies on the ground that they interfered with freedom of trade. The one exception to this was the monopoly patent, which gave an inventor the exclusive right to reproduce his invention in return for bringing the knowledge about it into the public domain. This was reflected in the Statute of Monopolies which was passed by the English Parliament in 1623 and which made all monopolies void with the exception of patent monopolies.

Like English patent law, English copyright law can be traced to the end of the practice of granting royal monopolies and to changes in the regulation of the book trade at the end of the seventeenth century. Prior to this, the Stationers' Company held a monopoly on printing in England which was granted by the Crown in order to restrict the printing of seditious, heretical, blasphemous and obscene materials. Under the terms of this monopoly, it was an offence to publish a book that had not been approved and registered by the proper authorities. In exchange for accepting censorship on what they could print, the Stationers' Company obtained the commercial protection of an exclusive monopoly over printing. In this system, authors played a very limited role (Lange 1997:76; Sherman and Bently 1999:11; Strong 1997:256–8).

The Stationers' Company lost control of the printing trade when the Licensing Acts which granted their monopoly lapsed in 1695. These Acts were eventually replaced in 1709 by the Act for the Encouragement of Learning, commonly known as the Statute of Anne, which asserted a public interest in writing and publishing to justify an end to the printing monopoly. The expressed purpose of the statute was to encourage the spread of education by providing authors with an incentive to write and publish, and it did this by giving authors the right to control the publication of their own works for a limited period

of time (either 14 or 28 years depending on the circumstances) after which their rights would lapse (Sherman and Bently 1999:11–12).

Faced with losing their monopoly, the Stationers' Company argued that the rights granted by the Statute of Anne merely supplemented authors' perpetual rights under common law, rights under which authors had previously given permission to the Stationers' Company to print their works. This assertion of perpetual common law rights provoked a lively legal debate during the course of which a wide range of key legal ideas were examined critically and in detail. Central to this debate, which lasted until the mid nineteenth century and laid the foundations of modern intellectual property law, were questions about the extent to which property protection could be extended to intangibles and the nature of mental labour (later called 'creativity') which came to be seen as the link between the various areas of law which granted property rights in intangibles (*ibid*:13–16, 44).

Fundamental to the debate about the extension of the concept of property to intangibles was a distinction between discovering and creating which, in turn, rested on 'a belief in the existence of an *a priori* domain, a reservoir from which inventions were drawn' (*ibid*:44–5). This 'reservoir' was variously called 'tradition', 'nature', 'principles' or 'the laws of science'. Aspects of these domains could be discovered, but they could not be made the subject of property claims (that is, they could not be copyrighted or patented). Thus, electricity could be discovered, but it could not be patented (that is, one could not exclude other people from using electricity or benefiting from it). What could be granted the status of property was the transformation of abstract ideas into material or practical form. What was protected in intellectual property law was the human creativity that transformed 'nature' into products (*ibid*:44–7).

In discussions of literary property, debate focused on whether the concept of property applied only to the right to print and reprint a particular work or whether it also extended to the ideas and knowledge contained in a written work. A narrow definition of literary property faced the problem of failing to protect an author's rights in cases of abridgement, compilation and translation, while a broader definition opened the problematic possibility of turning ideas and knowledge into property. What emerged from the debate was a definition of literary property as the specific ways in which words were combined in written expression, that is, the precise ways in which ideas and knowledge were

represented or expressed. Mental labour or creativity (in this case the creativity of the author) was again central to the definition of intellectual property (*ibid*:19–42).⁵

In thinking about creativity in the Papua New Guinea context, an important aspect to consider is the relationship between tradition and creativity. The creativity of indigenous peoples in the creation of new knowledge or new art forms and styles is sometimes denied or diminished on the grounds that they are simply following their traditions. Popular Western ideas of non-Western peoples as timeless and unchanging (as least prior to Western contact and influence) sit uncomfortably with ideas of individual creativity by indigenous peoples. But the emphasis on the individual as creator that is often found in contemporary Western ideas of authorship and invention are not reflected in earlier discussions of intellectual property. Sherman and Bently (1999:37) stated that

What is striking about much of what was written about intellectual property throughout the eighteenth and nineteenth centuries is how conscious commentators were of the interpersonal nature of creation, of the debt and connection which existed between authors.

Sherman and Bently argued against romanticising the individual as creator and for the need to acknowledge the social and intellectual networks within which creativity takes place. This suggests that far from being part of the ‘reservoir’ of things that are simply waiting to be discovered, and therefore not amenable to property claims, tradition is a vital part of all creativity.

