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Chapter 4

Plants that speak and institutions that don't listen: notes on the protection of traditional knowledge

Nina Isabella Moeller

Wizards and fighter jets[1]

'How do you protect your knowledge?' I asked a middle-aged *yachak*,[2] a traditional Kichwa healer, wizard and community adviser, as we were preparing a large amount of *ayahuasca* brew, the hallucinogenic drink 'that makes you see', and ultimately, 'know and heal'. 'You need to be strong to protect yourself', he answered, pressing the vine and leaves deeper into the boiling water with a wooden stick. 'You need a lot of energy, *sinzhi*,[3] to protect yourself from attacks. Your enemies will always try to attack, make you ill or eradicate you completely. It is dangerous to be a *yachak*. That is why many are secret. But only a very powerful *brujo*[4] can get past my defences. I have many secrets, including a whole fleet of fighter jets, spiritually, that protect me. Sometimes I just use a mirror', he laughed 'and return the misdeed back to the one who sent it'. 'So, by protecting yourself from spiritual attacks, you protect your knowledge?' Domingo looked at me with the indulgent pity reserved for the stupid. I tried again: 'I mean, what happens to your knowledge when you get attacked? Does it disappear?'. 'Your power disappears. When you get attacked and you cannot protect yourself, you become weak. Maybe you get ill, maybe you die'. 'But if you get ill, and then recover, you will still have your knowledge?' I insisted, starting to be unsure about whether I was making any sense. What was this thing I called knowledge? 'Will you still know which plants to use to heal someone, for example, or will you forget such things?' 'It's not enough to know which plants heal. You need to have the knowledge to *make them* heal. That's why we diet[5]. It gives us *sinzhi'*. He paused. 'When they attacked my uncle, a very good *yachak*, and he got very ill, when he then recovered, he could not understand the [*ayahuasca*] visions. He could see, but he could not interpret them. For a long time he was no use as a healer. And he could not see the future very well. Not even the tobacco helped him. They took his power'.

It was through conversations such as this one that I realised that for many of the people with whom I met and worked in the Amazon, spiritual power and valuable knowledge were two sides of the same coin. Such power/knowledge is understood to be in danger of attack and even destruction from the negative energies of certain people, places and spirits that intentionally or unintentionally affect its holder. A 'powerful' *yachak* 'knows' not only in the sense of having access to a vast internal repertoire of information about such phenomena in the world as plants, animals, landscapes, diseases, spiritual energies, and the ways these relate to one another, but also in the sense of (what we might call) her or his power of intuition being highly accurate. ('You've had a bad dream' said Ana to me unfailingly when I had indeed had one, and I never met her early in the morning when my tensed body could have still betrayed a nightmare). This is not so much *knowledge held*, as an *ability to know*. It is a particular form of perceptiveness, which, I was told, is a skill not unlike 'a skill to play the piano'. You can learn it, but 'you will probably learn it better if you have the talent and the desire'.

This ability to ‘know’ things that were seemingly imperceivable became more and more a feature of ordinary reality the longer I spent with traditional healers from the forest. Some people are able to know surprising details about others in an (for want of a better word) intuitive way, *as if* they had been told, or *as if* there were conclusive clues in someone’s body language, or gaze or particular scent. A visiting colleague, who had been suffering from recurring lower back problems for five years, was told by two different *yachakuna* on different occasions that she had blue light pouring out of her kidney, a spiritual injury that must have been provoked by a desert spirit in a far-away country. Neither of these *yachakuna* had ever been in a desert, nor had they been told either about my colleague’s back pain, or its sudden origin during a trek through Botswana’s drylands. The healer’s knowledge in this context is thus more like the capacity to see or hear (in the very moment of ocular or auricular perception) than the capacity to recall or remember (memorised past experience and ‘stored’ information). It is a kind of knowledge that is based on real-time perception (like vision or sound), that might of course be mistaken, but not necessarily more often than people misinterpret what they ‘normally’ see or hear.

For the purposes of this chapter, in which I will question the idea of ‘protecting traditional knowledge’, it suffices to note that what exactly knowledge is, what it does, what it means, and what people value about it, does not become clear simply by invoking the term. What it might be threatened by, and what protecting it would involve, is hence even less obvious. For Domingo, at least in the context of our conversation above, protecting his medicinal knowledge meant summoning spiritual fighter jets, practising his diets, and generally taking care of his different powers and energies. The discussions in international policy-making fora revolve around very different ideas of knowledge and its protection. Indeed, through the policies made in these fora, the protection of traditional knowledge has become a vehicle for the reinforcement of intellectual property rights. In this way, indigenous peoples' lives and practices are being used in order to advance the process of capital expansion and market consolidation. Domingo’s understanding of protection is unlikely to ever make it into international level discussions. While it is the concerns of people like Domingo that these discussions purport to address, they sideline and indeed silence those understandings of traditional knowledge which, if taken seriously, raise uncomfortable, critical questions about our current socio-economic order.

The hegemonic construction of traditional knowledge protection

The protection of traditional knowledge is by now undeniably a ‘global’ endeavour. Defined as the protection of ‘knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles’ by the Convention of Biological Diversity (CBD),[6] it is more or less directly addressed by the World Intellectual Property Organisation (WIPO),[7] the World Trade Organisation’s (WTO) Doha Development Agenda,[8] the International Treaty on Plant Genetic Resources of the Food and Agriculture Organisation (FAO),[9] the United Nations Declaration on the Rights of Indigenous Peoples,[10] as well as by a host of ethical guidelines and codes of conduct of professional societies, such as the Natural Resources Stewardship Circle for the Beauty, Cosmetics, Fragrance, and Flavor Industries.[11] The creation of a legally binding international regime is being debated in several fora. Moreover, various countries have enacted special laws, or established regulatory frameworks for the protection of traditional knowledge at the national level, while indigenous peoples and subsistence farmers' organisations continue to fight for the recognition of their rights in this regard at all scales. Large amounts of

resources continue to be mobilised for conferences, ad hoc meetings, fact-finding missions, capacity building, and report writing in order to facilitate decision making about protective mechanisms and their implementation.

While the need to protect traditional knowledge is sometimes presented as arising from the erosion of traditional ways of life, its internationally dominant expression is in terms of illegitimate appropriation. This is to say that the protection of traditional knowledge has been generally seen as required due to the threat of 'biopiracy'.[12] Biopiracy is cast as the undue appropriation of, and exclusive commercial gain from plant and animal resources of traditional use in indigenous and farming communities, and its most infamous perpetrators are pharmaceutical and biotechnology companies by means of their bioprospecting endeavours[13] (Shiva, 1997; Mooney, 2000).

Talk of legitimate and illegitimate appropriation construes traditional knowledge as a kind of (intellectual) property of indigenous and farming peoples, implying the latter's rights to control access to and to benefit economically from their traditional knowledge.[14] It is in this way that traditional knowledge is treated as a commodity and understood as in need of the same kind of protection as other forms of (private, intellectual) property. Legislation and soft law guidelines regarding access and benefit sharing (ABS) are currently wielded as the main mechanisms for the protection of traditional knowledge.[15] ABS agreements – no matter how fair and equitable – enact or perform the protection of traditional knowledge as pseudo-intellectual property protection. By doing so, they hide from view, and indeed erode other possible understandings of traditional knowledge and its need for protection.

On the dominant account, knowledge is reduced to a tradeable object. The predicament of traditional knowledge is presented as an economic problem and the sharing of benefits (in whichever particular shape) as its fundamental solution. The present chapter aims to contribute to the destabilisation of this hegemonic construction. Elsewhere, I have argued that the dominant discourse of protection – the one developed and employed in national and international policy-making settings – perpetuates background assumptions ultimately instrumental to the continued expansion of capital and concomitant destruction of autonomous subsistence.[16] Here I illustrate, by way of ethnographic notes, how this dominant view gets perpetuated and taken up, how it suppresses other understandings of the value of traditional knowledge and its need for protection, and what some of these other understandings and their implications are. To this end, I present (1) a number of interactions which took place during the capacity-building course of the ABS project ProBenefit (see next section)[17] and which highlight the ways in which dominant understandings of traditional knowledge, the issue of protection, and its difference to scientific knowledge, were perpetuated, while alternative understandings of what was at stake were disregarded and subdued. (2) I present a series of conversations and encounters which I was party to during my work in the Ecuadorian Amazon and which make even clearer that projects such as ProBenefit, and the discourses which they introduce and perpetuate, veil the plural understandings and valuations of knowledge and people's concerns in this regard, and consequently undermine what they purport to protect.

Borrowing from Joan Martinez-Alier (2002), I conclude that the struggle surrounding the protection of traditional knowledge is not only a struggle regarding access over resources, but also a struggle over meanings and values – the meaning and value of knowledge embodied in traditional lifeways. I urge that the idioms in which these struggles are carried out continue to (or begin to) contest the dominance of market valuation, in order to keep

alive the plurality of values through which people make sense of and give meaning to their worlds.

Introducing ProBenefit

ProBenefit ("PROcess-oriented development of a model for equitable BENEFIT-sharing for the use of biological resources in the Amazon Lowlands of Ecuador")[18], was a €1.04 million project funded by the German Ministry for Education and Research. Its aim was to investigate the feasibility of fair and equitable access and benefit sharing as outlined by the CBD, and more particularly its Bonn Guidelines.[19] ProBenefit was to involve indigenous communities in the project realisation and execution. In this way, ProBenefit would respect and promote indigenous rights as well as contribute to capacity building of indigenous organisations. A partnership with a private company was a requirement on part of the funders, and so ProBenefit entered the Ecuadorian Amazon in 2003 with the proposal of facilitating a participatory process for the negotiation of a fair and equitable ABS agreement with the German pharmaceutical company Dr. Willmar Schwabe Ltd.

