

Laspela hap long buk Tu Husat papa bilong save long ol plants?

Long dispela laspela hap bilong buk, James em wokim sampela toktok o stori long olsem wanem ol man inap long tok ol i olsem papa bilong save long ol plants. James em save liklik long ol lo ol save kolim intellectual property lo, na em tok olsem dispela ol lo i no inap long ol man bai stopim ol narapela man long yusim save i gat long buk. Em i no nogut, em gutpela, bilong wanem, save em gutpela samting bilong helpim ol man, na pasim i no gutpela tumas. Sampela hevi save kamap taim ol man laik pasim save bilong ol long dispela ol lo, olsem James em tok aut olsem ol man husat bin kamapim dispela ol lo, ol i no klia tumus long kain save ol man bilong ples save holim, na wanem samting em i strongpela o gutpela insait long dispela save.

Raikos em i wanpela hap we i gat planti ol kain kain tri, sayor na gras. Ol Inglis save tok, kain ples i gat bikpela 'biodiversity', em min olsem asa bilong ol animal na plant (Sekhran and Miller 1994). Bihain long 1992 Rio Earth Summit long Brazil, planti manmeri long graun kisim bikpela

Appendix Two Indigenous knowledge and the value of plants

What follows in Appendix 2 is a short essay on the ownership of indigenous knowledge written by James in response to some of the issues that publishing a book such as this one has generated. In it, James seeks to show why intellectual property laws, and the understandings of ownership that these laws are built upon, are inadequate for the kinds of understanding that get called 'knowledge' contained in this publication. He suggests that it might be necessary to think again about what is meant by the term 'indigenous knowledge' in the light of this.

The Rai Coast, to which this book refers, has been defined as an area containing rich biodiversity (Sekhran and Miller 1994). The protection of such areas became a topic of great interest around the turn of the millennium, particularly following the 1992 Convention on Biodiversity agreed at the Rio Earth Summit in Brazil that year. The Convention on Biodiversity drew attention to the need

interes long lukautim kain ples bilong ol tumbuna bihain. Dispela kibung long Brazil, em wokim senis kamap olsem we lukaut bilong kain ples i stap long han bilong gavman bilong ol kantri i gat dispela kain biodiversity. Long dispela 'Laspela hap long buk', mi laik autim na skelim sampela tingting long olsem wanem ol man save biodiversity em bikpela samting, na toktok liklik long ol rot o pasin bilong kamap papa bilong save long plants. Tu, mi bai stori liklik long olsem wanem lo bilong bosim ol tingting na kamap papa long save, em inap karamapim plants na save long plants, na tu olsem wanem ol manmeri long Reite save tok long dispela. Porer em i stori pinis long ol rot o pasin bilong stap papa long ol samting long Reite long 'Laspela hap long buk 1'.

Dispela buk bin kamap long wanpela longpela wok liklik. Mi bin statim wantaim Porer long 1994. Taim mi bin stap wantaim ol Reite, mi bin traim wanpela rot bilong kisim save long kastom bilong ol. Taim mi stap long universiti, mi bin winim skul long social anthropology, olsem kisim save long sindaun bilong ol manmeri long ples bilong ol, tasol dispela em i no bin givim mi sampela save bilong plants long sait bilong saiens. Tasol, long taim mi bin stap wantaim ol Reite, mi bin raun long bus wantaim ol na kisim piksa na stori bilong ol plants ol save yusim. Mi bin gat bikpela interes long save moa long olsem wanem ol plants save helpim ol sikman, long save na tingting ol Reite i holim bilong ol samting long bus, na long sait bilong tambaran. Long Reite, save long bus

for conservation in such areas. It placed the responsibility for conserving and utilising biodiversity in the hands of each nation state. The impetus to utilisation might seem contradictory to that of conservation. However, many people have suggested that the sustainable use of forest resources might aid in conservation efforts. In the Convention on Biodiversity there exists explicit recognition of the value of biodiverse regions. Following these developments, many commentators have pointed to the value of indigenous knowledge of the environment. In some cases, it has been proposed that indigenous people ought to be compensated for any use of this knowledge, as a form of income generation that does not demand direct exploitation of forest resources. During the years in which this book has been prepared, some progress has been made towards these goals, while at the same time some unrealistic expectations have emerged in Papua New Guinea around such possibilities.

As final appendix, we thought it might be worth considering some implications of publishing a book about 'indigenous knowledge' of plants in the light of such goals and expectations about the possible exploitation of such knowledge by outsiders and its possible protection under the system of laws known as 'intellectual property' law. What follows here is an anthropologically informed discussion of aspects of Euro-American notions of knowledge, and its value. To illustrate the issues, I point to some differences between the

em i draipela samting long gutpela sindaun na laip long ples. Dispela rot long kisim save na wokim wok bilong mi em bin kapamim gutpela save. Ol man bin luksave wanem kain wok mi laik mekim, na ol yet hamamas olsem mi bai mekim kain buk long telimautim olsem dispela save bilong ol long Reite. Bihain long dispela wokbung long 1994, mi bin wokim tripela kopi bilong fers raun long buk, na mi bin givim tupela long ol man Reite long kisim tingting bilong ol pastaim. Taim mi bin stap wantaim ol long 2000, mi bin kisim sampela moa piksa long ol sampela narapela plants, na long 2004, mi bin stretim olgeta save stap insait long buk wantaim ol manmeri long Reite. Long dispela rot tasol, dispela buk bin kamap.

Olsem, wok mipela bin wokim em kamapim wanpela buk i gat planti ol piksa na stori bilong ol plants long Reite insait long en. Tasol mi stat long tingting planti nau. Bilong wanem mi kisim dispela hevi? Wari bilong mi olsem. Bai mi wokim wanem wantaim dispela buk? Bai mi trai bekim dispela askim nau. Long wanpela sait, em i klia na mi no gat wari. Mi bin givim buk bilong ol save samting bilong ol Reite long ol lain husat bin wokbung wantaim mi. Ol lain long Reite bin tok olsem, ol hamamas stret long lukim samting long buk. Longtaim ol bin save olsem wok bilong mi em bilong raitim ol kain samting, bilong ol lain husat bai kam bihain (Leach 2003). Dispela buk em i kaikai bilong ol wokbung bilong mipela.

assumptions about value underlying such laws and Nekgini speaking people's ways of articulating the value of plants. In the first appendix my co-author Porer outlined Nekgini perspectives on the ownership of knowledge.