The legal debates that flowed from the Statute of Anne began with an assertion of a public interest in access to ideas and knowledge. They took for granted a particular shared understanding of mental labour (or creativity) and a historical and legal definition of property as rights in relation to tangible things. The debates transformed both the form and organisation of English intellectual property law as well as the subject matter protected and the role of registration in identifying intellectual property. The present day categories of copyright, patent, trademarks and trade secrets emerged during the course of the debate and were not clearly distinguished and established until the middle of the nineteenth century. Prior to this, there was no consensus as to how to categorise intellectual property, only a general agreement that English law recognised and granted property rights in mental labour.⁶ Similarly, whereas prior to the mid nineteenth century the law was reactive and

subject specific (for example, it dealt with the printing of designs on fabric, but not the general question of designs), after the mid-nineteenth century intellectual property law was abstract and tried to anticipate issues that would be raised by new forms of tangible property. Whereas earlier English intellectual property law was concerned with issues that the law itself identified as metaphysical (for example, identifying the essence of mental labour or creativity) by 1850 the law had abandoned such philosophical issues and was concerned less with what was embodied in an object than with the object itself and its economic implications. Paralleling this shift to a concern with the economic implications of intellectual property was a shift to the language and concepts of political economy and utilitarianism. Finally, by 1850 the issue of proving rights in intellectual property had become a matter of public concern, and bureaucratic registration identified the limits of intellectual property (Sherman and Bently 1999:3–5).

Sherman and Bently explicitly argued against ‘those who present intellectual property law as if it were a timeless entity that has always existed’ and against those who assert that the present-day categories of intellectual property (for example, patents, copyright) are ‘a natural ordering’ or the product of a considered philosophical position. Instead, both the general category of intellectual property and more specific categories of intellectual property emerged from a historical process of a period of some 120 years (roughly from 1730 to 1850) during which industrial technology and capitalism expanded rapidly, and during which property protection was gradually extended from one type of intangible thing to another on the basis of arguments by analogy. What linked these new forms of property was their relationship to mental labour and creativity (*ibid*:16).⁷

International treaties and conventions

While the development of intellectual property law reflected innovations in industrial technology and the expansion of capitalism, expanding international trade during the second half of the nineteenth century and the twentieth century led to the development of international agreements concerning intellectual property, the earliest of which date to the 1880s.

The primary international treaty covering patents, trademarks and industrial designs is the Paris Convention for the Protection of Industrial Property, first signed in 1883 and most recently revised in 1967. At

present, approximately 98 countries are signatories, but Papua New Guinea is not among them (Gervais 1998:440). The Convention provides for the standardisation of the procedures for applying for and granting patents. Prior to 1883, national patent systems varied considerably, and this created obstacles to the international assertion of patent rights. The Convention also stipulates that a signatory country cannot provide less intellectual property protection to residents of other signatory countries than it does to its own citizens. This requirement, which is often called 'national treatment' because foreigners are treated as nationals, together with the Convention's failure to establish standards for national enforcement have often been criticised because countries that do not provide a certain level of intellectual property protection for their own citizens are not required to provide it for foreigners either. A further criticism of the Paris Convention is that it does not provide effective mechanisms for settling disputes which under the Convention are referred to the International Court of Justice (Abbott 1997; Moy 1997).

The principal treaty for protecting copyright is the Berne Convention for the Protection of Literary and Artistic Works which was first signed in 1886. At present, there are some 88 member states, and again Papua New Guinea is not a signatory (Gervais 1998:440). As with the Paris Convention, the Berne Convention requires signatories to extend the same copyright protection to residents of other signatory countries as they grant to their own citizens. It also establishes minimum standards of protection including minimum copyright periods (generally the life of the author plus 50 years) and defines the moral right of authors such as the right to authorise translations and the right to protect the integrity of artistic works. Although the main emphasis is on the rights of authors, these are balanced against concerns about public access to information such as current news or political statements. As in the case of the Paris Convention, disputes over interpretation and enforcement of the Berne Convention can be brought to the International Court of Justice. The Berne Convention, however, does not include either standards for determining when an infringement has occurred or any method for penalising countries that do not meet their treaty obligations (Abbott 1997; Burger 1997).

In the first half of the twentieth century, revisions were made to the Berne Convention, primarily in the direction of expanded rights for authors. In 1967, however, the expansion of authors' rights was opposed

by developing countries at a meeting of signatory countries held in Stockholm. Developing countries demanded special concessions such as licenses for translations and shorter periods of copyright protection, concessions that would have given them greater and less expensive access to published materials but which would have also significantly weakened the rights of authors. Authors and publishers in developed countries were so opposed to these concessions that in the end no changes were made to the Convention at the Stockholm meeting (Burger 1997:263).

A significant result of the Stockholm meeting, however, was the creation of the World Intellectual Property Organisation (WIPO) which is an agency of the United Nations. Its goals are to encourage the international protection of intellectual property and to administer international treaties and conventions concerned with intellectual property. Thus, the WIPO administers both the Paris Convention and the Berne Convention as well as the Madrid Agreement, which simplifies procedures for filing trademarks in different countries, and the Rome Convention, which provides international protection for performers, phonogram producers and broadcasting organisations.⁸

Conflicting interests between industrialised and less industrialised countries with regard to intellectual property have continued. Developed countries saw the Berne Convention as lacking effective enforcement mechanisms and as unduly subject to the desires of developing countries for less restrictive access to intellectual property. These concerns at least partly explain the recent development of the Agreement on Trade-Related Aspects of Intellectual Property (generally known as the TRIPs Agreement) which is part of the General Agreement on Tariffs and Trade (GATT) (D'Amato and Long 1997:267–8; Long and D'Amato 1997).