Schwabe Pharmaceuticals is a medium-sized enterprise with 727 employees in its German headquarters, and about 3,500 employees worldwide as part of the Schwabe Group, comprising subsidiaries and joint ventures in 18 countries. Schwabe has produced phytomedicines – i.e. plant-based medicines and health products – since 1866, relying on a high-tech manufacturing process. In 2011 their turnover was €590 million; they spent €27 million on research and development in the same year. Many of their products and manufacturing processes, such as special extraction methods, are protected by patents. Schwabe agreed to be part of ProBenefit not merely as a way to research new plants, but also in order to develop what could be marketed as 'fair trade' health products.[20]

ProBenefit was set to run for five years until the end of 2007 and was made up of two consecutive project phases:

- Phase 1: Entry into a model agreement with all actors representing relevant interests in the spirit of the CBD on access to natural resources in a part of the Ecuadorian Amazon region.

- Phase 2: Ethno-botanical and pharmacological investigations for the possible production of a plant extract with documented medicinal effect.

It was made very clear in all of ProBenefit's publications that without the successful completion of phase one, the activities planned for phase two would not begin. The project aimed to "develop a suitable procedure for equitable benefit-sharing for the use of biological resources and the associated indigenous knowledge",[21] and not (or not chiefly) to develop the use itself, as other bioprospecting projects have done (such as the various incarnations of the International Cooperative Biodiversity Group[22] (cf. Berlin et al., 1999; Berlin and Berlin, 2004; Greene, 2002; Hayden, 2003 and 2005; Rosenthal and Katz, 2004; Rosenthal, 2006) or the InBio-Merck agreement[23] (cf. Martinez-Alier, 2002). The outcome of ProBenefit's endeavours was hoped to be a model ABS procedure, 'maybe the most ethical one world-wide', as I was told by a ProBenefit team member.

Given that there are an estimated 60,000-100,000 Kichwa living in the Ecuadorian Amazon region (plus some more in the adjacent Peruvian territory), full consultation was impossible within the parameters of the project. It was hence proposed to form an indigenous working

group that could develop an 'indigenous framework' for basic access conditions. Extensive capacity building for such a working group was going to be provided by independent, and ideally indigenous professionals with expertise in the subject area. The consultation based on the conditions framed by the indigenous working group would then proceed via the mechanisms of the indigenous community organisations, federations and confederations to ensure the greatest possible coverage.

In May 2005, the Kichwa federation FONAKIN (*Federación de Organizaciones de la Nacionalidad Kichwa del Napo*) became the official indigenous counterpart of ProBenefit with contractual obligations to oversee the co-ordination of a delegation of indigenous representatives from various organisations (not all affiliated to FONAKIN). This delegation was to participate in a capacity-building workshop series (six four-day modules over three months), after which they would form an independent working group that would design and perform the actual activities constituting public consultation.[24]

However, ProBenefit failed to successfully complete its first phase. Indigenous participation stalled after the capacity-building workshop and made timely negotiation of an ABS proposal impossible; neither consent to, nor a clear rejection of, bioprospecting in Napo was therefore obtained.

ProBenefit frictions

As a project, ProBenefit was based on the belief that (sustainable) income-generating use of biodiversity would lead to its increased conservation, as long as local people partook in the income generated. These assumptions underlie the discourses that inform and draw upon such international frameworks as the CBD, and are also explicitly espoused by the main driver behind ProBenefit, the Institute of Biodiversity Network. Traditional knowledge was understood to be threatened by potentially unfair appropriation through private interests, as well as by increasing loss within communities as these underwent rapid changes in lifestyle. A fair and equitable access and benefit sharing contract with a pharmaceutical company was promoted as an ideal solution: any appropriation by outsiders would occur under strict conditions, consented to by the legitimate owners of the knowledge in question – the threat of *mis*appropriation would hence be averted through *ethical* appropriation. Moreover, the economic benefits gained from such an ABS contract would give value to traditional knowledge within the communities, and especially amongst the younger generation, leading to a renewed interest in maintaining and transmitting it. In this way of course, the value of traditional knowledge is cast solely in market terms, at the same time as human motivation is reduced to the function of an economic cost-benefit analysis.[25] Other ways of understanding what is at stake are suppressed by this hegemonic construction of knowledge, its value, threats and means of protection.

ProBenefit's inability to revise, or even reflect upon, some of these assumptions in the light of its work with representatives of indigenous community organisations contributed to conflicts (some of which I recount below) and led to the eclipsing of alternative visions and understandings that were raised by its indigenous participants. In this way, ProBenefit constituted an insidious imposition of a particular system of values. This imposition was not planned or intended, but rather an inevitable side effect of the project's set up and constraints. Crucially, for instance, ProBenefit team members were accountable to their funders, to whom they had of course certain contractual obligations, such as reports on expenses and progress. This responsibility impeded a more flexible approach to working with their indigenous partners, and hence contributed to the project's premature ending.

After the capacity-building workshop, once the indigenous working group was officially formed and the German team had returned to Germany to await a proposal for continuation and plan for consultation, progress rapidly stalled. Communications between the two parties broke down for almost six months; they then picked up but were mired by a series of misunderstandings. The project ended without any wider public consultation, nor any agreement being reached.

From ProBenefit's point of view, the results of indigenous participation were disappointing: no dialogue with Schwabe Pharmaceuticals was entered into; the benefits that were offered by the company (capacity building, working group formation, travel possibility) were neither recognised as such, nor made sufficient use of. Moreover, the indigenous counterpart never made any proposals for expected benefits, nor were any conditions or contractual guidelines articulated, despite the support available from 'native experts' (ProBenefit, 2007). This outcome ran counter to ProBenefit's expectations. The project had assumed that participation would work due to the strong political organisation of indigenous communities in the Ecuadorian Amazon, in which the structures for consultation and negotiation were in place. Aware of the scandalous consultation carried out by oil companies in the Napo province in 2003,[26] ProBenefit assumed that as long as the planning and realisation of a public consultation was participatory, acceptance of the process would be high and co-responsibility of all project partners would be assured (*ibid*.). What exactly went wrong?

I identify four key areas of conflict that led to the premature ending of the project. One, the relevance of equitable access and benefit sharing to the lives of indigenous people was assumed and, ultimately, imposed rather than discovered as an actual priority for people. Two, ideas of participation were fixed and based on unexamined beliefs about rationality and the public sphere: the messiness of real indigenous participation conflicted with what was required for project legitimacy vis-a-vis funders and the overall global public. Three, the approach was based on the myth that the project was taking place on a level playing field, and what we might call the historical 'naivety' of ProBenefit team members complicated an already precarious 'partnership'. Four, other visions of what the protection of traditional knowledge might mean and ought to aim at were eclipsed during project activities: despite their best intentions ProBenefit thereby imposed a value system and world view on its indigenous participants. I will briefly address each of these conflict fields before moving on to the more detailed description of the ways in which alternative visions of traditional knowledge were ignored, silenced and disregarded in practice.

Contriving relevance

While the construal of indigenous peoples as affected by bioprospecting (due to their rights to their knowledge) offers itself as a useful tool to frame certain economic injustices, it insidiously supports the view that people's interests are primarily defined economically, and in terms of property. It downplays the possibility that people might actually not care about a pharmaceutical corporation elsewhere holding a patent on an active ingredient of a plant of ancient use. Yet this attitude might be more widespread than expected. Indeed, I have found that the relevance of the protection of traditional knowledge as protection from misappropriation had to be actively 'created' for people to conceive of it as a threat relevant to their lives.[27] Disinterest in the matter was generally dismissed as indigenous ignorance rather than as an indication of a valid, alternative perspective requiring exploration.

For example, the first few sessions of the capacity-building course were characterised by a lot of mobile phone use, joking and flirting on the part of the indigenous participants, who seemed to make use of the setting for what the Germans thought of as ‘disturbing’ sociability. In the evenings, several of the male participants, together with the people living in the community in the vicinity of the workshop venue, would indulge in alcoholic beverages to the point of getting severely intoxicated, which led to a series of absences during the morning sessions. It was hence reiterated again and again that this course was ‘important’, and that the participants had tasks to fulfil ‘on behalf of all their communities’, and, in fact, ‘their whole people’. It was also during these first sessions in particular, that it was repeated how unique ProBenefit was, and what a great opportunity it would be for the Kichwa people, all indigenous nationalities, and Ecuador as a whole, if the participants made the best of this course. Certain ‘ground rules’ were then participatively defined, mobile phone use banned, and greater attention pleaded for. The indigenous representatives themselves came up with these rules when the task was presented, and over the three months a particular project ethos came to characterise interactions, with participants disciplining each other if necessary to pay attention, participate, and turn up on time for the morning sessions. The relevance (of ProBenefit, of commercialisation and protection of traditional knowledge) to Napo Runa lives was assumed and continuously performed (through reiterations by the German team in particular, but also by myself, as well as increasingly working group members themselves). The performance of *irrelevance*, however, was never taken as a legitimate expression of opinion or standpoint. In this way, forms of non-participation – such as when participants chatted and giggled amongst themselves about their private lives during the capacity-building course, or when nobody turned up to working group meetings to design a consultation process – were not interpreted as pointing towards potential flaws in the project, or its lack of relevance, but as indications of the incapacity of the participating indigenous organisations and the undisciplined nature of their members.