Knowledge, publication, and intellectual property law

This book has had a long gestation. During my first long term field research with Nekgini speaking people in 1995, it began as a home-spun heuristic device. I was not trained as a botanist, nor was my research focused on ethnobotanical knowledge, yet I did record information on the uses and history of use of certain plant species. My intention was to gain an insight into perceptions of the environment that would prove useful in my anthropological research. I walked through the forest with Porer and other friends in Reite, photographing plants and, either at the time, or later, writing verbatim what people had to say about them. It was a useful exercise because the endeavour was by nature dynamic and elicited information without constant direction on my part. My understanding of Nekgini speaking people's world as a whole advanced rapidly. Discussions in the context of the work around plants also made clearer the purpose of my research to people in the village, who were enthusiastic about the production of this record.

Tasol narapela tingting, em i hat liklik long putim ol dispela save long ai bilong olgeta manmeri long graun. Sampela man bai tok em i gat nogut bilong en. Bai mi traim na soim insait bilong tok long dispela wari na tok klia long ol tingting mipela bin kisim long sait bilong lukautim i stap ol save bilong ol Reite. Mipela save olsem i gat ol lo na pasin bilong kamap papa bilong save. Dispela lo long tok Inlgis, ol kolim 'intellectual property' lo. Long dispela lo, sapos yu laik kamap papa long wanpela hap save, o putim long ples klia wanpela piksa o buk samting, ol tok dispela samting i mas gat yus olsem ol narapela man inap save long dispela yus na em i min olsem wanem. Mi bai stori long dispela.

Ol lo bilong Papua Nugini em i gat tupela as. Wanpela, em i lo bilong Inglan na narapela em lo em bilong ol kastom bilong wan wan ples long PNG (Strathern 2004). Long Konstitusen bilong Papua Nugini, tupela lo stap bung na mekim lo bilong kantri. Lo bilong Inglan (na planti ol narapela kantri tu save bihainim dispela lo) tok olsem, yu inap long kamap papa long wanpela save yu yet bin kamapim, tasol dispela save mas kamap long graun insait long wanpela buk, masin, marasin, o piksa. I no inap long kamap papa long wanpela tingting o save i stap tingting nating. Wanpela lo, ol kolim 'kopirait' (copyright), em bilong ol buk, pepa na piksa. Kopirait em save stopim ol man long kisim nating samting yu wokim. Em save min olsem, dispela lo em i no bilong stopim ol man long yusim tingting

But all action has consequences, and my heuristic device produced not only good conversations, exciting walks of discovery, and a growing understanding of 'kastom', but also the material to produce a volume of photographs and information about the plants we found. In one sense, it has been very easy to know what to do with this product of our collaborative work. My presence in their village has always been understood by people there as a chance to have important and valuable things written down for the future. As agreed at the outset, I have returned copies of two different unpublished versions of this book to the people who participated. It is because of various interpretations of this process that people in the village of Reite have been so welcoming of me (see Leach 2003). Books like this photographic account of particular people's knowledge of plants are a tangible outcome of our collaboration.

There is another sense, however, in which it has not been so easy to know what to 'do' with this material. There are issues surrounding the publication and dissemination of 'ethnobotanical' and 'indigenous knowledge' which have given me pause for concern. It is worth outlining these, and our negotiations around them in the village, as a part of the documentation that this work provides. These issues are to do with how knowledge (such as that represented in this book) is valued, how it is owned, and how it might (possibly) be 'protected' from exploitation or appropriation. Having considered all these aspects

o save insait long buk, em bilong stopim ol man wokim wanpela buk em wankain stret tasol long buk yumi wokim. Mitupela Porer inap long stopim ol man long wokim narapela buk o pepa wantaim ol piksa bilong mipela o wankain toktok. Tasol save bilong yus bilong plants insait long dispela buk, em i fri long ol narapela man yusim dispela save na tingting, no gat rot long 'intellectual property' lo long stopim dispela yus.

I gat narapela lo ol kolim 'moral rights'. Dispela lo em tok olsem, ol narapela man ol i noken bagarapim buk o tok bilong mipela, senisim ol piksa o toktok long mekim pani long mipela na bagarapim gutnem bilong mipela. Olsem 'intellectual property' lo, dispela moral rights lo em i wankain: i no bilong stopim ol man yusim tingting na save insait long buk.

Taim dispela buk em kamap long ol manmeri, olsem mipela telimautim wantain ANU E Press, ol dispela save em i stap insait long buk, em kamap long ol manmeri nau. Dispela save na infomesen i stap long olgeta man inap ridim, kisim na yusim nau. Sapos ol Reite gat save long wanpela plant we em inap long daunim wanpela bikpela sik. Sapos wanpela kampani masta husat save mekim ol marasin kisim dispela save long buk bilong mipela, na ol wokim wanpela nupela marasin long dispela save. Long dispela 'intellectual property' lo, mipela no gat rot long kotim ol long dispela. Antap long dispela, sapos dispela kampani wok long painim wanem

carefully, Porer and I have decided to go ahead and publish the book. So that the reader understands some of our reasoning, and the context in which we made the decision, I will begin with a discussion of western intellectual property law, and the thinking which lies behind it before considering how Nekkini speakers think about the value of plants.

Papua New Guinea's laws are based upon a combination of English Common Law, Statute law, and Customary Law drawn from particular cases in the country (Kalinoe and Leach 2004: 1). The current legislation governing intellectual property law in PNG is congruent with other countries' intellectual property law. These laws make provision for the protection of knowledge 'only when that knowledge is presented in a material form'. The law of copyright and the law of moral right for authors make provision only for the protection of the 'form' of presentation of knowledge, not of the knowledge itself. Patents are another branch of intellectual property law. Patents share with copyright the premise that what is being protected is a material expression of an idea, not the idea in the abstract. This means that an author has copyright over the book they publish, not over the ideas in that book. A patent holder has a patent on a machine, process or combination, not on an idea. So under such law, one cannot copyright an idea, only the material expression of an idea nor patent it without a new, useful application. What this means practically is that as authors of this

samting stret insait long en em save daunim sik, ol inap long kamap papa long dispela marasin long wanpela lo ol kolim 'patent' long Tok Inglis.

Long patent, olsem wankain long kopirait, yu no inap papa long tingting tasol. Yu mas wokim wanpela samting, na dispela samting em mas soim yus bilong tingting. Sapos dispela kampani husat wokim marasin laik kisim patent long nupela marasin ol wokim, ol mas soim olsem dispela hap marasin ol kisim long plant i save stretim sik bilong man. Taim ol soim olsem, ol ken askim gavman long patent long en. Dispela patent bai stopim ol narapela man long wokim wankain marasin long narapela taim. Lo em karamapim samting em yet, i no tingting long het. Sapos yu laik kisim patent long gavman, yu mas kisim wanpela nupela tingting, na soim olsem yu bin wok long kamapim nupela masin, marasin, o we bilong wokim samting, na dispela samting em i gat yus bilong en.

