Our second nature: a reflection on conservation paradigms

Dietrich Schmidt-Vogt

Do you know nature when you see it?

Do you know nature when you see it? This question presented itself to me when I visited the island of Borneo in 2000 as participant of a workshop on secondary forests in Asia. After the conclusion of the workshop and with a few days left on my hands before the return flight, I set out with another workshop participant – an ecologist of the Dayak indigenous people of Borneo – in a boat to go up a tributary of the Mahakam river in the hope of seeing at least a remnant stand of the vast primary tropical rain forests that once covered the island (having been confronted with the issue of secondary forests for several days.) This hope faded as we travelled through a countryside that had been converted entirely into fields, plantations and secondary scrub. On an evening, after having landed at a village where we planned to stay for the night, my companion offered to show me what he referred to as a forest garden. We crossed the village perimeter, walked through pineapple fields, then across a stretch of alang-alang grass, and finally entered a forest. As we moved deeper, the trees increased in size and the shadow of the canopy deepened. Finally, in the midst of what I took for quite a credible specimen of the tropical rain forest that I had been hoping to see, I asked my guide, when actually we would reach the forest garden, and was told that ‘this is it’. A forest garden or tembawang in Dayak language is a complex of forests that has been established by planting fruit trees and other useful trees species on abandoned fields or in natural forest. After some time these man-made forests can be almost equal to natural tropical forest in terms of species diversity and structure (de Jong 2002).

Secondary but not second-rate

I have seen similar cases of seemingly natural forests, which had actually come into being through human intervention, through my own research in another part of Asia. In the early 1990s, I studied secondary forests that had been generated by the practice of shifting cultivation, or swidden cultivation according to more recent terminology, in the mountains of northern Thailand. This is an ancient type of land use that carves out temporary fields or swiddens from hill slopes by felling and burning the original forest, which is then replaced by regrowth once the fields have been abandoned either temporarily or permanently. The quality of regrowth depends on the type of shifting cultivation practice, and especially on the length of the fallow period, i.e. the time during which the fields remain uncultivated and before they are cleared again for another round of cropping. If the fallow period is long enough and if fields are prepared for cultivation with low-impact methods as planting with a dibble-stick, secondary forests are capable of regenerating quickly. If, on the other hand, fallow periods are short, intensive field preparation methods such as hoeing are being practiced and if fire is applied at frequent intervals, regrowth degenerates to secondary scrub or secondary grasslands.

In northern Thailand, I studied the shifting cultivation practice of the Lawa – a small ethnic group with at that time a population of about 10,000 people. The village of Ban Tun, where I carried out my research, was located near the border with Myanmar, and has been in this location since about 800 years. Shifting cultivation as practiced by the Lawa is of a rotational type with cycles of one year of cultivation and fifteen years of fallow. Regeneration on the fallow swiddens takes place in a process of a succession that consists of two distinct phases. The first phase immediately after harvesting is dominated by fast-growing herbaceous plants, which in a very short time provide a dense cover with a large amount of biomass. This phase is dominated by invasive species from other parts of the tropics, especially from tropical America. After three to four years, woody plants resprouting from the stumps and roots that had been left in the fields by the farmers after clearing the land, begin to outgrow the herbaceous cover and gradually suppress these 'weeds' through the shadow cast by the emerging canopy. In the second phase and for the remaining time of the fallow period, the woody regrowth develops through a fallow bush stage into a fallow forest or swidden fallow secondary forest according to the terminology of Chokkalingam et al. (2001).

After analyzing the structure and composition of these forests, I was surprised to find that according to the measure that today is most commonly applied to gauge the naturalness of nature – biodiversity – these forests are surprisingly species-rich, at least with respect to plant species. In sample plots of 500 sqm, I found 25 to 30 species in the tree layer alone. Animal species were not so well represented on account of the hunting pressure near the village. These forests were also complex in terms of stand structure. The tree layer was arranged into three different strata: a top layer of scattered emergents of 12 to 14 m height, which had been spared by the farmers in the clearing process, an upper storey of trees, 6-10 m high, that have developed from coppice shoots and roots suckers, and a lower storey of saplings grown from seeds. It was difficult, however, to compare these secondary forests with original primary forests. Stands of mature primary forest, which had been preserved by villagers for religious or conservation purposes, cannot serve as indicators of natural conditions, because they are usually located on ridges or hill-tops, i.e. on sites, which are significantly different from the slopes, where swiddening is taking place (Schmidt-Vogt 1997, 1998, 1999).

Secondary vegetation formations on fallow swiddens also provide a large number of plants, which are used for construction, tool-making, food, medicine, textile-making, ritual purposes and fuel. Kunstadter (1978) counted a total of 204 uncultivated species of useful plants, which are collected on swiddens. He also argues that the diversity of the fallow environment as a whole, which consists of a number of different micro-environments, provides a greater variety of plants than would be available to the Lawa from an unaltered environment. I can still recall the surprise that I felt when I realized that these forests, which on first sight I had taken for

14

Historic Environment Volume 19 Number 1 2005
natural forests on account of their lushness and imposing stature, were actually man-made and had been subjected again and again to the rotation of short cultivation and long regeneration periods.