Participation power

Participative methods almost invariably increase group cohesion, and can trigger a feeling of co-ownership of the group process. Yet, such niceties can be deceptive: while authority is being decentralised through participative methods, certain unquestioned norms, values and power structures are easily internalised. The ‘identification with’ and ‘co-ownership of’ projects that use participative methods are often effective in producing successful outcomes in terms of project implementation. However, participation does not in and of itself lead to emancipatory or empowering results (cf. Cooke and Kothari, 2001). Indeed, an emphasis on the micro-level of intervention (participatory, decentralised, horizontal project activities and decision-making processes) can obscure and sustain broader, macro-level inequalities and injustices (geo-political asymmetries, institutional racism, gender inequalities, global colonial relations). From a Foucauldian view, participation can be a technique through which existing power relations express themselves in new ways – through the now self-disciplining participants.

Despite the insistence on an (ultra) transparent and (highly) participatory approach, ultimately the most vital aspects of the process were still defined by ProBenefit. The process still unfolded on their terms (partly to counter corrupt tendencies of indigenous organisations, in itself a problematic perspective), which were basically terms of a particular understanding of legitimation (one infused with images of openness, dialogue, transparency, rationality, etc., all to be found in the conventional ideas about the public

sphere; see, e.g. Fraser, 1997). For example, it was possible for indigenous participants to insist that a neutral working group be formed (which fits with the imaginary of ethical legitimation of participatory approaches, and also would overcome the logistical difficulties of consulting directly with 60,000-100,000 people living in more or less remote rainforest locations); however, other key aspects of the process remained immutable. It was for instance impossible to extend the project timeframe[28] or to redefine criteria of transparency and representative participation.[29]

Neglect, wilful delay and sabotage are all 'weapons of the weak' (Scott, 1985), often used by the subaltern to exert a form of power over the processes affecting their lives. The question is, of course, why this should not be seen as a 'legitimate' form of expressing one's attitude or (unarticulated) opinion. Given that the primary concern of indigenous communities is their struggle for self-determination over their territories, neglecting or even sabotaging projects such as ProBenefit might well be the 'best' or most easily available way to exert some power in this regard. Is this not a form of participation, too?

The myth of a level playing field

The niceties of participation hid the deeper conflicts at the heart of ProBenefit – conflicts which harked back to colonial relationships with a history of 500 years, and which manifested themselves as seemingly unrelated frictions or complications throughout the project duration. It was difficult for the German team to understand and accept the suspicions with which they were faced, despite the transparent and participatory process which they had worked hard to achieve. As one team member remarked: 'It is always the same. Every time we go over and over the same issues: that we are not here to steal anyone's knowledge. That if we were, we could have long done so! That after all, FONAKIN and other organisations themselves decided on this particular process. It is quite exhausting'. For the indigenous delegates their worries were legitimate. As one participant put it: 'They [the ProBenefit team] have not come here for charity! This is a business proposal. They think they will make some money. But how are we to understand what is going on?!'. 'First the white foreigners came to steal outright, now they come to make business. What is the difference?'

It is interesting how readily it was assumed that a partnership could be constructed simply through a transparent and participatory process. That the expenses were paid by ProBenefit (or directly by the company) seemed to be taken as the (only) necessary levelling of the playing field. Trust was then assumed to be only a matter of transparent dialogue. However, the power asymmetry of the whole endeavour could not simply be readjusted through a participatory consultative process. The economic injustice which ethical bioprospecting professes to redress has, as we all know, a formidably bloody and brutal history of over 500 years. To leave this fact completely unaddressed is bound to fail to build trust or create partnerships with indigenous Amazonians. This approach is not specific to ProBenefit, but extends to other experiences of working with indigenous peoples: the historical context is rarely taken properly into account – indeed there is a general denial of the past, when white people come to do 'good'. A familiarity with the situation 'on the ground', especially in terms of people's perspectives being informed by often brutal historical realities, is most often lacking.[30] The repeated comments by more than one ProBenefit team member referring to the 'unbelievable patience' and 'goodwill' of, and 'great risks taken' by, the participating pharmaceutical company Schwabe indicate the belief on the part of the project team that the interaction was occurring on a relatively level playing field. However, an expense of about US$ 25,000 in 2006 (which Schwabe

Pharmaceuticals Ltd. paid for the capacity-building course) does not necessarily back this view, given net sales of €490 million in 2007 (and research and development expenses of €27 million worldwide in the same year).

Eclipsing other visions: notes from a capacity-building course

The problems ProBenefit had to face were rooted in its structural inability to question some of its own fundamental assumptions regarding the value of traditional knowledge, the threats it faces, and the most adequate strategies of protection. Its 'CBD assumptions' eclipsed other possible ways of understanding what was at stake. In many ways, this might have been a problem of 'late' participation: communication with indigenous organisations only began once the project had been conceived and was under way. Despite its willingness to delegate authority and of course responsibility regarding the consultation and negotiation process, the project was never meant to be a project primarily *for* indigenous peoples. Neither was it a project for Schwabe Pharmaceuticals; rather it was a knowledge-producing initiative informing the processes of the CBD, and the wider access and benefit sharing 'community'. In this way, the relevance of the aims and objectives of ProBenefit to the lives of indigenous people remained unexamined, and it remained a classic case of 'them' participating in 'our' project (Cooke and Kothari, 2001). ProBenefit, despite best intentions, imposed a value system and world view on its indigenous participants. The ProBenefit team, and most of the teachers and facilitators it hired for the course, were unable to see or consider the alternative understandings which were repeatedly voiced, a point which contributed to the strong sense of asymmetry felt by the Kichwa participants, underlining their historical sense of injustice. I use the remainder of this chapter to illustrate the way in which the eclipsing of other visions occurred in practice during the capacity-building course.

The premises of AMUPAKIN (*Asociación de Mujeres Parteras Kichwas del Alto Napo*,[31] see Figure 1 below) are located on the outskirts of the community of Sábata, a typical near-urban indigenous settlement of wooden shacks and houses circling a football field. A big, yellow concrete arch and iron gate mark the entrance. Behind it appear several new-looking concrete buildings: the main health centre, a conference venue, a laboratory for the production of shampoos and natural medicines, and three *cabañas*, the mosquito-netted accommodation for visitors. Tucked away out of view view is a wooden ramshackle hut with tin roof, an open fireplace and a gas stove: the kitchen. All is set amongst overgrown flower beds, herb and vegetable gardens and surrounded by what are, by Amazonian standards, small trees. The construction of the "House for Life" (*casa para la vida*), as AMUPAKIN's premises are known, began in 2001 with the financial support of the Spanish Red Cross that has left its mark in the form of a metal plaque on a concrete rock-imitating mound which everyone who enters passes.

Figure 1: AMUPAKIN cosmetics laboratory, Archidona 2008.

On a hot and sunny Thursday morning in March 2006, a group of people started to gather in the conference building. The room was bright, the ceiling high and the windows big. The floor had been swept, and heavy, light-coloured, lacquered tables and chairs form a U-shape, opening onto a whiteboard and flipchart. A few white people, whom I knew to be German, were busy with papers and boxes, and a very European-looking Ecuadorian woman was talking to one of the midwives. Everyone else, about 20 people (all Kichwa except me), stood or sat quietly about. Soon, a desk was set up and topped with papers and a laptop. One by one the course participants were called up to the desk. Each one received a schedule, a pen, and a notebook, and it was clearly explained that they were to stay on site for the full four days of each course module, and that they were from this point on accountable to their organisations as delegates and that they could not be replaced by anyone else at any point. Everyone signed their names on a register, then took a seat along the U-shape, and the introductory session of the first module began.

My own presence was warranted as a volunteer and independent adviser to FONAKIN. Rosa Alvarado, FONAKIN's President at the time, had welcomed me warmly into the organisation just a few weeks earlier. There had been foreign PhD student collaborators before. Everyone seemed generally happy to have me hang around their concrete office building in which Amazonian mould is winning its battle with industrial wall paint.[32] 'None of us knows anything about the protection of traditional knowledge and intellectual property. It's a new issue and politically very controversial. We have been severely criticised by other [indigenous] organisations just for signing the contract with ProBenefit. It is good that you are here, I want you to follow the whole process, and make sure that nothing goes wrong', Rosa said to me shortly after I had arrived. '*I wonder what "wrong" means in this context'*, I wrote in my notebook that day. As I familiarised myself with the complex and volatile politics of indigenous Ecuador, unfolding under enormous pressures from above (market) and below (grassroots), it became clear that FONAKIN was involved in a precarious balancing act of negotiating its (various) roles with regard to its members, the

Ecuadorian indigenous movement as a whole, the Ecuadorian state, national and international funders and project partners. Things could hence ‘go wrong’ in a variety of ways, a damaged reputation within the indigenous movement and discontent amongst its members being amongst the *very* wrong. As a primarily representative organisation, FONAKIN’s legitimate authority depended on good relations with its base communities, as well as other federations.

The first evening, after dinner, a party was organised to celebrate the start of the course. Several women briefly danced to some contemporary Kichwa music, one of the German facilitators got most people involved in some Bavarian yodel exercises and dancing, and one of the older men crudely dramatised a shamanic healing ceremony which the Bavarian then had to imitate. Everyone seemed thoroughly amused. Florinda, one of the oldest midwives, ended the evening with a song about her grandfather’s life and a call to all indigenous organisations that they may not forget that Napo Runa life really is in the forest. The song struck my European ears as more of a weeping. It was made up on the spot, which is the sign of a competent Kichwa singer: the ability to perform there and then moving, melodic poetry full of ‘old words that our grandparents used’. ‘Do you hear?’ I was asked by a young man next to me. ‘She knows a lot of traditional knowledge’. ‘Yes’ said another, ‘she gives advice of how to live well, she reminds us what is important, she knows a lot’. This was my first direct encounter with a perspective on traditional knowledge as ethical rather than more purely empirical in kind. All day long we had been talking about traditional medicines, and how valuable this information about biological resources was for the whole of humankind, and how the elderly were like libraries, full of such important information. Yet Florinda was singing about being a bird, a toucan woman, about being full of yearning for her people to return to the forest. Her performance was proof of her ‘traditional knowledge’, which in this context meant a connection to and understanding of particular *values* rather than *data sets*. Such knowledge is of course uninteresting as far as pharmacological research is concerned – it might even be antithetical. Yet it was of obvious concern to Florinda and others around her. Protection of such knowledge would look very different to fair and equitable ABS arrangements.