The Agreement on Trade-Related Aspects of Intellectual Property was drawn up during the Uruguay Round of Multilateral Trade Negotiations which began in 1986 under the GATT framework. These negotiations also resulted in the formation of the World Trade Organisation (WTO) which came into existence on 1 January 1995. Papua New Guinea joined the WTO in June 1996 and is therefore bound by the Agreement on Trade-Related Aspects of Intellectual Property. The inclusion of intellectual property rights and their enforcement within the Uruguay Round stemmed from proposals by Japan and the United States which were dissatisfied with efforts to resolve intellectual property issues,

especially disputes, through WIPO. Many less developed countries objected to using GATT to establish international standards in the area of intellectual property, arguing that WIPO was the appropriate forum in which to do this. They viewed GATT, with its emphasis on free trade, as a forum favouring industrialised countries, and they believed that the Paris and Berne Conventions, with their emphasis on national treatment for intellectual property issues, had already resolved the issues with which GATT was proposing to deal (Gervais 1998:3; Long 1997).

The Agreement on Trade-Related Aspects of Intellectual Property both builds on earlier international treaties regarding intellectual property and represents a new departure from them. Most of the substantive provisions of the Paris and Berne Conventions were incorporated into the TRIPs Agreement, although an author's moral rights (as opposed to economic rights)—that is, 'the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work' (Article 6*bis* of the Berne Convention)—were not included in the TRIPs Agreement.⁹ But the Agreement on Trade-Related Aspects of Intellectual Property goes beyond the Paris and Berne Conventions by adding new intellectual property rights (such as the protection of confidential information) and, more importantly, by setting out both rules for enforcing intellectual property rights and provisions for dealing with disputes under the integrated dispute settlement system of the WTO. These are significant changes to the international treatment of intellectual property because they highlight the commercial and trade aspects of intellectual property (for example, by insisting that enforcement procedures should not create barriers to legitimate trade) and because they replace a general obligation to provide legal remedies to infringement of intellectual property rights through national legislation with a harmonised set of international legal principles and procedures. As David Demiray (1997:268) has argued

Since the creation of GATT...intellectual property has undergone a fundamental conceptual change: the emphasis has moved away from sovereign matters—for example, one of protective norms restricted to the territory of the state—to issues of adequate protection of intellectual property rights abroad. As the economic importance of exports has increased, so have the needs for improved extra-territorial protection of intellectual property rights.

Aspects of the TRIPs Agreement of particular importance to Papua New Guinea, with its high levels of biodiversity and large numbers of

subsistence gardeners and farmers, are the provisions in Article 27 of the Agreement concerning the patenting of animals, plants and plant varieties. Article 27 allows member states to prohibit the patenting of 'plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological or microbiological processes'. But Article 27 also states that 'Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* [special purpose] system or by any combination thereof'.¹⁰ In other words, while Papua New Guinea may prohibit the patenting of plants and animals (for example, by multinational pharmaceutical companies), it must recognise and protect the intellectual property rights, either through patents or through a special purpose system, of those who develop new plant varieties. The danger in this requirement lies in the introduction of property rights over plant resources previously thought of as being held in common and in the fact that the requirement ignores the informal agricultural and horticultural systems through which farmers and gardeners in developing countries such as Papua New Guinea breed a wide variety of plants. At the same time, Article 27 provides the possibility that Papua New Guinea could develop a *sui generis* system of protection that reflects the interests of Papua New Guineans (Posey and Dutfield 1996:102–3).

The centrality of intellectual property issues to contemporary biological concerns was highlighted in the Convention on Biological Diversity (CBD) that emerged from the 1992 World Conference on Environment and Development that was held in Rio de Janeiro. It was highlighted both in the central place of intellectual property in the CBD and by the fact that the United States refused to sign the Convention believing it would erode conventional patent rights. Article 8(j) of the Convention on Biological Diversity specifically obliges contracting parties to

Respect, preserve and maintain knowledge, innovations, and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices (cited in Posey and Dutfield 1996:104).

Article 16 of the Convention on Biological Diversity also deals with intellectual property issues and requires greater access to and transfer of

technology, including technology protected by patents and intellectual property laws. In making this requirement, the Convention on Biological Diversity accords the same legal status to the knowledge and technologies of indigenous peoples as it does to Western knowledge and technology. As Darrell Posey and Graham Dutfield have noted

Indigenous and traditional technologies have rarely been considered to be 'technologies' in international parlance. This pattern is part of the larger trend to downgrade, overlook, and minimise the knowledge, innovations, and practices of indigenous peoples. The CBD, however, specifically elevates these elements to a central concern as technologies relevant to the conservation and sustainable use of biological diversity (Posey and Dutfield 1996:106–7).

The Convention on Biological Diversity thus requires contracting parties to provide legal protection for indigenous knowledge, innovations, and practices.