Lo em save go het long lukautim sait bilong wanem samting ol manmeri save kamap long en (olsem piksa, buk, masin, marasin). Dispela pasin insait long 'intellectual property' lo em mekim hat long yusim bilong lukautim save bilong plants mipela telimautim long hia. Dispela buk yu wok long ridim, em wankain tasol, na mitupela Porer bin wok hat long kamapim. Mipela i gat 'raits' long en; ol kolim kopirait. Dispela samting em minim olsem mipela papa bilong buk yet. Tasol mipela i no papa long ol tingting i stap insait long buk.

book on the uses of plants, Porer and I have copyright in the text and photographs. The pages of the book should not be copied and the actual 'form of words' used to transmit the knowledge about plants to others is not to be replicated without permission or reference to the original. This is copyright. We also have 'moral rights' over the text which prevents the defacement of the work; that is, they prevent the deliberate destruction or modification of the form of our words that may be offensive, or mocking, or otherwise damaging to the reputation of the authors. This is 'moral right'. We have not sought, nor could likely obtain, patent protection for this expression.

On publication, the actual 'information' relayed by the text or photograph enters what is called the 'public domain'. Having entered the public domain, the information is at that time available for others to use. As long as no one defaces our work, or copies it exactly without permission, they can do what they like with the information.

Now, thinking about botanical knowledge and its possible exploitation, this means that any pharmaceutical company could use the information in this book to guide their research without reference to the authors, or indeed, to Nekgini speaking people who discovered and developed these uses of plants. Copyright does not stop them from doing this. In fact, the idea that information enters the public domain while copyright law

Lo bilong 'intellectual property' em kamap long wanpela kain kastom bilong ol waitman. Insait long dispela kastom, bai yu save long strong na yus bilong wanpela samting long skelim wantaim narapela samting. Tok piksa olsem: samting long stua ol skelim yus na strong bilong en long pe. Sapos pe em bikpela, em nau yu save em i gat planti yus o strong bilong en (Gregory 1982). Olsem ol save skelim strong wantaim narapela samting. Ol save insait long buk bilong mipela, tok klia yus bilong plants na dispela em i no kain samting yu inap skelim long dispela kain rot. Olsem, mipela no gat tok sapos ol narapela man kisim na yusim em.

Dispela samting i stap long ples klia, yus na strong bilong ol save bilong plants long Raikos em i no stap insait long ol piksa na stori long buk. Kopirait i no karamapim interes ol Nekgini i gat long plants, na i no karamapim interes bilong ol kampani. Nau, bai mi tok long samting long olsem wanem dispela tupela sait long save long strong na yus bilong plants em i arakain, na wanem kain kaikai dispela tupela samting kamapim taim ol laik kamap papa long save long yus na strong bilong plants.

Long tok piksa mi wokim bipo, ol manmeri long Nekgini save wanem taim na long wanem rot wanpela plant bai stretim sik. Ol i no inap papa long dispela save long telimautim long buk. Olsem mi stori pinis, kopirait karamapim piksa na toktok, save no gat, na sapos ol laik kisim patent long dispela save, ol mas soim olsem

ensures the authors are recognised for their expressive work is a common justification for the copyright system. It is argued by those who argue in favour that in this system, knowledge circulates, increasing the possibilities for development and progress while authors are rewarded for their work.

If that pharmaceutical company performs experiments on the plant and isolates a compound that could have a therapeutic (and therefore a marketable) value, they are then able to claim exclusive rights to the use of that compound by applying for a patent on the use of the compound for medical purposes.

Patents share with copyright the premise that what is being protected is a material expression of an idea, an application of an idea, not mere discoveries or facts of nature. This is perhaps a difficult but important distinction to understand. When applying for a patent, the applicant must demonstrate the use and effect of an idea by making something which has an effect. So it is in isolating a particular compound, one that can be demonstrated to have certain effects on human health, that the pharmaceutical company can be recognised as gaining a right over the knowledge of its manufacture and use. In the hypothetical case I am outlining here, the patent would be granted over the use of the substance that was isolated from the plant, and would give exclusive rights to the use of that compound for medical purposes to that company. Again, this

ol wokim nupela samting, na ol truim yus bilong en long sait bilong saiens. Wanpela man husat em save gut long saiens bilong ol plants, em inap long soim wanem kain marasin insait long plants em i gat kaikai long stretim ol sikman. Long sait bilong patent, yus na strong bilong plant em i stap long marasin insait na we em i inap long rausim dispela marasin long wanpela wok long saiens, ol man inap kisim patent.

Sampela taim, ol saiens bai no inap long painim kain strong bilong ol plants ol Nekgini save stap long en. Long kain taim, mipela save tok: 'ah, yus bilong dispela plant em i wanpela samting long kastom tasol'. Kain olsem mipela tok, 'i no yus tru, inap bai yu save long en long saiens, em mas samting long kastom o tok bilong ol tumbuna tasol. Em samting bilong kalsa, em i no save wok trutru'. Taim yumi tok olsem, yumi bungim save Nekgini i gat long plants wantaim kastom na no gat ol save samting long saiens wantaim dispela. Em min olsem, we ol Nekgini skelim strong bilong dispela save em arakain long we saiens na 'intellectual property' lo em skelim strong bilong save. Bilong ol waitman, ol marasin na biodiversity i gat wanpela kain strong; dispela strong yu inap save long rot bilong saiens. Taim yu wokim olsem, yu inap kamap papa long save. Long kastom o kalsa, ol waitman i no bisi long strong na yus bilong en. Em i samting bilong bilas o hamamas na em i no save wokim wok trutru. Tasol, mi bai tok olsem, long tingting bilong ol Nekgini, kastom em i wanpela strongpela samting, na ol save insait

protects the form that the knowledge takes (an isolated chemical compound and the process of its manufacture) rather than knowledge itself. Patent law demands that the applicant for a patent demonstrates that they have achieved two criteria: first, 'novelty' (or what is called 'inventive step', - that a new thing has been made), and second, 'utility', (that there is a proven use for the invention).

This emphasis in law on the form that knowledge takes (be that published words and photographs, or a newly isolated compound or process) undermines the applicability of these laws to recognising indigenous knowledge of plants such as that documented here. It might even call into question whether we are correct to apply the term 'knowledge' to these very different kinds of thing. Calling it knowledge has the effect of making it into something that can be thought about and understood through the categories of intellectual property law. And that may not be appropriate for all the kinds of thing that get labelled 'knowledge' because it misunderstands what those things are, and what value they have to the people who operate with them.

Now the book you are reading, being a material form is recognised as an object by the law. As authors we have rights over 'this object', and hold copyright in its pages. What intellectual property law protects is our relationship to the object we have produced.

long kastom i save wokim planti wok. Mipela mas lukluk gut long arakain tingting olsem sapos yumi laik go long 'intellectual property' lo, o sapos yumi laik klia long wanem kain samting ol Nekgini laik lukautim na papa long en.