The following two days were spent learning about cells, genes and biodiversity. At one point, the husband of one of the midwives commented: ‘But the properties of plants can change! Their medicinal powers can become stronger or weaker when they get relocated or cultivated or tended to. Also, different properties of the same plant are more or less prevalent at different times. That’s why we time the harvest. Sometimes it is better to harvest at night or during full moon, sometimes not’. ‘Yes’ said somebody else ‘and also plants don’t heal if you do not have a spiritual connection with them’. Others nod. ‘Aha’ said the facilitator, and continued to explain genetic inheritance while ignoring this traditional understanding of medicinal properties. An opportunity to gain actual insight into traditional knowledge (on changing medicinal properties) thus was ignored. A few PowerPoint slides later, the difference between biological and genetic resources was being defined. ‘This is a *very* important distinction’ emphasised the facilitator. A *genetic resource* is the genetic information contained in any part of a living organism, however small; while a *biological resource* is the whole of a living organism, or at least a significant part of it. The CBD deliberately refers to genetic resources only. ‘You need to understand that access to genetic resources is not the same as access to biological resources. If the genetic information contained within a living organism is being scientifically or commercially used, we have to talk about access to genetic resources. However, if it is a whole plant, or a part of it, such as its sap, that is being used scientifically or commercially we are talking about access to biological resources. The company Schwabe that would like to do some bioprospecting in the area is seeking access to the biological and not the

genetic resources'. 'Indeed, we are not interested in patenting genes, agreed the German representative of the pharmaceutical company who was present. 'So, we can do away with myths now' explained the facilitator, 'bioprospecting is not always bad! As long as it is done legally and with the consent of the communities, it could be a good thing. Bioprospecting is not biopiracy'. 'Shamans have also always done types of bioprospecting' added one of the German team members, 'in fact, they are like little companies, for you also have to pay them when they provide their services'.

I am recounting this particular exchange about biopiracy to illustrate how simple answers often foreclosed serious discussion about contested issues during the capacity-building course. Time, of course, was limited, and since a lot of subjects were supposed to be covered, lengthy discussion often needed to be cut short. In this case, however, one of the most crucial questions of the whole endeavour – when is bioprospecting legitimate? – was being brushed aside with simplistic explanations. This meant that participants often failed to receive the kind of information that is necessary in order to form an opinion about complex matters. Jodie Chapell (2011) argues, for example, that there are many 'biopiracies', and that the patenting of genetic materials only constitutes one such piracy. Moreover, patents on entire plants can be held in the United States under the U.S. Plant Patent Act of 1930, and indeed such a patent was granted to Loren Miller in the highly controversial *ayahuasca* patent case, which involved a protest by the Cofán people of the Ecuadorian Amazon (Fecteau, 2001; Moghaddam and Guinsburg, 2003; Dorsey, 2004; Schuler, 2004; Shiva, 2007). What is more, Schwabe Pharmaceuticals patents all its products. While these patents are not for actual plant varieties, they are usually for plant extracts (as well as their extraction methods) based on biological materials and not genetic information.

A similar incident concerned trade in plants and knowledge. While the facilitator explained the concept of agrobiodiversity, an inflatable globe was being passed around. She asked: 'Did you know that plantains and bananas originally come from Africa?'. 'No! They come from here. They are our *comida típica* [traditional food]' was the united response. 'No, no. They are from Africa. You see, different cultures have always exchanged and traded things and knowledge'. Based on this information, we then stuck pictures of different plants and foodstuffs on the globe corresponding to their place of origin. Again this example illustrates how complex issues were being obfuscated by simple answers. While it is undeniable that different social groups have always exchanged material objects and knowledge, the modes of such exchange vary widely. The plantains and bananas which actually originated in South Asia and not in Africa (Simmonds and Shepherd, 1955; Harlan, 1971; Zeller, 2005), for example, reached South America as part of the colonial trade system which moved slaves and exotic products in various directions across the Atlantic, and decimated indigenous populations.[33] The rhetoric that 'people have always exchanged things, why stop now?' does not take account of the historical and political context in which such exchange is taking place and by which it is determined. Instead of more in-depth discussion of such issues, we engaged in a little trust-building exercise to activate the mind through a little bit of movement: everyone formed a circle, and one blindfolded person stepped in the middle. He or she was pushed around and caught as she fell and stumbled from one side to the other. Such *dínamicas,* as they are called, were used often during the course. A useful method to enhance concentration, learning effectiveness and group cohesion, the deployment of such exercises ultimately serves those in whose interest the course content is.

Later the same day, the delegate from Schwabe Pharmaceuticals passed around little sealed plastic bags. The first one contained whole dried gingko biloba leaves, the second

one powdered gingko biloba leaves, the third one a gingko biloba leaf extract – a very fine, yellow-brown powder – and the fourth one a handful of coated tablets, red-brown in colour. He also passed around the very same tablets in their shiny product packaging, including the package insert. The package read TEBONIN®. The 27-step manufacturing extraction process is patented internationally, and so is the extract EGb 761® itself. Nobody mentioned that at the time – I found it out later on the internet. Dazzled by the sparkling products that can be made out of some leaves, the course participants asked many questions: 'What is it for?' 'Where do the leaves grow?' 'How do you make the extract?' The German delegate explained how a difficult extraction process is required, involving a lot of the state-of-the-art technology owned by his company. 'Would the extraction process happen here in Napo, or would it all be in the labs in Germany?' asked someone. 'This is not clear yet' answered the German delegate. 'If a trustworthy, reliable counterpart can be found here that has the relevant capability for extraction, then yes, it's a possibility that it could happen here'. 'Mixing and exchanging our knowledge with Western science is fine, but my worry is that the company will have all of the lucrative benefits and the local organisations are left with nothing, no money and no knowledge, especially for the future and for the children. One hope is that the company would move all of the production process over here', said one of the participants. 'Well, yes, there are unclarities about the laws and potential partners, but it is not impossible. There always is the possibility of creating a multinational company if we find the right counterpart', explained the German delegate. I am later told by a few course participants that this incident made them feel uncomfortable: 'He could not answer our questions'… 'They are making empty promises! And who will eat the pills they make? White people'.... 'When he talks of making a company here, I don't believe it's any of us that he will employ. They will get people from Quito'.

'So where does traditional knowledge come from? How is it established?' asked the delegate from the German pharmaceutical company, sweating visibly, his naked legs covered in insect bites. His PowerPoint slides were in English, and hardly visible on the wall of the bright workshop centre, so he waited patiently for the translation of his question and the ensuing discussion in Spanish and Kichwa to end, wiping his brow. This question was more engaging than the previous ones. Everyone started speaking at once: 'The plants tell us'.... 'Yes, the plant spirits talk' … 'When somebody in the family is ill, it's the plants that will tell us how to prepare them and make medicines from them'.... 'The *yachakuna* [traditional healers, shamans] speak regularly to the plants, so they know'.... 'When I was a little boy, and my mother was very ill, one day this plant – it grows here outside in the garden, I can show you – this plant came and it was laughing and dancing around in the house and we were a little scared but it told us to boil it and prepare a tea and then it left, so we found it again and made a tea and soon my mother was feeling better'. The translator hesitated at first, then explained the answers of the Kichwa workshop participants to the pharmaceutical delegate. 'Well', said the delegate after a confused little pause, 'okay, yes, but traditional knowledge comes from ...' he paused again as he flicked the remote control to populate his slide with prepared answers that fly across the screen in swoops before settling down as bullet points. 'Well', he commented the slide, 'it comes from accidents and coincidences, from one's own experience and self-testing, from hearsay, from knowledge exchange and from literature'. The translator translated and everyone remained quiet. Shortly after, the elderly midwife sitting next to me started to whisper angrily with a young man who nodded back at her. The pharmaceutical delegate, however, continued his PowerPoint presentation.

The inability on the German side to acknowledge or even register this very different understanding of the origin of traditional knowledge, which constitutes a central aspect of

Napo Runa cosmovision,[34] was lamentable. It maintained the gap between the two sides, prevented a deeper understanding and exploration of the issues at hand, and essentially constituted a continuation of 500 years of colonial patronage.

In the literature documenting, explaining or analysing the legal guidelines referring to 'traditional knowledge', traditional knowledge is usually defined as 'knowledge, innovations, and practices of indigenous peoples and local communities' (from CBD Art 8j), and often described as 'inter-generational and orally transmitted' (e.g. Posey, 2002; Howell, 2004; see also the Bellagio Declaration[35]). Its origin is hence located in the distant past, embedded in the ancestral practices of indigenous communities. The emphatic concern with origin in most contemporary dealings with traditional knowledge must have to do with the importance of origin to intellectual property law. Intellectual property protection is dependent on the origin of the intellectual work to be clearly traceable to a particular juridical person, such as *Ulysses* to James Joyce or Windows Vista to Microsoft. The assumptions underlying such originary ideology are tenuous, and an exploration of its ideological connections to creationism and doctrines of free will promises to be interesting at least. Unfortunately there is no scope for such an exploration here. Suffice here the flagging up of 'origin' as a significant discursive device in the performances of intellectual property protection and contestation.