The distinction between discovering and creating remains critical for contemporary discussions of property rights in biological resources. Biological materials were traditionally excluded from property protection under Western law because they are part of nature and not the result of individual creative effort. They could be discovered, but they could not be patented. During the twentieth century, intellectual property law adapted to changing technology and many countries now extend property protection to the products of biotechnological engineering and to new varieties of plants. In recent years there has also been a changing recognition of the rights of nations to exercise sovereignty over 'products of nature' as discussed in Rosa Kambuou's contribution to this book. Much of this change has occurred in the realm of international cooperation between governments in relation to agricultural production and the protection of biodiversity rather than through the adaptation of intellectual property law.

Intellectual property law continues to favour those who have contributed specific mental labour to developing new products from nature, and it accords no rights to those who own or control access to natural resources such as plants that contain chemical compounds useful to pharmaceutical companies. Contemporary discourse emphasises the failure of Western law to recognise the communal rights of indigenous peoples. The idea that the natural world is a reservoir that cannot be the subject of property rights is seen in this context as dovetailing with the economic imperatives of colonial enterprise, and providing a justification for the expropriation of natural resources at the expense of their original

indigenous custodians. The expansion of intellectual property rights to include those indigenous custodians thus becomes an avenue to right at least in part the wrongs that have created international political and economic inequalities.

This viewpoint sits well with concepts of intellectual property rights. Just as land is returned to those from whom it was stolen, so too can rights to intangible property be returned. But if we expand intellectual property rights to include those outside the realm of inventive labour, who should be included and who should be excluded? This question returns us again to the distinction between intellectual property (such as chemical compounds and gene sequences) and the physical objects (such as plants and other forms of biodiversity) from which they are derived. Where this distinction is blurred, custodianship of the physical objects from which the intangible property is created seems to be a logical nexus of ownership. One might want, for example, to return the proceeds of pharmaceutical discoveries to the communities from which the original plant material was taken. But intellectual property laws as we know them today are precisely about severing the rights to intangible property from the physical objects from which they are derived. After all, intellectual property is thought of as a single object (for example, the copyright for a book or a new plant variety), but the intellectual property may be manifested in millions of physical objects (for example, the physical books or plants).

These issues are confronting governments and researchers today in the course of negotiating agreements which set the framework for the distribution of benefits, as Lohi Matainaho describes in his contribution to this book. His chapter introduces the idea that the value of biological resources might vary depending on the extent of the contribution that local people make to the overall discovery process. In many cases, the contribution may be more than just the plants themselves. Traditional knowledge will often inform researchers about the kinds of species they are looking for. Here the issues become even more complex. While knowledge is clearly something that can be owned, we need to focus on what happens to that knowledge when we subject it to an intellectual property regime which allows knowledge to be alienated as well as protected. Should the alienation of knowledge (which is basic to its commercial value) that might be shared by other peoples be restricted in some way? Intellectual property law has never addressed itself to this question, since it has never catered for communally-owned knowledge.

Property and intellectual property in Papua New Guinea

James Carrier (1998:85) has recently noted that anthropologists working in Melanesia have paid little attention to property *per se*, and this reflects an omission in anthropology generally (Hann 1998). In the case of Papua New Guinea, an exception to Carrier's generalisation is the attention that anthropologists and other researchers have paid to land tenure, although Carrier (1998:85) argued that such studies often take the idea of property for granted and deal primarily with kinship, social organisation and production in relation to land. In summarising studies of land tenure in Papua New Guinea, Thomas Harding noted both that land is often owned by groups rather than individuals and that ideas of land ownership generally exclude two rights which are among the rights included in Western ideas about land ownership: the right to alienate land and the right to receive income from it (1972:604–5).

While ideas about property other than land have not been an explicit focus for researchers in Papua New Guinea, considerable attention has been paid to cultural ideas about what it means to be a person, to relations between persons and things and to the ways in which people transact objects. If the anthropology of Papua New Guinea is not known for its examination of property, it is well known for its examination of exchange, the published literature on which is enormous.¹¹

Discussions of exchange in Papua New Guinea have often used a distinction between commodities and gifts—and between commodity economies and gift economies—to characterise differences between economic systems and activities in Western societies and Papua New Guinea societies, respectively. This distinction highlights the fact that exchanges of goods in Western societies serve primarily to establish relations between the objects exchanged by determining their prices and relative values. In contrast, the primary purpose and result of gift exchanges are to establish and maintain relations between persons making such exchanges (Gregory 1982:18–19).¹²

Commodity economies and gift economies thus involve different kinds of relationships between persons with respect to things. In other words, they are based on distinct concepts of property. But they also involve different relationships between persons and things. Alienability and a clear separation between persons and things are fundamental to commodity exchanges, but the power of gift exchanges to create

enduring social relationships lies precisely in the fact that the objects given are not completely alienated.

In this view, when Highlands men exchange pigs or shells they are not trying to determine the relative prices or values of what they are exchanging. The point is not to establish that a large female pig is worth a particular number of pearl shells. Nor are pigs or shells from one person the same as pigs or shells from another person. The persons giving and receiving the objects are critical to the purpose of the exchange which is not motivated by a desire to maximise the yield or profit from the exchange but by a desire to establish and maintain particular types of social relations (such as peace, alliance, or inequality of rank or prestige) with particular persons. These social relations are mediated through the objects that are given and received, and a significant part of the meaning of those objects lies in the people who produced, owned and gave them.