Nau bai mi stori long wanpela plant long buk, nem bilong en *Asarsing* (Sapta 5, Plate 5-4). Taim yu askim ol Nekgini long wanem as yu save yusim *Asarsing*, ol save bekim wantaim wanpela stori (*Patuki*) bilong kastom bilong ol. Dispela stori em i no givim sampela save long wanem marasin stap long en. Long dispela as, ol bai no inap long kisim 'intellectual property' raits long en. Em luk olsem, ol laikim dispela plant insait long kalsa bilong ol tasol. Em i wok trutru o nogat? Ol Reite ol i no bisi long kain askim. Mipela lukluk hia long tupela rot long save long strong na yus bilong samting. Dispela tupela rot i no kamap long wanpela hap. Wanpela rot em i go long wanpela kain strong, na narapela i go long narapela kain. Nau mi bai stori long dispela.

***Asarsing*: Olsem wanem pikinini save kamap**

Taim bebi kamap long ol mamapapa long ol lain Nekgini, em save stap tasol insait long haus wantaim mama bilong en. Ol save tok ol noken lusim haus na raun, inap ol kandere kam na rausim ol. Mama na papa wantaim save tambu long planti samting. Mama em mas dringim hatpela sup bilong kawawar na kaikai kaukau, taro *kapa* (lukim *Pel kapa* long Sapta

Western laws of property are based on one set of cultural assumptions about where value is generated. The predominant means of valuation in this system is of one object against another object: commodities against other commodities, with money as the medium of transaction. These relationships define a system in which things have value in relation to other things. The idea-content of our book then, an understanding of the uses of plants, is not defined as an object by the law. It cannot be valued against other objects, and so in law, we cannot be compensated for a 'loss' if others appropriate those ideas or understandings. But of course, the real value of the knowledge Rai Coast people have about plants is not as a series of images and words in our book.

What is protected under intellectual property law about this book then is neither what a pharmaceutical company, nor Nekgini speaking people actually value about plants. I now examine how these two ways of understanding and expressing value differ from one another, and some of the consequences of these differences for claims to own knowledge about the use and effect of these plants.

Returning to the example outlined, Nekgini speakers know of the healing properties of a plant, and make use of the plant. However they can neither own the knowledge by publishing it in this book, nor claim a patent in that knowledge without demonstrating that they have 'invented' something

7) na sampela kumu tasol. Taim ol i stap long tambu (*kundeing*), pikinini na mamapapa inap kisim kain kain bagarap long ol hevipela kaikai. Taim skin bilong pikinini kamap strong liklik (*sowirenikin*), bihain long tupela wik samting, ol singautim ol kandere long kam.

Papa em kisim wanpela plet diwai, na wokim bet bilong bebi wantaim *Asarsing* na putim bilas bilong ol tumbuna na moni antap long bebi. Papa em wokim nupela dua long baksait long haus, na subim plet diwai ausait long han bilong ol kandere. Ol i kisim bebi na go long wara na wasim em (*nek sulet*) na kisim ol tumbuna bilas long plet. Bihain ol kandere wokim ol giaman gaden na haus pisin. Ol kandere meri kamautim gras long bus na brumim ples na kain olsem. Ol hamamas long dispela giaman ol wokim, tasol ol tok, em bilong bebi bai save long kain wok em mas wokim taim em i bikpela.

Taim mi bin wok wantaim Porer long dispela buk, mi askim em, 'Bilong wanem yupela save putim *Asarsing* long plet diwai'? Long dispela buk, mi rikodim bekim bilong en. Em tok olsem:

Mipela save yusim dispela smel purpur, mipela kolim *Asarsing*, long mekim gaden kol. Smel bilong en mekim na san mas kol. Em i no inap hatim ol taro tumas, gaden bai no inap hat tumas. Tru taim

new, and proved its effect scientifically. A chemist may well be able to demonstrate the scientific basis for the use of the plant for certain purposes as described in this book. There may be value in healing the sick. In other words the value of the plant is seen to lie in its chemical composition, in compounds it contains which can be isolated through particular technical processes of a scientific nature.

But it is also possible that in some examples in this book, perhaps there are no immediate scientific explanations for the use Nekgini speakers make of them. And thus we are led to say that the 'value' of these plants to Nekgini people is a 'cultural' or 'traditional' value. That is not the sort of value that can be protected under intellectual property law.

My argument here is that the emphasis in law on the thing produced, that is on the form that knowledge takes, be that published words and photographs, or a newly isolated chemical compound, is a move that undermines the applicability of such legislation to the recognition of 'indigenous knowledge'. I have previously suggested that calling the kinds of understanding and practices in this book 'knowledge' may misconstrue the thing. The understanding of the properties of plants is not an object.

My suggestion is that for Nekgini speakers, value lies in the process¹ whereby a desired outcome is

1. Not the same meaning as 'process' in patent law, as the next sentences outline.

yu wok, bai yu tuhat, tasol ol kru bilong samting bai no inap bagarap.

Olsem long bihainim pasin tumbuna, mipela yusim *Asarsing* long wasim ol nupela bebi. Taim yu wokim dispela pasin, olsem mipela kolim wasim pikinini (*nek sulet*), bai yu putim *Asarsing* long plet na putim bebi antap long dispela bet purpur. Bihain mipela subim plet i go ausait long haus long han bilong ol kandere na ol bai wasim pikinini.

Tu, mipela save yusim long haus pisin na smel bilong en bai mekim ol pisin kamap long diwai. Narapela yus long en, em bilong putim ofa long bun bilong ol tumbuna o long rop diwai bilong wokim ren. Smel bai kisim rop o diwai, na ples bai kol na ren bai kam.

Mi bin askim em moa yet. 'Em nau, tasol watpo *Asarsing*? *Asarsing* em save wokim wanem long pikinini'? Long painim bekim long askim bilong mi, Porer bin kisim mi i go long lapun tambu bilong en, Winedum. Winedum wantu em go na bekim askim bilong mi olsem.

Tupela poroman: *Yerin nimbasa*

Tupela poroman save stap wantaim long haus kanaka longwe long het bilong Wara Yakai, na painim abus.

achieved. That process typically mixes social, cultural and chemical aspects. The focus is neither the knowledge-as-object in its own right, nor on the outcome of the implementation of knowledge as if that were isolated from the social context of its implementation.

To illustrate this argument I turn now to discussion of a specific plant recorded in this book: *Asarsing*, *Euodia hortensis* in Chapter 5, Plate 5-4. Explanation of the use of this plant involves a myth and a series of ceremonial rites. The properties of the plant are not specified or isolated as objects, making any claim under intellectual property law difficult. In short, they have a 'cultural' explanation for the value of the plant, and while we also value culture, intellectual property law does not make property out of culture in the same way as it makes property out of technical knowledge.