In this context, then, what would it mean for knowledge to originate in one's relationship with a plant spirit? I realise that entertaining such an idea will be rather difficult for many readers. Nonetheless, such ways of speaking about and understanding aspects of the world encode particular attitudes and values. For example, this view of knowledge speaks of an intimate relationship between people and plants. It speaks of an understanding of plants as teachers and helpers. It speaks of the necessity to foster good relations and to learn to listen to what plant spirits may say. 'Plant spirits talk a lot', an old female healer told me while weaving a *shigra*. 'The problem is, most people don't know how to listen. They run past the little plant on their way into town. They miss the whisper of their name. "Nina, Nina" it will call you: "Nina wait and listen what I have to tell you"'. These understandings, visions and values are what 'traditional knowledge' – the knowledge of the Other – really has to contribute to the contemporary world. Another remedy for high blood pressure or obesity is merely a contribution to the wallets of the pharmaceutical industry. Indigenous activists participating in high-level fora such as the CBD can sharpen their teeth by insisting that what is at stake in the context of the protection of traditional knowledge are lifeways, values and practices to which the hegemonic constructions of knowledge and protection are blind and indeed antithetical.

Diets and charlatans

My conversation with Domingo, the *yachak*, with which I started this chapter, did of course not take into account the wider context in which the protection of traditional knowledge, as a necessity and cause, had developed. The concept of traditional knowledge and the need for its protection emerged especially in relation to developments and conflicts in the fields of nature conservation, and the wider biogenetic resource politics of the late 20th century.[36] When I was asking Domingo about how to best protect one's traditional knowledge, I left the context within which I was posing the question as open as possible; in particular, I did not provide much indication of which threats to this knowledge I was envisioning. This of course means that the particular meaning of my question was in many ways up for grabs. Domingo interpreted it, as people usually do, according to what seemed to him the most likely way it was intended. Given that generally most of our conversations concerned

shamanic practices, healing ceremonies, and *ayahuasca* visions, and considering that we were sitting by a fire and a five gallon cooking pot holding the ingredients that were to turn into one of the most psychoactive substances known to humankind, it is maybe not surprising that he thought of spiritual abilities and attacks, healing and illness, the responsibilities and dangers of being a *yachak*, and the intensity of the visual ('knowing') experience of an *ayahuasca* trance as the backdrop to my question, in relation to which the latter made the particular kind of sense that he took it to make.

In the company of members of ASHIN (*Asociación de Shamanes Indígenas del Napo*)[37], of which Domingo was president at the time, he could also speak very differently of the protection of traditional knowledge: 'There are fewer and fewer good shamans. The old ones, many have died. Young people don't want to learn and they break their diets. There are too many that call themselves *yachak*, and they go to the cities and they ask 500 dollars for a healing, and they don't know anything, they cannot heal and they give us a bad name. There is no control. That is why our organisation has made identification cards. See here [showing his laminated picture card]. We all carry them. They are recognised by the ministry. We are a legalised organisation, recognised by ministerial accord. We test all our members. Every member has to prove that they can heal. We go in a group, and we watch each raise [*levantar*] an ill person. If they get up at the end of the night, if they get better, then we can be sure. I have denied identity cards to some people, cousins of mine even, of whom I knew that they don't know anything, they just sing for the tourists. We have to work together, we have to unite and work collectively. We have to teach well, so that the young ones learn properly and do no harm [black magic], otherwise our medicine will die. Otherwise we will kill each other in envy and competition amongst ourselves. There is so much envy. And to make lots of money fast, we will break the diets, and forget the forest and what our grandparents told us'.

Protection of knowledge figures in this little speech as the collective adherence to a particular ethical code of practice, the respect for traditional norms and ancestral advice, as well as the use of certain techniques that the modern world affords (photographs, seals, lamination, institutionalisation) in order to create a framework within which Kichwa shamanic knowledge and practice remain unimpeded by bad reputation, failure to transmit properly to the next generation, and mutual (intra-group) competition.

Through such organisations as ASHIN, common concerns and the potential for collective solutions are being explored, articulated and worked towards. Like all social movement and civil society organisations, they provide platforms for voluntary association according to shared predicaments, and for the forming of opinion about and strategies for social change. Traditional knowledge, its threats and the means of its protection are framed in this context as collective concerns, affecting each practitioner in her or his work, impinging upon the reputation and viability of the 'profession' or 'tradition' as a whole. The value of knowledge is here closely linked to the responsibility, individual and collective, to acquire it properly (observing traditional diets), and to use it properly (for healing, not for black magic or harm, nor for inflated personal gain). The greatest threat that knowledge seems to face on this account is perversion through improper conduct. Abstention from sex, alcohol and certain foods is considered an important part of a *yachak'*s so-called 'diet', especially when still in apprenticeship. Misconduct, mostly related to the breaking of one's diet, is said to lead to a loss of power/knowledge, perversion of character and the practising of black magic, usually culminating in (spiritually) injuring other people, and even madness. Protecting shamanic knowledge from perversion or distortion is thus about – collectively – ensuring right acquisition and right use. And for the leaders of ASHIN, most often represented by Domingo due to his articulateness, this was best done through a certain

amount of institutionalisation and the development of a common discourse based on traditional precepts and ethics.[38]

Relevant acquaintances

The theme of loss and survival of knowledge, tradition, and practices over generations ran through many conversations and encounters during my fieldwork, and not only in the context of shamanic healing. That the younger generation was not interested in the old customs, lore, and bushcraft, and that too many of them did not even speak Kichwa, was a pervasive complaint. ‘Young people don’t realise, they don’t care much about the plants. They walk elsewhere, they don’t see the plants, and so they don’t ask about them. Maybe ten, twenty plants they know by name, nothing more. And what they are good for, ... how could they know!?’ Some of the younger people I met instinctively positioned themselves in relation to this complaint: ‘All my friends have moved to the city. They have employment. But they forget how to walk in the forest. I prefer to be here, I like to listen to my grandmother. She knows how to interpret dreams very well. I work with her on the *chagra* [horticultural plot] and she teaches me about the plants. The plants heal. I want to learn more, so that when she dies, I can teach my children and grandchildren’… ‘I liked very much living in Quito [Ecuador’s capital]. We had a lot of fun. It opened my mind. But when my son was two, his father left me, so I came back to be with my family here […] I see our culture differently now, I am happy here, but I feel a lot of pain to see it disappear. All that my grandparents knew is getting lost. That’s why I am learning Kichwa now and that’s why I go to the dance group [group performing folkloric dance]’… ‘They say all that our grandparents knew is getting lost. It is true. But I cannot change that. To improve [my family’s situation], I need to study and earn some dough. That’s why I live in the city […] It is sad, but in my community there is not much forest left. So what use is it to know the plants!?’

Traditional knowledge (‘what our grandparents told us’ was the often-used idiom) in this context is understood to be slowly dying with the elders given the decreasing uptake by the next generation. The indigenous youth is seen, and sees itself, as largely uninterested in the ‘life of the forest’. What was dubbed on several occasions as the ‘wants and needs of the city’, the (new) desires and requirements that life in or near the cities provoked, meant that for many, the everyday had to be so configured as to allow for time and energies to be directed towards the provision of money, and the creation and maintenance of those relationships which facilitated the acquisition of objects of desire, the use of the services on offer and general participation in the network of urban social relations. Since the more time one spends walking in the city, learning about its delights and treacheries, the less time one spends walking in the forest, learning about the same, it is unsurprising that one’s knowledge of the forest does not only remain limited, but it also becomes increasingly irrelevant – and impossible – to acquire it in the first place.

This tension of new ways of life eclipsing older ones, and the ambivalent feelings that such changes arouse are probably ubiquitous to human history. The struggle to maintain a certain amount of permanence in the face of ever-present change, mortality and fading memory might be a contender for a universal attribute of human societies if ever there was one (cf. Weiner, 1992). However, the specific circumstances of loss and change will always be particular. They can be violent, disruptive and disorientating, or creeping, uniting and inspiring; they can be emancipatory or disempowering, sensitising or dulling down. They can be all or some of these things. Struggling to influence, and to participate in the shaping of these circumstances is a central aspect of collective self-determination.

The theme of loss and disappearance of traditional knowledge in the conversations during my fieldwork struck me as a kind of coat-hanger upon which people would hang their laments and grief about unwelcome changes to their collective lives – those perceived as too rapid, too asymmetric, and too destructive. The question of how to prevent this loss – or how to create a more positive kind of change? – left many feeling mystified and powerless, and some in tears. Of course, grandchildren could listen to their grandparents, teenagers could re-learn their mother tongue after having abandoned it in the usually racism-suffused schools, and parents could take their children into the forest to gather ornamental seeds for use in handicrafts, and point out a few plants and tell their stories on the way. But in the face of oil spills, toxic rivers, disappearing species, and the cash barrier to participation in much of contemporary life, even in the Amazon, and in the face of all other manifestations of 'Euro-American developmentalism' (Whitten, 2003: xi), the question of the *relevance* of 'the old knowledge' looms large.