Carrier (1998:86–8) has recently recast the difference between property relations in Melanesian and Western societies in terms of ‘inclusive’ and ‘exclusive’ ideas of property. He argued that Melanesians have an ‘inclusive notion of property’ in which objects reflect and are embedded in lasting relationships between people involved in the objects’ histories. A previous owner of an object continues to be associated with that object even after it leaves his or her possession, and objects are a vital part of a person’s relationships with other people. Carrier contrasted this with the ‘exclusive form of property’ of the modern West in which an object is controlled by and associated with only the person who owns it at the moment.

Having argued for a distinction between inclusive and exclusive property, Carrier also provides a salutary warning against dichotomising and totalising, against imagining that inclusive property is the only way that Melanesians think about objects or that objects in Western societies are only commodities. He pointed out that socially embedded or inclusive ideas of property do not seem to apply when Melanesians act in the urban, capitalist economy. ‘Melanesians,’ he wrote, ‘have commodities and exclusive property just as surely as Westerners have gifts and inclusive property’ (Carrier 1998:101).¹³

While English law has been reluctant to extend the concept of property to intangibles, rituals, stories, songs, personal names, artistic designs and specialist knowledge are among the intangibles to which Papua New Guineans claim ownership and which they exchange with

others. In an essay on *Ritual as Intellectual Property*, Simon Harrison (1992:234–5) noted that while such intangibles are exchanged as economic goods, they (like all intangible items) are interesting because ‘They presuppose a shared universe of information and meaning, and depend upon that universe not only for their value but for their very reality’. But he noted a critical difference in rationale between Western intellectual property law¹⁴ and Melanesian ideas about the ownership of intangibles, a difference which echoes the distinction between gifts and commodities. Whereas intellectual property law seeks to encourage public disclosure of innovations by protecting the rights (especially the commercial rights) of innovators, the ownership and exchange of intangibles in Melanesia serve primarily to create and maintain social relations such as inequalities in rank and prestige. Western intellectual property law seeks to define products of human creativity that can be alienated from their creators and exchanged for other commodities in a system concerned with establishing the relative values of the objects exchanged. In Papua New Guinea, the ownership of intangibles does not necessarily include the possibility of alienation, and the exchange of intangibles does not determine their value.

At least in some Papua New Guinea societies, the value of knowledge, for example, is inversely related to the number of persons who possess it. The more people who know something, the less significant it is assumed to be. Restricting access to knowledge can reinforce cultural identity and strengthen social hierarchies and inequalities (Harrison 1995:12). The restriction of certain types of knowledge to initiated men in some Papua New Guinea societies strengthens inequalities that exist in other domains between men and women and between senior and junior males (Barth 1975; Whitehead 1986). Knowledge of particular stories, songs, dances, rituals or artistic designs can serve as markers of cultural or group identity, and their use by outsiders without permission is a serious violation of ownership rights (Schwartz 1975). Jacob Simet’s essay in this book explores ownership and restrictions on the use of such cultural markers among Tolai of East New Britain.

A consideration of practices associated with intangible property reveals similarities as well as differences in how Westerners and Papua New Guineans deploy, manipulate, and protect knowledge. Harrison (1995:13), for example, has compared the concerns of Manambu clans, software companies, and universities with regard to the management of knowledge. Among the Manambu, who live along the Sepik River, each

of the various clans has its own secret myths, known only to a few of its senior men. These myths provide the basis for land ownership. On the one hand, the myths cannot be disclosed to outsiders because the outsiders could then use the myths to make their own claims to land. At the same time, a clan must partially disclose its myths so that outsiders will acknowledge the clan's claims to land ownership. In other words, a clan must maintain a balance between disclosure and protection of knowledge, a balance which software companies and universities must also strike if they are to be successful. Software companies must reveal just enough of the knowledge that they create so that they are not marginalised by their competitors while at the same time protecting themselves through secrecy, copyrights and patents from having their ideas stolen. And as education becomes increasingly redefined in commodity terms, with courses as products and students as consumers, universities must both disseminate knowledge and treat that knowledge as a commercial product. Based on this comparison, Harrison (1995:13) concluded that

...all institutions producing and managing knowledge are faced with the same basic dilemma in one form or another. The dilemma is that they depend for their existence both on producing and communicating knowledge and on keeping this knowledge in some respects their property.

Any practical consideration of Papua New Guinean ideas and customs concerning property and intellectual property must consider the country's legal system and the place, or potential place, of custom within that system. Schedule 2 of the Papua New Guinea Constitution states that custom and English common law at the time of independence together make up the country's 'underlying law'. This is one of several types of law identified in Section 9 of the Constitution as comprising Papua New Guinea law as a whole. Schedule 2 states that 'custom is adopted, and shall be applied and enforced, as part of the underlying law' unless the custom is inconsistent with the Constitution or statute law.¹⁵ Custom takes precedence over common law inasmuch as common law is only applied and enforced if there is no statute law or customary law regarding a particular issue.