Asarsing, Euodia hortensis: How babies grow

When a child is born to Nekgini speaking parents, the baby is immediately secluded, along with the mother, in the marital house. People in Reite hamlets emphasise that the subsequent restrictions on movement, and involvement of the mother's kin in ending this seclusion, are especially important for first born children. Parents of the child observe strict restrictions on food they consume. The

Wanpela meri Sorang bin bihainim dispela wara na kamap long haus bilong tupela man. Em stretim haus bilong tupela na kukim kaikai em bin karim i kam long bilum bilong en. Meri luk save long tupela bet na em stretim tupela plet kaikai.

Taim tupela man kamap long haus, ol lukim smok i go antap. Wanpela man em salim dok bilong en long luk save husat i stap insait long haus kanaka. Em i tok olsem, “Em wanem kain man i stap? Yu go na luk save pastaim. Sapos em wanpela man i stap, kisim hap mal bilong en na sapos meri i stap, kisim hap purpur bilong en”. Dok em i go na kam bek wantaim hap purpur. Dispela man tokim poroman bilong en, “Yu hait i stap na bai mi go insait long haus”. Poroman, em hait i stap insait long *Asarsing* klostu long dua. Taim man em go long haus meri em i tok, “Olsem wanem i gat tupela bet long haus, narapela man we?” Man em bekim olsem, “Nogat, sampela taim mi save slip long dispela bet na narapela taim bai mi slip long hap”. Em tokim meri olsem, “Mi laikim bai yu putim tupela plet kaikai olgeta taim, sampela taim bai mi givim dok na sampela taim bai mi kaikai bihain”. Taim meri givim em kaikai, em save kaikai wanpela na lusim wanpela. Long nait,

mother eats only sweet potato, often boiled with ginger to make a ‘hot’ soup. She may also eat the original variety of taro tuber revealed in myth (see *Pel kapa*, *Colocasia esculenta* var. *antiquorum*, Chapter 7), and certain leafy green vegetables. The state of both parents and child is described as vulnerable and they are referred to as *kundieng*, that is, avoiding foods thought to cause ‘heaviness’, and sickness. When the baby’s skin has ‘become strong’ (*sowiraenikin*), a process which is thought to take about two weeks, the mother’s kin are called to the house.

At this time, the father places the child on a large wooden plate (see *Suarkung*, *Nauclea* sp. Chapter 1) on a bed made of the aromatic herb, *Asarsing*. The child is then covered with valuable items such as dog’s teeth, bark cloth, money and store-bought cloth. The father breaks a hole in the woven bamboo wall at the rear of the house and passes the plate containing the child out through this opening into the waiting hands of the mother’s brother. He and his close kinsmen take the child to water for the first time, and wash the child. This is called *nek sulet*, and the wealth items, including the plate itself, pass to the mother’s brother in return for performing this ceremony.

Having washed the child, a game begins in which the maternal kin vie with one another to enact an absurd parody of adult life. Shrubs and saplings are cut, and wild taro plants are set out as if in a garden. If the

em save kisim plet kaikai na givim long poroman bilong en. Meri em tingting nau, tasol em i stap isi. I go i go, na meri em kisim bel. Taim bebi kamap pinis, man tokim meri bilong en, "Taim mitupela go long gaden, slipim bebi long bilum tasol". Em wokim olsem na man kisim meri raun long bus wantaim em. Poroman bilong man em kam insait long haus kanaka nau. Em kam, na singsing long bebi na noisim em liklik. Taim mamapapa laik kam bek long haus, papa bilong pikinini save paitim kil bilong diwai wantaim tamiok, na man long haus harim nois na em save hait gen long *Asarsing*. Pikinini em kamap hariap tru. Olsem, moning em i stap bebi na long apinun em stanap pinis long dua.

Meri em save nau, olsem narapela man mas i stap. Em laik trik nau. Neks de, meri em i pasim liklik hap purpur tasol taim em i go long gaden. Papa bilong bebi askim em, 'olsem wanem yu pasim liklik hap tasol na stap olsem as nating'? Meri em bekim, "Nogat samting, yu tasol bai lukim mi". Taim tupela laik kamap klostu long diwai kil, meri em lusim hap purpur, na em ranawe i go bek long haus. Man em hariap ron long diwai na paitim kil, tasol meri kamap long haus pinis. Man long haus, em harim tamiok paitim

child is male, men climb tiny trees and make rough hides in them for hunting birds. Women weed areas of forest and pretend to sweep clean leaf litter from the forest floor. All this is done with much hilarity, but with the serious purpose of showing the child what he or she will need to know in later life.

While we were working on this book, I asked Porer: "Why this herb? Why do you use *Asarsing* to lay the baby on when it is passed to the mother's brother? What does *Asarsing* do for the child?" In an effort to make these things clear for me, Porer took me to see his elderly father-in-law, Winedum, in Sarangama hamlet, who answered in the following way:

Yerin nimbasa: Two friends

There were once two friends who lived together in the bush hunting game, oh, away at the head of the Yakai River up there. A woman from Sorang was following the course of the river, and she came upon the house of the two men. She cleaned and swept out the house, then cooked food she had brought in her net bag. She saw that there were two places to sleep, and so she set out two plates of food.

When the men came back from hunting, they saw smoke rising from their house. One said to his hunting dog, "You run in and see what sort of person is there. If it is a man, bring a bit of his bark loin-

kil na hariap lusim haus, na em bamim nus bilong en long mambu blin. Planti blut em ran long nus bilong en na em pundaun olgeta na klostu em i dai. Meri lukim man na em save nau, em wokim wanpela rong. Em askim, "Olsem wanem yu stap hait?" Papa em kamap na krosim meri na bihain ol lusim kros.

Mipela yusim dispela pasin bilong hait na giamanim pikinini, tasol mipela yusim hap tok bilong dispela man long wasim ol pikinini na ol save kamap hariap.

Mi bin harim dispela bekim bilong bikman Winedum, na mi longlong liklik nau. Mi bin askim em, "Olsem wanem yupela yusim *Asarsing*? Olsem wanem *Asarsing* save kamapim ol manki?" Tasol, bekim bilong en em i no stretim tingting bilong mi long olsem wanem *Asarsing* save wokim long kamapim manki. Mi bin tingim dispela askim bilong mi em min olsem, wanem samting insait dispela plant save wokim pikinini kamap hariap. Em bekim mi wantaim arakain tingting long stori tumbuna. Olsem wanem mitupela longlong olsem? Mi bin askim kain askim ol man husat save long kain tingting bilong intelektual property lo bai askim. Wanem marasin stret i stap save wokim dispela? Mi bin bilip olsem sampela marasin mekim *Asarsing* wanpela strongpela samting long ol Nekgini save yusim. Mipela inap tok, ol Reite i gat wankain save long ol man saiens. Ol i no save long

cloth (*maal*), and if a woman, a bit of her string skirt (purpur *Naie*"). The dog went in and came back with a bit of red string from a woman's skirt. One told the other, "You wait, and I'll go in". The one left behind hid in a large bush of *Asarsing*. His friend went ahead, and the woman asked, "Hey, there are two beds here, where is the other one of you?" The man replied, "No, sometimes I like to sleep here, and sometimes over there".