On one occasion, I asked Maria, an elderly healer and midwife who played a key role in the establishment of AMUPAKIN, what she thought about books and other ways of documenting herbal knowledge, so that her great-great-grandchildren would be able to learn about what she once knew. 'My little girl' she said, 'the knowledge is in the plants themselves. Write the books! Read the books! When the plants go, the knowledge goes as well. Do what you like'.... 'What about botanical gardens, then?' I wondered. After all, a medicinal plant garden was one of AMUPAKIN's long term aims. Maybe this would be a way to carry some knowledge into the future. 'Yes, yes' Maria did not sound convinced. 'The problem is, many plants cannot be cultivated. They grow weak, and they don't heal. It's the wild ones that have the power […] And the knowledge of the forest does not grow in a garden. And the lakes, and the rivers, and the hills, and the waterfalls! This knowledge cannot be known in the books'. Domingo confirmed this understanding: 'Every powerful place gives us knowledge. I have got a lot of knowledge from the lakes […] There are powerful places with much energy everywhere in the forest, special places. My grandfather took me to some of them. Every healer has knowledge from these places, from rivers, from waterfalls, from big rocks, from the hills. But now […] The contamination finishes these places. You go to them and there is no energy. I have analysed a lot, and it seems to me that the energies run downstream, down from the waterfalls and the hills and down the rivers, ... and into the oceans. There where the contamination arrives, the energies disappear. In a short time, all that is left for us is to go to the oceans to find the energies in the sea. Otherwise, all that knowledge will be lost'.[39] (I did not have the heart to tell him that the oceans were themselves by now so contaminated and over-exploited that ninety percent of the world's biggest fish had already vanished[40]).

The knowledge valuable to these speakers is not replicable in books or other documentation. It rather speaks of an unmediated connection to certain places and plants. It is a knowledge by *acquaintance* rather than a knowledge by *description* (Russell's distinction, 1911, following Grote, 1865; von Helmholtz, 1868; and James, 1890[41]); it is through acquaintance with things that their particular powers – or energies – are imparted, a process that creates knowledge. Because such knowledge only comes into being through *experiencing* a particular place or object, through interaction and contact, a book could never transmit it. Acquaintance with a book about the Amazon, its paper, ink, and glue, is on this account *knowing the book*, and not *knowing the Amazon*. (This distinction, although hidden by the equivocal character of the English word *to know,* is made in many languages, such as in Latin *noscere* and *scire*, German *kennen* and *wissen*, Spanish *conocer* and *saber*, and French *connaître* and *savoir*.)

The only way to ‘protect’ this particular knowledge, in the sense of ensuring its continued existence throughout the change of generations, is to enable people’s acquaintance with these places and plants and other objects of value. The primary threat to such knowledge is the disappearance of those objects through the interaction with which it is created (think here deforestation, climate change, urbanisation, subsoil resource extraction). The deterioration of the value of these objects (through their contamination and domestication, for example) will also diminish the value of the knowledge they can impart, and thereby constitute a kind of threat to be prevented. Another threat is irrelevance. Even if valuable places and plants continue existing, if the role which they play in people’s lives is eroded, acquaintance with them becomes meaningless. It is hence not just the continued existence of the places and plants, but the meaningful relationships which peoples maintain with them that is of importance in this context. As such, ways of life that integrate relationships to such objects of value ensure the relevance of this kind of knowledge, a prerequisite for any form of protection to make sense at all. This raises the question, however, whether payments through bioprospecting contracts might be a way to overcome the increasing irrelevance of ‘traditional knowledge’ to most people’s lives. After all, if the ‘life of the city’ takes people away from the forest and older forms of livelihood, then maybe it is as part of the ‘life of the city’ that the relevance of traditional knowledge must now be revived. The ProBenefit initiative was based on a version of this view: economic benefits will provide the best, and indeed the only kind of incentive for people to value and preserve their traditional knowledge in a changing world. The problem with this perspective is that the ‘value’ and ‘relevance’ which knowledge of and acquaintance with plants and other things then carries, would be determined by its economic content. The ‘power’ or ‘energy’ which things are understood to impart is likely to get lost when the main point for getting to know them is the fact that money can be made from such acquaintance.

Patently recognised

In April 2007, ASHIN was approached by the director of the teaching module and research cluster on ‘Genetic Resources and Ancestral Knowledge’ of the *Pontificia Universidad Católica*. The group was enrolled in a project on the protection of ancestral knowledge that was meant to provide legal recognition to ASHIN for its members’ knowledge about medicinal plants in return for a set of arrangements regarding student research opportunities and a botanical garden maintained by ASHIN as an *in situ* herbal collection for the university. Through the process of engagement with this project, and with the students and staff members of the university, Domingo’s understanding and use of the idea of protecting traditional knowledge developed new facets: ‘The foreign pharmaceutical companies come here and they steal our knowledge. We need to get our own patent, so that they know that it is we who are the owner, so that they cannot just take it away from us as they have always done with everything that is ours’.

So, theft as threat and patents as protection? I asked who exactly would be the patent holder, and when ‘ASHIN’ was the answer, raised the problem of authoritative representation of a whole people. Why ASHIN? On whose mandate could they claim ownership of traditional Kichwa plant medicines? What would those healers think who were by choice not affiliated to ASHIN? What would other associations of shamans do when they heard ASHIN had such a patent? Domingo stated in a defensive tone that they would of course hold the patent ‘on behalf of the whole of the Kichwa people’[42], but that it might indeed create tensions, and that they would have to think about how best to go about this. He would call for a meeting with all the leaders of the various Kichwa federations of the lowlands. He had already thought about that, in fact. I also explained

that patents were only granted for 20 years, and that the costs of filing, monitoring and enforcing a patent application could be enormous. While applying for a patent costs usually just a few hundred dollars, lawyer's fees easily extend into tens of thousands of US dollars. Moreover, in order to prevent others from copying one's invention, it is necessary to file applications in several countries: 'A rule of thumb is that it will cost approximately US$100,000 to adequately protect an invention internationally' (Carolan, 2009: 6). And this would not be the end of one's expenses. Monitoring patent infringements is time-consuming and expensive. The biotechnology giant Monsanto is said to have an annual budget of US$10 million to police infringement (Kimbrell and Mendelson, 2004: 4). Lastly, for patents to be useful 'protection' in cases of conflict, they would also have to be enforced in court. The American Intellectual Property Law Association has estimated that in 2000 alone, US-based companies spent US$4 billion on patent litigation (AIPLA, 2001).

Even though I did not flood him with exact numbers and references at the time, Domingo remained quiet. The point was that the director of the university programme had suggested to Domingo they make a list of the main plants known and used by members of ASHIN, and have this list attested by the public notary as a way to certify ownership until effective legislation with regard to the protection of traditional knowledge was passed nationally. Domingo had put a lot of hope in this 'patent'.[43] 'With the notarised list, we can show the proof that this is our knowledge. Nobody can come and say we don't know anything. With the help of the University we can build the clinic of natural medicine, finally. Then we can practice our medicine, and defend our knowledge. Step by step they realise what we know'.

Domingo expanded on 'the proof that this is our knowledge' by adding that 'nobody can say we don't know anything'. The racist stereotype still pervading most of Ecuador – including its recently (2013) reelected president Rafael Correa[44] – is of course that indigenous people are generally backward and ignorant, a perspective which most of the indigenous people whom I got to know would position themselves against at one point or another. Recognition for their knowledge, for the fact *that they knew something*, and for the fact that they knew things that were particular, special, and indeed characteristic of their particular existence, history and culture, was a desire expressed many times. The term 'our knowledge' was often used, it seemed to me, to express relations of identity rather than a claim to the right to dispose of such knowledge at one's will (which is the dominant interpretation of the rights that private property relations entail).

What is important to note here is the sense in which the possessive pronoun ('our') can imply a notion of property as *characteristic* as well as *ownership* (the difference is made clearer in German, in the difference between the words *Eigenschaft* – property, characteristics – and *Eigentum* – property, ownership). To find ways to 'prove' that 'this knowledge is ours' was, I believe, a way to insist on the value of (in this case) Kichwa identity, at least as much as it might have also been a way to lay claim to some of the rights that ownership confers. The struggle for *recognition* of one's value, including the value of one's ideas, one's understanding and one's creativity – one's knowledge, that is – especially in the face of discrimination, marginalisation, and exclusion, easily takes on a significance that is more fundamental than the struggle for *protection*.

Highlighting the value of traditional knowledge is a major part of making the case for its protection. To call for the protection of something always entails an (implicit) claim about its value. Similarly, it cannot be ignored that the struggle for recognition might be the main driver behind calls for protection, that establishing protective strategies and putting them in place might be perceived as ways of signalling recognition, as ways of manifesting

recognition in the world, and that hence *recognition* is what protection is mainly about. After all, recognition is something largely intangible, and (inter-)subjective. It is hardly enough to *state* one's recognition of something ('I think you are clever' or 'I value your intellect'), unless it also reveals itself in the world, in one's behaviour (such as in my asking you for advice, or consulting you about certain subjects, promoting you if I am your boss, or maybe applauding at the end of a speech you give). Of course such manifestations (especially applause) can also feign a recognition, which really does not exist (I might ask for your advice just to make you feel valued, and maybe lend me some money somewhere down the line, and in fact, I might never act on your advice). However, for recognition to become *real* for someone, it needs to show itself in the world, it needs to leave signs and make marks that can be perceived. Passing legislation that *protects* traditional knowledge (in whichever particular sense of protection) can be, or seem like, a sign of recognition of its value. Yet this recognition could also manifest in alternative ways, and so we have to ask whether the legal protection of traditional knowledge constitutes the desired recognition, and also *what kind of value* it actually recognises.