Despite the precedence given to custom by the Constitution, Nonggorr (1995) has noted three factors that contribute to custom being relegated in practice to second place behind the common law. First, Section 5 of the *Native Customs (Recognition) Act* (Chapter 19) requires that customs 'shall be ascertained as though they were matters

of fact'. In other words, one must first prove in court that a particular custom exists before it can be considered as part of the underlying law. Proving that a custom exists can be onerous and is certainly more difficult than citing a common law principle. As Nonggorr (1995:74) writes

The adopted common law, which finds its origins in customary law as well, is not required to be proved as fact merely because it is readily available in the recorded case law and text books. Yet customary law must not only be proven as fact, it must be tested by the use of common law-based procedure (cf. Ottley 1995:104).

Second, common law often takes precedence over customary law because Papua New Guinea lawyers are trained in common law. Finally, common law is more prominent than customary law, according to Nonggorr (1995:75), 'because of the adoption of common law institutions, systems, and, indeed, the whole economic and political system'.

Village, Local, and District Courts can resolve disputes according to custom,¹⁶ but these are not the only arenas, or perhaps even the main arenas, in which intellectual property disputes will be heard. In considering laws to explicitly protect rights in intellectual property, it is critical that Papua New Guinean ideas about ownership, property, knowledge, and creativity are taken into account if those laws are to reflect the contemporary social and political contexts in which they will be applied. An important contribution of Leslie Harroun's essay in this book is the point that conventional intellectual property mechanisms do not adequately accommodate communal ownership of property and that access to the protection that such mechanisms afford is limited because of the high transaction costs. The recognition of communal property, including communal intellectual property, must be central to Papua New Guinea intellectual property law, and whatever intellectual property regime is put in place must consider the practical implications of that regime for average Papua New Guineans who want to protect the products of their creativity.

Marilyn Strathern's essay, however, suggests that there may be even more fundamental ways in which Euro-American concepts of property do not sit easily in the Papua New Guinea context. She challenges the very applicability of European concepts of property and knowledge that underpin ideas about intellectual property rights. These concepts are of course changing in industrialised countries even as they are changing in Papua New Guinea. But Western discussions of property have mainly focused on property as things and as social relations between people

with respect to things. Strathern argues that Papua New Guinean concepts of property introduce a third dimension of property—the process of transaction itself. Papua New Guinean ideas of knowledge and creativity as both socially embedded and transactable would give rise to a system of intellectual property law quite different from the Western one which has increasingly focused on protection for individual rights and on the commodification of the property that is the subject of the right.

The four essays by Jacob Simet, Mark Busse, John Muke, and Don Niles in this book highlight through concrete examples the importance of taking seriously Papua New Guinean ideas about the production and ownership of knowledge and cultural forms in contemporary and increasingly global contexts. Simet shows that Tolai customary law includes restrictions on the use of cultural materials such as songs, designs for dance costumes, and healing practices which are similar in some ways to the protection provided by Western intellectual property law. His chapter is thus a contribution to the development of Papua New Guinea's underlying law concerning intellectual property. In Western law, however, there is a clear distinction between the intellectual property in a painting, for example, and the ownership of the physical object itself. Each involves a distinct set of rights. But it can be difficult to draw this distinction in the Papua New Guinea context notwithstanding the fact that the legal protection of cultural property is narrowly focused on the protection of physical objects, as Busse explains in his essay.

Muke's chapter confronts the complex and difficult subject of the social relations within which knowledge is created and the different expectations that people have about those relations. His discussion of the complex relations among anthropologists, archaeologists and people who live near the Kuk early agricultural site in Western Highlands Province brings us back to the artificial distinction between the expression of ideas in researchers' notebooks, which are protected under conventional copyright law, and the ideas they contain, which are not.

Niles reminds us that the intellectual property laws that Papua New Guinea is obliged to put in place by virtue of its membership in the WTO will regulate relations between Papua New Guineans as well as those with potentially exploitative outsiders. He poses an interesting question in this respect by juxtaposing the theft of Papua New Guinea's traditional music by non-Papua New Guinean performers with two

other forms of theft—the appropriation by contemporary Papua New Guinean musicians of Western music and of traditional Papua New Guinean music from societies other than their own—and he asks whether such practices should also be controlled.

Beyond intellectual property rights

The phrase ‘intellectual property rights’ refers to a set of complex issues of considerable contemporary significance. Current international debates over the sequencing of human genes, the development of the internet, the preservation of cultural heritage, the protection of biodiversity and the development and patenting of new crops and new drugs, all involve, in one way or another, questions of intellectual property. They are linked by legal questions concerning the ownership of intangibles, an area of law that emerged in the context of the expansion of capitalist economies and accelerating technological innovation. But these are not just international issues, they are issues that increasingly confront Papua New Guinea and they call for the development of legal frameworks for relationships, both between Papua New Guineans and between Papua New Guineans and others, with respect to intellectual property. The essays in this book all address concerns for which intellectual property rights are seen as an answer—such as the equitable distribution of the wealth that flows from exploitation of biodiversity and the fundamental right of people to control their cultural heritage—and they are intended as a contribution to emerging debates concerning intellectual property in Papua New Guinea.