Then he told her, "I want you to put out two plates of food every day. Sometimes I can give the other to the dog, sometimes I will have it myself later on". So when the woman gave him food, he would eat one and put one aside. At night he used to take the food outside for his friend. The woman puzzled over this, but they lived like this. Time passed, and the woman was pregnant, soon to give birth. The man said, "When we need to go to the garden, we can just hang the baby in its string bag". Duly the man took her off into the forest to garden, leaving the baby in the house. When this happened, the other man would come out from his hiding place near the *Asarsing* bush. He would come into the house, and rock the baby, singing softly over him. When the mother and man

Tok Inglis o toktok bilong saiens, tasol save bilong ol em wankain save bilong mipela. Tasol bekim bilong Winedum em narapela kain olgeta. Long bekim bilong Winedum, *Asarsing* em gat strong bilong ol narapela kain wok na save. Sapos yu laik save long strong bilong *Asarsing* em yet, yu mas save long stori, olsem long hap tok bilong tumbuna long we bilong yusim. Rausim ol kastom samting bilong *Asarsing*, em bai no gat strong long kamapim pikinini. Em i orait, tasol olsem wanem bai yumi mekim klia tok *Asarsing* long ol narapela man husat no gat save long kastom bilong ol Reite? Ol marasin bilong waitman, ol yet save ting, bai wok olgeta taim, na no gat ol dispela kain stori, hap tok, o wanem wantaim bilong mekim em wok.

Ol dispela askim em gat draipela as, i no liklik samting. *Asarsing* bai wok long mekim pikinini kamap bikpela hariap, o nogat? Wanem hap bilong marasin em wok, na wanem hap mekim em wok long sait bilong stori o bilip? Mi stori pinis. Long dispela toktok, ol man bai skelim husat i gat rait long kamap papa bilong save.

Ol Reite save tok, em wanpela kastom wok bilong kandere em save kamapim pikinini. Sapos ol tok olsem, em tewel bilong *Asarsing* save kamapim pikinini, dispela bai lusim strong bilong *Asarsing* long sait bilong kastom, stori na bilip. Sapos ol save gut long marasin insait long *Asarsing*, tasol ol toktok olsem, em kastom na hap tok save wokim wok na mipela gat wari yet. Dispela em tupela we

came back from the forest, the man would strike the buttress root of a large tree with his axe while still some distance from the house. The man inside the house would hear the thud and slip away to his hiding place. As they did this, the child grew incredibly quickly. From being a tiny baby in his string bag in the morning, he was standing holding the door post in the afternoon when they returned.

Now the woman knew another man must be around. She played a trick now. She half fastened only a tiny bit of string skirt to go to the garden the next day. The man asked, "How come you are only wearing a bit of skirt?" But she said, "It will do, it's only you who will see me". When they came close, but had not yet reached the buttress root, the woman let her skirt slip altogether, and saying, "Oh, it's fallen down", turned and ran quickly back to the house. The man ran on, and struck the buttress root. Inside, the other man heard, and was just trying to jump out through the door, when, shocked at being seen, he caught his nose and cut it badly on the sharp bamboo over the door. He fainted, and when the woman saw him she said, "Eh, I've done something wrong here". But she asked him, "Why

bilang save long yus na strong bilong wanpela plant. Olsem wanem bai yumi tanim tok, i kam long Reite we na i go long we bilong ol waitman na 'intellectual property'?

Ol man saiens bai save hariap long strong bilong *Asarsing*. Ol bai rausim dispela *Asarsing* ol Reite save yusim long kastom, na karim i go long ples bilong ol long luk save wanem ol marasin i stap insait long en. Dispela em wanpela kain tanim tok, mipela inap tok olsem. Em i save go olsem: ol man long ples save yusim dispela plant long stretim wanpela sik. Ol man saiens inap save wanem marasin insait long dispela *Asarsing* save wok long bodi bilong man. Mipela save dispela marasin save wok olsem, na nau mipela painim pinis long dispela plant, mipela save olsem wanem ol save yusim. Dispela i klia.

Tasol, long kain tanim tok, ol man saiens i no interes long stori kastom bilong ol Reite. Ol save rausim plants long bus bilong ol man husat save yusim long kastom na kalsa, tasol ol holim antap save long strong bilong marasin samting ol painim long saiens. Bilong wanem ol waitman save tingim olsem stori o kastom em i no inap long senisim wanem samting i stap insait long ol plants. Sapos ol painim marasin stret, em i olrait. Sapos no gat, ol stori bai no inap kamapim dispela marasin.

Ol i no gat interes long tanim tok o tanim save, ol mas luk save long marasin tasol. Ol Reite save yusim *Asarsing* long wasim ol nupela bebi na wokim bet bilong ol manki wantaim.

didn't you live out in the open?" The other man came back, and spoke crossly to the woman, then they dropped the matter.

This way of hiding and 'giamanim' (tricking/looking after/growing) babies does not happen now. But we sing the name of this man when we wash babies for the first time, so that they will grow quickly.

This kind of interaction was a common experience during my anthropological fieldwork. I thought my question was practical and technical. 'What property does this plant have that makes babies grow?' Winedum gave a complex answer, and perhaps one he understood also as 'technical', but in a different sense. My question was the kind of question someone who has grown up in a context that gives rise to intellectual property law would ask. My question was about *Asarsing* as something in its own right, with certain chemical attributes. I assumed that it is these chemical attributes that make it 'valuable' to Reite people. But the explanation I was given was not of that kind at all. It placed the plant in a narrative, and as part of a complex of myth, rituals, and kinship. It is this 'position' that means it has the effect of making babies grow for Nekgini speaking people. I was asking 'Do you know if there is something instrumental about *Asarsing*? What is it that makes the baby grow? Do Nekgini speakers have 'knowledge' of *Asarsing's* properties'?