The focus on theft

Inherent in Domingo's ideas about patents, however, was also the understanding that certain injustices ('stealing our knowledge') were being perpetrated by, for example, pharmaceutical companies, and that a patent might prevent this. This view that traditional knowledge is threatened by, and hence needs to be protected from, unapproved appropriation and subsequent commercial exploitation animates and dominates the debates in international policy-making fora concerned with traditional knowledge. As repeatedly noted, in most of the literature and activity concerned with 'the protection of traditional knowledge', protection is understood as referring to strategies and measures that prevent the unapproved appropriation and subsequent commercial exploitation of traditional knowledge. Where the threat of its erosion and loss is recognised, it is rarely treated on its own terms, but rather in conjunction with the threat of misappropriation and economic injustice, leading thus to recommendations for protection that construe and institute traditional knowledge as intellectual property of the respective indigenous community. Indigenous people are made into market actors, their knowledges into commodifiable data sets or entries into museum catalogues. As this can seem like a better deal than the predicament in which most indigenous communities find themselves – excluded from but not unaffected by an encroaching capitalist economy – it is often welcomed by indigenous peoples and their allies. However, in this way, the protection of traditional knowledge remains a mere plea for the reform of intellectual property law, leaving untouched the core beliefs of this system.

The current discourse of the protection of traditional knowledge has to be understood as a colonising discourse. It is colonising in the sense that it installs a particular meaning of its key terms, thereby invading, taking over, and settling the understanding of these terms. It only articulates one particular way of understanding the protection of traditional knowledge, even though we have seen that talk of protection of traditional knowledge provokes a variety of concerns for people and in turn is used to frame and formulate these concerns.[45] Some of these alternate understandings of what the protection of traditional knowledge means and what is at stake in its realisation are not simply different to, but in fact conflict with, the colonising discourse of intellectual property and 'theft', in that they challenge some of its fundamental assumptions. When 'taken seriously' – that is, when we start to sincerely explore their implications – these challenges might force us to revise deeply ingrained ways of understanding such fundamental notions as property and

knowledge, with radical consequences for contemporary social organisation in so-called knowledge-based capitalism.

Joan Martinez-Alier (2002) has argued that ecological distribution conflicts are often fought in idioms other than market valuation, making use of notions of 'the ecological value of ecosystems, the respect for sacredness, the urgency of livelihood, the dignity of human life, the demand for environmental security, the need for food security, the defence of cultural identity, of old languages and of indigenous territorial rights, the aesthetic value of landscapes, the injustice of exceeding one's own environmental space, the challenge to the caste system, and the value of human rights' (ibid: 150). In this way, the struggle surrounding the protection of traditional knowledge is not only a struggle over access to resources, but also a struggle over meanings and values: 'in field or factory, ghetto or grazing ground, struggles over resources, even when they have tangible material origins, have always been struggles over meanings' (Guha and Martinez-Alier 1997: 13). However, the problem is that often the voices that are most clearly heard and whose concerns are taken most seriously are those who couch their demands in a language of valuation that resonates with the ultimate decision makers. While it can be strategically wise to encode one's message in terms of the dominant economic discourse in order to be heard, this also runs the risk of diluting one's original grievances and visions for alternatives and social change.

Domingo's sudden conviction that a 'patent' would be the solution to the wide variety of issues that he had himself previously framed and expressed through the idea of the protection of traditional knowledge leads me to the following two interrelated points in conclusion to this chapter. First, the attraction of 'private property' is not to be underestimated. Private configurations of ownership lie at the heart of the capitalist mode of production. Their appeal to individuals and defined groups is possibly the most powerful engine of capital expansion. Second, once the promise of private property appears on the horizon, alternative concerns and values seem to fade in its light. Domingo and other members of his association easily lost sight of the ways in which some of their concerns would not be addressed at all by the spurious promise of a notarised list as proof of knowledge ownership. For these reasons, this chapter is also an appeal to the indigenous movements of Ecuadorian Amazonia and beyond to not overplay the 'discourse of theft', which drowns out other ways of explaining what is at stake and other ways of demanding change. The larger and more varied the vocabularies of protest become, the more discursive possibilities there will be to illustrate the fact that values are largely irreducible to, and sometimes even incommensurable with, one another.[46] That is to say that the more ways we find to express the plurality of values which exist in the human world, the easier it will be to dispute that a singular (monetary) value can make commensurable the many goods and bads which affect people's lives as well as the more-than-human world.[47]

As this chapter has illustrated, the value of traditional knowledge – and its concomitant understanding of threat and need for protection – can take a variety of forms, all of which express people's real concerns. The discourse and practice of such initiatives as ProBenefit have the effect of silencing the diversity of values and making the protection of traditional knowledge commensurable with the global market economy. Yet without the legal, political, economic, cultural and philosophical recognition of the values of indigenous people, and especially without the value conflicts arising from such recognition, the 'protection of traditional knowledge' amounts to nothing more than a charade.

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Endnotes

[1]This chapter and the stories it contains are based on the fieldwork for my doctoral dissertation (Moeller, 2010) which took place on the fringe of the north-western Amazon region, in the Andean-Amazonian nation of Ecuador 2006-2008. My work was mainly with the Kichwa-speaking Napo Runa who inhabit the watershed areas of the upper Napo River. All names have been changed to preserve anonymity.
[2]*Yachak* is Kichwa for 'one who knows', plural *yachakuna.* I use the spelling Kichwa instead of the Anglicised "Quichua" as it is the currently most widely used spelling amongst Kichwa peoples in Ecuador.
[3]*Sinzhi* means force, strength, especially spiritual/energetic in kind.
[4]*Brujo* is the Spanish word for warlock/male witch, referring to *yachakuna* who practice black magic, harming others.
[5]A *yachak*'s diet refers to the abstention from certain foods, as well as activities, during certain periods. In particular, after *ayahuasca* ceremonies, salt, chilli, alcohol and fatty meats, such as pork should be avoided. Someone who is learning to heal is expected to abstain from sexual intercourse for several months at a time. There are times when one should not touch any object that might be either too cold or too hot.
[6]This definition is to be found in the CBD's Article 8(j), available online, at www.cbd.int/traditional.
[7]Especially through WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (the IGC).
[8]The Doha Development Agenda's paragraph 19 concerns TRIPS, biological diversity and traditional knowledge. Available online at www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm#par19.
[9]The International Treaty's objectives are the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of benefits derived from their use, in harmony with the CBD. The centrepiece of the treaty is a 'multilateral system for access and benefit-sharing' which for certain categories of plant genetic resources guarantees facilitated access in return for benefit-sharing. In respect of traditional knowledge, the key provision of the treaty is its recognition of 'farmers' rights' through its Article 9. Available online at: www.planttreaty.org/content/texts-treaty-official-versions.
[10]The text of the declaration is available online at: http://www.un.org/esa/socdev/unpfii/en/drip.html
[11]The full text of its resolution can be accessed online at: http://www.centifolia-grasse.net/assets/files/RESOLUTION%20TEXT%2020%20NOV %2008.pdf
[12]More correctly biopiracy ought probably to be called bio-privateering. Piracy implies theft; that is the taking of someone's private property. Privateering, on the other hand, implies privatising what was hitherto not privately owned. However, to my knowledge, this more apt term has only been used by Richard Stallman (1997).
[13]Bioprospecting is a relatively new term for a relatively old endeavour: it refers to the (usually corporate) development of (marketable) products based on research into and subsequent appropriation of the (commercially useful) properties of biological resources. Bioprospecting most often aims at developing pharmaceutical, nutraceutical and cosmetic products for the markets of the industrialised world, and the research phase is often aided by indigenous people and traditional farmers whose knowledge of the local biosphere is in many cases extensive and detailed. For early literature on bioprospecting, see especially Reid (1993); Svarstad (1995); Balick, Elisabetsky and Laird (1996); Shiva (1997).
[14]Underlying the discussions about bioprospecting is the question of control over access to and rights to income from traditional knowledge. Who can access and use traditional knowledge, and who has the right to the economic benefits, i.e. the income which flows from such use? These are questions with regard to the property relations that characterise traditional knowledge. This is to say that in the context of bioprospecting, and in the context of ABS agreements, the question of the protection of traditional knowledge is a question of how best to configure property rights over traditional knowledge. For an extensive jurisprudential treatment of property in terms of control powers, use privileges, and exchange rights (rights to income), see especially Christman (1994) and Harris (1996).
[15]Some hold that depending on whether or not an access and benefit sharing agreement has been reached, bioprospecting is either legitimate research benefiting all stakeholders, or it is biopiracy (e.g. Svarstad, 1995; Balick, Elisabetsky and Laird 1996; Schuler, 2004), others consider it to always be an instance of biopiracy simply because under current global socio-economic conditions no ABS agreement could ever be equitable (e.g. Shiva, 2007; Mooney, 2000; Takeshita, 2000; 2001).
[16]In my doctoral thesis, I situate the hegemonic construction of traditional knowledge protection in the wider context of capital expansion. I identify the destruction of the conditions for people's autonomous subsistence as a vital aspect of capital expansion, and argue that the protection of traditional knowledge in its dominant form participates in this destruction. In particular, I argue that to destroy subsistence is to destroy the conditions in which traditional knowledge is created, used, and reworked, and thereby the context in which it is directly meaningful and relevant to people's lives. Bioprospecting endeavours and the ABS agreements which they require constitute, no matter how fair and equitable, one of the ways in which the expansion of capital manifests today. Paradoxically, ABS agreements are also promoted and implemented as one of the key mechanisms for the protection of traditional knowledge. It is in this way that this hegemonic construction of the protection of traditional knowledge contributes to the destruction of the very foundations of traditional knowledge. For it is in the domain of autonomous subsistence that traditional knowledge is developed, made meaningful, used, and changed. The domain of subsistence consists of the practices of self- provisioning

through which the everyday needs of people are fulfilled, and through which their desires are shaped and addressed. It consists of the everyday lives of people and their interactions with each other and the environments they inhabit, which are not characterised by market exchange nor market rationalities and values. As the dominant form of traditional knowledge protection contributes to the expansion of capital, it also contributes to the destruction of the conditions of the very existence of traditional knowledge. See Moeller (2010).