The use of ‘intellectual property’ as a catch-all phrase, however, risks obscuring opportunities for lateral thinking. Some authors, such as Posey and Dutfield (1996), for example, have questioned whether the paradigm of intellectual property rights is the most effective paradigm for defending the rights and resources of indigenous peoples. They note that legal frameworks for intellectual property are increasingly focused on the commercial value of economic property and ignore the moral and political reasons (for example, the desire for self-determination) that may motivate people to want to protect their intellectual property. They also noted that inequalities of power and wealth may make it difficult, if not impossible, for indigenous peoples to defend their intellectual property rights in courts of law. As a result of these difficulties, Posey and Dutfield proposed a shift from intellectual property rights to what they call ‘traditional resource rights’. The phrase ‘traditional resource rights’

refers to a bundle of rights—such as human rights, the right to self-determination, and the right to give prior informed consent—which are enshrined in international agreements and which can be used as the basis for *sui generis* systems (Posey and Dutfield 1996:94–6).

There is a growing discussion of *sui generis* systems of intellectual property rights protection and the hope that they might diminish economic and political inequality by protecting the intangible property that is important to indigenous peoples as well as that which is of commercial value to industrialised countries. Intellectual property laws, however, function in many respects as a global legal system, which is what makes them so powerful. The international conventions and the standardisation of intellectual property law around the world means that they are an effective trans-border means of enforcing private rights. A *sui generis* system developed in Papua New Guinea would be virtually useless in protecting the exploitation of traditional knowledge elsewhere in the world, unless other countries agreed to adopt similar laws. While the long process of achieving international consensus on a framework for mutual recognition of *sui generis* systems proceeds, there is an urgent need to find alternative mechanisms.

Many of the problems posed by intellectual property rights for protecting indigenous knowledge might be solved in other ways. The essays by Kathy Whimp and Brendan Tobin in this book explore avenues that might provide a useful approach to controlling how indigenous knowledge is used. Tobin's chapter focuses on licensing as a mechanism for maintaining effective control over indigenous knowledge as trade secrets, while Whimp's discusses the use of systems for governing access to, and use of, indigenous knowledge and biological resources. Access regimes essentially establish national gate-keeping systems that ensure that just terms prevail when indigenous knowledge or biological resources are used. Combined with contractual provisions that are enforceable under international law, they can be a strong lever for negotiating equitable benefit sharing arrangements.

The development of mechanisms for protecting intellectual, biological and cultural property in Papua New Guinea, whether through access regimes, *sui generis* systems or more conventional intellectual property laws, requires an understanding of complex and interrelated legal, commercial, social and philosophical issues. Fundamental to these issues are Papua New Guinean ideas about creativity and the production of knowledge, and about relationships between persons with respect to

knowledge and the products of creative activity. On-going debates about such ideas have been critical in the development of Western intellectual property laws and practices, and the results of those debates can be seen in the distinction between discovering and creating, in the granting of copyright to the expression of ideas rather than to the ideas themselves, in the encouragement of innovation through restrictions on access to the results of innovations, and in the balancing of intellectual property interests against the benefits of creative activities to society as a whole. Contemporary Western treatments of intellectual property—whether encoded in varying national laws or international agreements such as TRIPs—are, however, neither intrinsic to ideas of intangible property nor historically inevitable. They are rather responses to changes in technology, economy and society. Their applicability to contemporary circumstances in Papua New Guinea is a central theme in the essays that comprise this volume.

Notes

- 1 At one point, Linden (1991:54) did state that ‘While some [traditional knowledge] can be gathered in interviews and stored on tape, much information is seamlessly interwoven with a way of life. Boston anthropologist Jason Clay therefore insists that knowledge is best kept alive in the culture that produced it’. But this was not the general approach taken in the article.
- 2 Only at one point does Linden (1991:54) alluded to the issue of property. Noting that a study sponsored by the US National Cancer Institute had identified some chemical compounds that appeared promising for the treatment of AIDS and cancer, Linden stated, ‘If any of them turn out to be useful as medicines, the country from which the plant came would get a cut of the profits’.
- 3 According to Section 9 of the Constitution, the laws of Papua New Guinea include, in order of superiority, the Constitution, the Organic Laws, Acts of Parliament, emergency regulations, provincial laws, laws made under the Constitution, and ‘the underlying law’. Under Schedule 2 of the Constitution pre-independence laws were adopted as Acts of Parliament at independence. Schedule 2 also defines ‘the underlying law’ as including both Papua New Guinea custom and ‘the principles and rules of common law and equity in England’ as they existed immediately before independence (see Nonggorr 1995).