Ol tok ol save wokim olsem long wanem as? Long pasin tumbuna, sampela ol masalai bin kamapim pikinini hariap. Wanpela bilong ol save stap hait long *Asarsing*. Long ol Reite, dispela as tingting em inap. Ol save kisim pawa bilong tumbuna long helpim ol manki, na *Asarsing* na hap tok em i as bilong dispela. Ol Reite i no klia long wanem as mi askim ol narapela samting long *Asarsing*. Ol tokim mi pinis bilong wanem *Asarsing* em wok olsem. Tasol long tingting bilong mi, bekim ol givim mi, i no inap long mi bai bilip *Asarsing* save kamapim pikinini hariap. Long mipela ol waitman, em luk olsem stori tasol, na sapos *Asarsing* em i wok long kamapim pikinini, ol i no save long wanem as tru em save mekim olsem. Ol i gat stori bilong tumbuna tasol.

Mi bin tingim em gat narapela as tu. Olsem, long sait bilong marasin insait long plant, *Asarsing* mas gat sampela marasin o strongpela smel na sik save ranawe long en. Sapos mipela laik yusim *Asarsing*, inap long mipela kisim dispela marasin stret, na lusim ol stori nabaut. Ol Reite givim mipela tingting long yusim long kamapim pikinini, tasol ol i no save trutru long wanem as long sait bilong saiens *Asarsing* save wok.

Mi tok piksa tasol, na mi yet, mi no inap wokim kain wok long painim marasin insait long *Asarsing*. Em tok piksa. Tasol em wanpela tok piksa i gat planti ol narapela man bai bihainim na wokim. Ol man husat stap longwe long ol Reite, olsem ol lain husat wokim saiens, ol i no interes long stori

These are not innocent questions because it is exactly these kinds of distinctions (scientific and practical as opposed to traditional and mythical) that are the basis for various kinds of claims people make over plants and their uses. Even if the myth is a metaphorical rendering of knowledge about the properties of *Asarsing*, the fact people tell it in this way presents us with a problem because of our categories. We have an issue of how one translates the value of one kind of understanding into terms that make sense in another, without losing the specificity of the former. What grows the child? It turns out that it is a ritual process involving a mother's brother that achieves the growth of the child, and this begins with a public moment of emergence, in which *Asarsing* plays a key role. That role is to link the moment of emergence with the power of another to grow the child. Is it sensible to think of such an understanding as 'knowledge' in the sense implied by intellectual property law, that is, as something which could be translated into a technical process or object? I suggest not.

Scientists most commonly realise the value of plants used by indigenous peoples by collecting specimens and determining their chemical composition. This process is a type of translation: 'indigenous people use the bark of this plant to cure malaria: we can see why they choose to do so, if we know what is actually in the plant.' No problem here.

bilong *Asarsing*. Ol interes long plant em yet. I gat sampela kaikai bilong dispela kain tingting. Na dispela em hap bilong makim husat bai inap long kamap papa bilong dispela save. Bai mi soim insait bilong dispela tok sampela moa.

Sapos mi laik save long marasin insait long *Asarsing*. Bai mi wok hat long wanpela opis bilong saiens na kamapim dispela marasin em yet stap insait long *Asarsing*. Taim mi wokim olsem, *Asarsing* em senis olgeta. I no *Asarsing* nau, em i wanpela marasin mi yet wokim. Mi yet bai inap tok mi papa bilong dispela marasin nau. Ol man bilong ples inap papa long ol stori bilong ol, ol i no inap papa long wok bilong ol man saiens. Dispela tok piksa mi wokim, em i save kamap truru planti. Planti taim save bilong ol man long ples save stap aninit long save bilong ol man long saiens. Long kain rot bilong tingting mi tokim pinis long en, planti save bilong kastom o tumbuna stori o wanem, i no interes long ol man husat laik wokim nupela marasin o kain olsem. Planti ol man bin rait long dispela politik. Sampela save kolim 'bio-piracy'. Sampela ol man bin wok long painim rot bilong mekim stret olsem wanem ol man bilong ples inap papa long save ol i gat long plants (lukim Possey na Dutfield 1996).

Mi laik askim, olsem wanem bai yumi kamapim wanpela rot inap long olgeta man, saiens, Reite, na ol narapela inap save long strong bilong ol stori olsem ol stori em hap bilong yus na strong bilong ol plants. Inap long mipela

But, this is a kind of translation in which what indigenous people 'say' about plants is not relevant after the initial identification. In other words, this is a 'sample collecting' approach; emotively dubbed 'bioprospecting'. Plants are removed from their cultural context and given value in another milieu. Cultural context has nothing to do with the objectively observable and scientifically testable properties of a plant.

This then is not so much translation as reformulation. The plants that indigenous people value are redescribed in other, more powerful terms; those of science. Let me spell out what I have in mind. Reite people use *Asarsing* to wash new born babies. They also use the plant as bedding for young children. The reason they give for doing so is couched in terms of a mythic narrative in which powerful characters magically caused a baby to grow to adolescence in a few days. This explanation for the use of *Asarsing* in washing babies is enough for people in Reite. The connection between the power of a named mythic ancestor and any individual child was made through the plant. The association of child, power, others to grow them (mothers' brothers) explains the reason *Asarsing* is used. But it sounds like superstition when viewed from a scientific perspective; at best 'traditional knowledge' in the sense of knowledge that people do not know the origin of, or indeed, the reason for.

painim wanepla rot bilong mekim wankain save bilong Reite, na save bilong ol saiens?

Mipela save pinis ol man long ples ol i gat planti save long painim ol kain kain plants. Ol winim ol man saiens long kain wok long ples na bus bilong ol. Em i isi long save long plants taim yu lukim ol i gat plaua o pikinini. Planti taim ol man saiens laik bungim ol plants na ol bai kisim ol man long ples long helpim ol. Sampela taim, we bilong save long plant em i wanem kain, em i stap long ol stori tumbuna bilong ol. Ol man saiens inap kisim save sapos ol save long ol stori bilong ol man, na bihain, bai save wanem samting bai makim wanpela kain plant.

Olsem, stori bilong *Asarsing*, em luk olsem em i stori nating. Em luk olsem, ol man mas 'bilip' long *Asarsing*, na em bai kamap olsem wanpela kastom bilong ol. Tasol mi laik tok olsem, dispela kain tok em i no gutpela long save long we ol man long ples save long plants. Em mekim em isi long rausim plant, wokim wok ausait, na kamap papa long en.

Olrait, mitupela Porer save long olgeta dispela samting. Long wanem as mipela bin go het na telimautim dispela buk? Mipela save no gat rot long 'intellectual property' lo long lukautim save insait long buk. Olsem wanem bai ol Reite askim ol narapela husat kirap long yusim *Asarsing*? Mi tok pinis. Ol no gat rot long 'intellectual property' lo. Yu ting

In order to 'prove' the worth of the plant itself, science would seek another kind of explanation, a more obviously mechanical one. Perhaps *Asarsing* has a chemical make up which protects children from disease for example? As Euro-Americans, to value this plant we would want to know its properties, isolate the chemicals and concentrate them. The fact that Rai Coast people use *Asarsing* in the way they do provides us with a clue as to how to analyse it, and what to look for in it. But 'their' explanation for its value, for why they use it appears metaphorical at best.