17I was a participant observer of ProBenefit from March 2006 until the end of its activities in the Amazon in May 2007. The misunderstandings, frictions and value clashes that characterised ProBenefit during its period of engagement with the Kichwa people of Amazonian Ecuador (represented by the indigenous federation FONAKIN) are discussed briefly below and at great length elsewhere (Moeller, 2010). As a volunteer and independent adviser to FONAKIN, I was able to work closely with ProBenefit's indigenous participants and learned about their views through extended interactions which continued until after the project's end.

18 See also http://biodiv.de/en/projekte/archiv/probenefit.html

19The Bonn Guidelines on Access to Genetic Resources and the Fair and Equitable Sharing of the Benefits Arising from their Utilization were adopted by the CBD sixth Conference of the Parties (COP) in 2002. These voluntary guidelines are meant to assist governments and other stakeholders in developing an overall access and benefit-sharing strategy, and in negotiating contractual arrangements for ABS. Crucially, they include the requirement to obtain prior informed consent from relevant indigenous and local communities. See https://www.cbd.int/abs/bonn.

20I was told this in a conversation with the Schwabe representative who travelled to Ecuador with the ProBenefit team in March 2006.

21This aim is quoted from ProBenefit's website: www.probenefit.de/index_en.html.

22The ICBG is a public grants programme sponsored by the US National Institutes of Health (NIH), the National Science Foundation (NSF), and the United States Agency for International Development (USAID) and its goals are clearly oriented to the aims of the CBD: to search for potential new drugs through bioprospecting, to promote a sustainable use of biodiversity, and to foster development through benefit sharing with developing countries – and the specific local communities involved if appropriate. Public-private sector partnerships are required by the ICBG grant protocols. One ICBG grant was implemented as an agreement between the Aguaruna of the Peruvian Amazon, Washington University, a Peruvian university and museum, and Searle and Company, a pharmaceutical sub-division of Monsanto. Other grants included funding for research by the Virginia Polytechnic Institute and State University, Conservation International, Missouri Botanical Gardens, the pharmaceutical giant Bristol-Myers Squibb and a pharmaceutical company in Suriname; research by the University of Illinois at Chicago and institutions in Vietnam and Laos; and biodiversity research in Panama.

23The 1991 agreement between the Costa Rican quasi-governmental *Instituto de Biodiversidad* and the pharmaceutical giant Merck to exchange access to its inventories of plant samples for about US$ 1 million and the promise of royalties on ensuing profits from potential patents was heralded as a model at the time.

24It is maybe worth mentioning here that it is ironic how usually public consultation is supposed to circumvent representative organisations (such as local governments, say) in order for it to be truly *public*. In the indigenous case in Ecuador, this point highlights a particular tension in the indigenous movement. It is unthinkable for an outsider to do anything 'legitimately' in indigenous territory without approaching the overarching indigenous federations of the area first. At the same time, the grassroots feel very badly represented by these federations, which are said to be corrupt, and often run over decades by members of the same families. This might simply imply that there is no one indigenous public, in the same way as there is no unified national public sphere.

25There are two interrelated sides to this construction of the economic value of biodiversity conservation. On the one hand, biodiversity is increasingly *capitalised*. In Martin O'Connor's terms, nature 'formerly … treated as an external and exploitable domain is now redefined as itself a stock of capital' (1994: 126). In this way, it needs to be conserved and regenerated as a reservoir of capital value, rather than subjected to limitless exploitation. On the other hand, the conservation of biodiversity is itself capitalised. This is to say that conservation activities are rhetorically cast as feasible only with adequate financial return. Economic value becomes the only reason for action of any kind. This is the ideology of *homo oeconomicus* which undergirds the discourse of sustainable development and orients the CBD.

26A badly executed consultation regarding oil exploration in the province of Napo ended in a public outcry in 2003 (Grefa, 2005). The Napo was subsequently declared a '*provincia ecológica*' by popular vote. 'Sustainable development' was to be promoted, and bioprospecting projects, such as ProBenefit, fitted this new provincial aspiration. As the disastrous consequences of an extremely irresponsible form of oil extraction had by that time increasingly been highlighted, bioprospecting projects were portrayed as a clean and just alternative to oil which would finally bring wealth to the people of the region.

27It bears mentioning here that people drinking from polluted rivers, birthing malformed children, dying of cancer, and losing their foodstuffs to pools of crude oil are much more radically, directly affected by the activities of the oil industry than people whose affectedness by the pharmaceutical industry is contingent on the political construction of their property relations to certain plants and of their knowledge as commodifiable.

Affectedness in the case of bioprospecting needs a higher level of discursive construction than in the case of those affected by prospecting for oil and other subsoil resources (compare oil wells with plant sampling).

[28]Indigenous participants repeatedly complained that the process was too fast and did not allow appropriate consultation with their community organisations. This was also the main (official) reason for the ultimate failure to negotiate an ABS agreement.

[29]Only a fraction of the course participants fulfilled all the required selection criteria. From the German perspective, the capacity-building course was a good in and of itself, and the training provided would serve participants even outside of the project itself. From the indigenous delegate's point of view, participation in the capacity-building course meant absence from home without pay and without clear benefits for the future. At the end of the course, it also turned out that two signatures had been falsified, and hence two course participants were not actually the representatives of the organisations that they had claimed they were. One of the signatures had been falsified by a young man who had simply wanted his cousin to also be part of the course 'to be able to share the experience'. The other signature was interestingly falsified by one of the main leaders of FONAKIN. The 'fake' delegate purportedly represented *Salud Indígena*, the governmental health organisation providing services in indigenous communities, staffed mainly by indigenous people themselves. The leader of FONAKIN had connections to *Salud Indígena*, but wanted a close ally to participate in the course who was not a member.

[30]A parallel lack of consideration of historical context is noted by Oldham and Forero in their work with Mapuche in Chile (personal communication).

[31]Association of Traditional Kichwa Midwives of the higher Napo region.

[32]During my various stays, I fixed printers, set up fax machines, solved computer problems, corrected spelling mistakes, transformed handwritten notes into PowerPoint presentations, and showed my European face to visitors. I also wrote some funding proposals, and a few position papers for FONAKIN.

[33]See, *inter alia*, Crosby (1972) and Denevan (1976) for reliable sources on the demographic collapse of the population of the Americas after 1492 through European violence and disease.

[34]Cosmovision is the preferred term amongst indigenous peoples and rights activists, replacing the more European cosmology or myth.

[35]A group of lawyers, academics and activists drafted and signed this declaration during the 1993 Rockefeller Conference 'Cultural Agency/Cultural Authority: Politics and Poetics of Intellectual Property in the Post-Colonial Era'. It can be accessed online at http://www.case.edu/affil/sce/BellagioDec.html.

[36]For a genealogical exploration of traditional knowledge protection, see Chapter 2 of my doctoral dissertation (Moeller, 2010).

[37]Association of Indigenous Shamans of Napo, the first legal association of shamans and traditional healers in Ecuador, founded in 1994, legalised in 1997.

[38]Such processes of collective identity formation of course also produce dynamics of inclusion/exclusion and involve the normative policing of boundaries – who is a real' *yachak*, who is an impostor, who knows and who does not, who is in and who is out – which have a lot to do with validation of knowledge. In this case: whose healing knowledge is valid, and who makes these decisions? ASHIN's accepted members tested new members, which runs both the risk of bias and has the advantage of grassroots agreement rather than compliance with some external standard.

[39]See also Kimerling, 2006: 466-467 for an account of Huaorani beliefs in the weakening of healing powers due to environmental contamination.

[40]According to a 2003 study in *Nature*. Worse things have happened to the oceans, but this was one of the numbers I had available in my memory as I was scribbling in my notebook.

[41]William James explained the distinction between what he saw as two fundamentally different kinds of knowledge as follows: 'I am acquainted with many people and things, which I know very little about, except their presence in the places where I have met them. I know the color blue when I see it, and the flavor of a pear when I taste it; I know an inch when I move my finger through it; a second of time, when I feel it pass; an effort of attention when I make it; a difference between two things when I notice it; but about the inner nature of these facts or what makes them what they are, I can say nothing at all. I cannot impart acquaintance with them to any one who has not already made it himself. I cannot describe them, make a blind man guess what blue is like, define to a child a syllogism, or tell a philosopher in just what respect distance is just what it is, and differs from other forms of relation. At most, I can say to my friends, Go to certain places and act in certain ways, and these objects will probably come' (1890: 221).

[42]Not an unusual tactic it should be noted – recall the initiative of Stuart Newman and Jeremy Rifkin to patent a chimera in order to prevent others from doing so. See, for example, Newman, 2006.

[43]Such a list could arguably constitute valid documentation of *prior art,* and be used to contest a third party patent application.

[44]Amongst other things, Correa has labelled indigenous peoples as 'infantile'. He made this statement on his weekly radio programme on 7 June 2008. See also Denvir, 2008.

[45]Arturo Escobar (1995) describes the expansion of the discourse of sustainable development as the semiotic conquest of nature by capital relations. Through bioprospecting this semiotic conquest is extended into the realm of indigenous and peasant peoples' knowledge, practices and seeds (Brush, 1999).

46John O'Neill (1993) calls this the 'weak comparability of values'.
47This also addresses Bernard William's call: 'There is great pressure for research into techniques to make larger ranges of social value commensurable. Some of the effort should rather be devoted to learning - or learning again, perhaps - how to think intelligently about conflicts of value which are incommensurable' (Williams, 1972: 103).