- 4 The word 'own', in turn, is defined by the Oxford English Dictionary as 'have as property, possess'.
- 5 Sherman and Bently (1999:52) noted that '...expression was thought to carry with it a number of characteristics which provided the means by which the conflicting tasks the law had set for itself were accomplished. On the one hand, expression was abstract and isomorphic enough for it to be reproducible and repeatable. At the same time, the expressive contribution of the author, as well as that of the inventor, engraver and designer, was such that it always enabled the property to be identified.' Over time, however, it became clear that definitions of intellectual property in terms of how ideas were expressed was unsatisfactory. Sherman and Bently (1999:54-5) argued that many contemporary intellectual property controversies (for example, regarding computer programs) turn on precisely the 'twin demands' of being able both to identify property and to protect authors and inventors from competitors who would slightly modify their texts or designs and then claim them to be distinct.
- 6 Sherman and Bently (1999:18) described the process through which these categories emerged in the following terms: '...just as we see the opening up of a general space for mental labour we also witness changes that would help to set the limits of the general category and, in turn, play a role in shaping the categories of modern intellectual property. Typically, these moves were a by-product of attempts to have new forms of subject matter protected by the law. Rather than focusing upon the general category of mental labour, attention was placed on a specific area of mental labour: on those forms of mental labour which had already been granted property protection. This was because when a case was made for extending property protection to a new subject matter it was usually done by drawing an analogy with pre-existing modes of protection. More specifically, this was done by showing that the new subject matter shared similar features with the subject matter that had already been given protection. As such, the task for those arguing for protection was to find a common link between the forms of mental labour which had already been given property status and the particular case in hand. In these circumstances it thus became important not only to be able to identify how and where the boundaries of the pre-existing forms of protection were drawn, but also to be in a position to extrapolate from the pre-existing regimes in which property rights were granted.'

- 7 There is no single history of ideas concerning intellectual property even in Europe. Instead, the extension of property rights to intangibles took different forms in different countries as a result of social, political, and economic differences. French copyright law, for example, emphasises the rights of the author or creator, while US copyright law echoes the Statute of Anne and places public interest on the same level or even above the rights of the author (Ginsburg 1997:79). Similarly, in discussing international differences in the legal treatment of intellectual property, Long and D'Amato (1997:7) noted that, '...the impact of language cannot be minimised. For example, among the issues which has [sic] been the subject of heated debate in the international community is the scope of rights granted an author for the act of creation. These rights, premised on the value added to the work by the unique personality of the human creator, differ from the rights granted under a nation's copyright laws. They generally include the rights of patrimony (or attribution), integrity, withdrawal and disclosure. In France the concept is referred to as '*droit moral*,' in Germany, '*urheberspersonlichkeitsrecht*,' in the United States 'moral rights or inherent rights.' Similarly, while the US uses the term 'copyright,' France uses the phrase '*droit d'auteur*' (or '*droits de l'auteur*') and Germany uses the term '*urheberrecht*' to refer to a creator's right to control the reproduction and dissemination of her works. Although these phrases are rough equivalents of one another, such equivalency does not fully reflect the differing philosophical and legal precepts represented by the original, untranslated phrases.'
- 8 The rights protected under the Rome Convention are often called 'neighbouring rights' because they are close to the rights protected under copyright.
- 9 Article 6*bis* of the Berne Convention still applies to signatories of that Convention. The exclusion of moral rights from the TRIPs Agreement was justified on the grounds that they are not trade related, and the effect of the exclusion is that disputes over moral rights cannot be settled through the WTO. At the same time, some countries saw the exclusion of moral rights as a victory of the Anglo-American copyright system over systems that emphasise the moral rights of authors (Gervais 1998:73).
- 10 *Sui generis* systems are those developed for a particular application, such as plant variety laws.

- 11 Exchange, as we use it here, refers to the transfer of things between social persons. The persons making an exchange may act individually or collectively, and the objects transferred may be tangible (for example, pigs, shells, axe blades) or intangible (for example, stories, artistic designs, rituals). While exchange in this broad sense is part of social life in all societies, it has been a particularly prominent concept in discussions of Papua New Guinea societies where exchange is often fundamental to social relations (Carrier 1996).
- 12 The identification of gifts as a distinct type of economic transaction can be traced to the French sociologist Marcel Mauss whose 1925 *Essai sur le Don* (usually translated as 'The Gift') laid the foundation for the distinction between gifts and commodities.
- 13 Cf. Nicholas Thomas's (1991) critique of the distinction between gifts and commodities in relation to objects in the Pacific.
- 14 Harrison (1992) referred to 'Western intellectual property law' as though it is a single tradition. As discussed earlier, however, the legal treatment of intellectual property varies somewhat between Western legal systems.
- 15 Custom is also not adopted if a custom is 'repugnant to the general principles of humanity'. According to Nonggorr (1975:73), this repugnance test, which originated in British colonies in Africa, was used by colonial governments in what is now Papua New Guinea to suppress local customs and institutions. An *Underlying Law Bill* prepared by the Law Reform Commission in 1976 proposed to remove this qualification. The repugnance test is not required for the application of common law.
- 16 Customary land, which includes more than 99 per cent of land in Papua New Guinea, is governed exclusively by customary law with disputes being settled through mediation or in Local Land Courts and District Land Courts (Nonggorr 1995:75–6).