The situation described is a common one. That is, people interested in the knowledge indigenous people have about plants are usually not interested in the cultural and mythic elaboration of that knowledge, but in scientifically verifiable reasons for their use. There is a process of abstraction here, where the 'knowledge' is isolated from its context. This is highly significant, because the kind of reformulation and abstraction I describe trails ownership in its wake. The work to isolate compounds or properties involves the input of scientific work, the labour of trained people, and an infrastructure for testing. By the time a plant like *Asarsing* comes to have a value scientists can understand and be confident in, it will be something completely different: performing few of the same tasks it does in Reite. This work of abstraction justifies ownership under property law, so while indigenous people may own their myths, in most cases they do

wanem, mipela wokim gut, o nogut, taim mipela mekim dispela save i go long ol manmeri?

Mi laik wokim tupela toktok long dispela, na pinis olsem. Namba wan, mipela i no laik wokim samting we mipela bai kamap papa long save bilong planti man. Sapos mipela i gat rot long 'intellectual property' long kamap papa long dispela save, em bai min olsem ol narapela man no inap yusim. Tasol dispela i no as long wokim dispela buk. Mitupela bin save olsem wok long wokim kain buk em bai opim sampela nupela rot bilong mitupela. Long Porer, em wokim bilong ol tumbuna bihain. Long mi yet, mi laik helpim ol Reite kamapim nem bilong ol, na long helpim ol bung wantaim ol narapela man i gat wankain interes long kain save, na kain pasin ol i gat. Long telimautim long buk, mipela laik soim ol man olsem ol Reite i gat kain kain save na strong. Narapela, mipela laik kamapim interes long olsem wanem ol man PNG save yusim plants. Sapos ol narapela yet bai wokim kain buk olsem rekord bilong save bilong plants long PNG bai kamap bikpela.

Nambatu, mipela i no bisi wantaim 'intellectual property'. Longtaim mipela save pinis olsem 'intellectual property' em i rabis long helpim ol man long ples lukautim save bilong ol. Em i kam long narapela kastom, na em save wok long dispela kastom. Em save bagarapim kastom bilong ol man bilong ples.

Long narapela hap, mi wantaim ol narapela manmeri bin wok hat long

not own the outcome of scientific analysis of the plants they use. Chemical formulas belong to those who discover their uses. Hence the 'knowledge' indigenous people have is routinely subsumed by a form of knowing that undermines its worth. There is a political economy of power relations inherent in such translations, and a systematic devaluation of the practices that indigenous peoples have. Using the word knowledge for these practices and understandings immediately invites comparison with other 'knowledge'. This leaves the indigenous practices at a disadvantage, however well intentioned the move is. The point I want to get to is to find a translation in which the value of this knowledge is not merely as a pointer to real value which lies elsewhere, and which requires scientific intervention to reveal. To see the value, if you like, in the myths themselves as elements of generative kinship practices. The question becomes one of how we are to describe value in these processes that is in some way equivalent to the value of scientific discovery.

The focus on biological knowledge over social, or mythic, or cultural, must be examined for the power relations that this brings in its train. Not only do we make entities in order to make claims, thereby undermining much of what local people 'know' through understanding interconnections between things and effects as social processes and outcomes, but the value of the things so made into objects in their own right is wholly dependent on their 'use' value. That then readily

kamapim narapela kain we long ol man senisim save na kalsa long gutpela pasin (lukim Leach 2007). Mipela traim na stretim sampela rot inap long ol man bai givim save long narapela, na ol narapela bai no inap kisim bilong ol yet na rausim narapela.

Mitupela Porer laikim olsem yupela husat lukim na ridim dispela buk bai hamamas long ol Reite, long save na kastom bilong ol, na bai yu gat kain hamamas wankain ol kastom bilong yupela yet. Em bikpela moa long wok bilong 'intellectual property'.

makes them available for 'use', and establishes exactly the potential for outside exploitation.

Conclusion

In this appendix, I have made the suggestion that 'indigenous knowledge' may not be the right term for the processes and understandings recorded elsewhere in this book. This is a controversial suggestion. I make it having pointed out two things. Firstly, that to call social processes 'knowledge' in the contemporary world has the effect of translating those processes into entities, into objects of various kinds, and that this misrepresents these processes, and distorts the actual value which they have in practice for those who use them. It also categorises them as things that can be owned or transacted as intellectual property. I do not mean that Reite people do not know things. They certainly do. Rather, that calling what they do 'knowledge' has certain effects: negative effects as I have tried to outline in this appendix. By making this argument, I do not undermine or devalue Nekgini speakers' knowledge of their environment, their mythic understandings of the process of social generation and regeneration, or their use of the plants in this book. The whole exercise of writing and publishing this volume has been driven by respect for them, and recognition of the value of these things.

In the light of this discussion, why did Porer and I decide that we would

go ahead and publish this book? Where does it leave us in terms of the protection of Reite knowledge, or their claims over any other value produced from that knowledge? It is clear that in publishing the book, we have no way of preventing the exploitation of the knowledge of plants that it contains. Should we care?

There are two things to say in conclusion. The first is that we did not intend to make an object that could be owned (as knowledge, as intellectual property) out of Reite practices by publishing this book. Instead, in our own ways, we saw it as an opportunity for new relationships and connections. For Porer, those are with his children and grandchildren. For me, it is to connect Reite to other places and people who have an interest in the information in the book. This then is in keeping with one aspect of the intellectual property model of ownership, that information and ideas should circulate, but not another, that of restricting the use of knowledge so only the creators can benefit. Through publicising the understandings of Reite people we both hope to draw attention to their skills and achievements, and also, as stated in the Preface, to encourage other people in PNG to take an interest in, and hold onto vital social practices.

Secondly, we are not following the intellectual property model in another sense. It has been apparent to some of us for quite some time that intellectual property is poorly adapted to the needs of protecting 'traditional forms

of knowledge', or cultural expression (Aragon and Leach 2008, Brown 2003, Hirsch and Strathern 2004). It is too closely formulated around the principles of individual ownership, alienation and commercialisation. There exist several initiatives at the moment to find alternative ways to promote responsible and fair use of information and understanding across various cultural or disciplinary divides (see Leach 2007). Such initiatives suggest a way forward for those wanting to make use of indigenous people's knowledge without doing so in terms those people would find inappropriate. Publishing this book of Reite Plants, we hope aids the establishment of positive relationships among those with interests in the kinds of process recorded in this book by demonstrating clearly the depth and breadth and beauty of Rai Coast people's knowledge of plants. This knowledge and the use of plants are aspects of their way of life, their genius. This book only touches the surface of all they know.