**First and second nature**

Mental images may turn out as illusions and appearances can be deceptive. Does that mean, however, that nature exists only as a mental construct as the post-modernists tell us, or that everything is nature in the sense of the ‘nature is culture’ rhetoric that has been in vogue for some time? The concept of nature in the western tradition of thought is complex, to say the least (Glacken 1967). The term nature can be applied at various levels of perception or to various perspectives. A fundamental distinction is that between interior nature – nature as the inherent quality of beings (e.g. human nature) – and exterior nature: nature as cosmos, or nature as environment on various scale levels. Exterior nature is often associated – especially by people with an occidental background as original, i.e. undisturbed, pristine and non-humanized nature or, in other words, nature as wilderness as opposed to nature within the realm of culture or of cultivated space. That this is not a universal understanding of the term nature can be shown by referring to only one example from Asia. In Thailand, the term *thammachat*, which is most commonly used as a translation of the English term nature, is used to describe ‘pure’ nature, but at the same time invokes the notion of a pleasantly ordered domain of natural environment – a *locus amoenus* – that is close to human settlements and well integrated with the human world (Stott 1991; Iverson 2001).

Even in western thought, the equation of nature with wilderness and the high value placed on wilderness as a desirable state of nature is of a relatively recent origin. The concept of wilderness, which has informed the early national park movement, originated, like the national park movement itself, in North America. Its foundation was a concept, formulated by the American Transcendentalists of the nineteenth century and foremost among them by the poet-naturalist Henry David Thoreau, of nature as an emanation or embodiment of transcendental forces or – in other words – of God. Wilderness, according to Thoreau, is nature as it is meant to be: primeval, original, straight from the mint of the creator. Wilderness is the place where people can come close to the numinous and to their own origins as natural beings. Wilderness as exterior nature in a pristine state can thus serve also as a clue to the true and undegraded state of our interior nature. Exposure to wilderness can therefore serve as an inspirational experience necessary for maintaining one’s physical and mental integrity (Nash 2001). The concept of wilderness as devised in the context of American transcendentalism is similar to but not exactly the same as the idea of nature as projected in Europe by the artists of the Romantic Movement. Their appreciation of the ‘sublime’ or ‘heroic’ in nature could be satisfied by grand or pleasing scenery that could but would not necessarily need to be a wilderness.

Culture, according to the German philosopher-writer Ruediger Safranski (Safranski 2003), is our second nature, which provides us with a habitat of our own making within the larger context of what he describes as first nature and its original or primary manifestations: virgin forests and other wilderness areas. Through culture we are continuously creating and recreating a secondary nature of artificially designed or more or less strongly modified ecosystems. Secondary nature does not need to be second-rate when compared to the original, as was shown by the example of secondary forests in the tropics of Asia. In some instances, as in the case of the lambawang on Borneo, it may even look deceptively like the real thing. My own research, and research presented at the workshop that had occasioned my visit to Borneo, has shown that secondary forests are capable of providing not only economically useful products, such as timber, fruit, plant medicine and other products, but also environmental benefits, i.e. habitat for animals and protection of soils and water courses from the forces of erosion. One of the more important conclusions of the workshop was that a more careful and efficient management of such secondary forests would lighten the pressure on primary tropical forests and help to conserve them.

But if secondary or modified nature is capable of stepping into the place of first nature as the provider of our needs, do we still need its original manifestations: ‘primary habitat’ or ‘wilderness’?

**Paradigms of nature conservation: from wilderness protection to biodiversity conservation**

In order to confront this question it will be useful to examine the currently prevailing paradigms of nature conservation. As mentioned above, the original mission of nature conservation, which was formulated for the National Parks of North America by the conservation pioneers of the late nineteenth century, was preservation of wilderness through the exclusion of every ‘unnatural’ influence, especially people. Nowadays, the use of the word ‘wilderness’ seems to be gradually fading from the language of conservationists. This may to some extent be due to the fact that the ‘pristine wilderness’ of the pioneer age of nature conservation no longer exists. Even those few wild places, which are not yet threatened by the activities of developers, poachers or ‘encroachers’, are already under the influence of airborne pollution and of atmospheric changes, which are most probably caused or enhanced by humans, and are therefore no longer true wilderness in the strict sense of the word. Some of the most emblematic wildernesses have in all likelihood not been as wild as they were thought to be: the rain forests of the Amazon and of Malaya for instance, which were thought to have been affected only peripherally by small populations of indigenous people, seem to have been transformed a lot more thoroughly by early human impact.

The new catchword and *leitmotif* for conservation is biodiversity: identifiable and measurable variety in nature. The term ‘biodiversity’ as a more compact form of ‘biological diversity’ was first introduced by Walter Rosen for the 1986 National Forum on BioDiversity (Wilson 1992). Biodiversity, which has been characterized as being a property of natural systems and not an entity in itself (Solbrig 2000), is an expression of variability in nature that can be applied on the level of genetic endowment, species composition, and community structure. Biodiversity can be measured and quantified, and has largely because of this quality replaced in the field of conservation less tangible and measurable objectives such as ‘naturalness’ or ‘wilderness value’. Nevertheless, the use of biodiversity as an indicator or measure for the quality of environments is not uncontested and leaves the question open, for what reasons should diversity be maintained or enhanced in environments (Schmidt-Vogt 2005).
It is especially difficult to establish the ecological value of diversity, i.e. the role of diversity in the functioning of ecosystems (Armsworth et al. 2004; Swift et al. 2004). It has been claimed by scientists that diversity leads to ecosystem stability and that for this reason diversity is a desirable condition. This is a contested issue not only because of conflicting evidence, but also because of conflicting views on what stability of ecosystems actually is. The controversy over this question has not yet been resolved (Smith 1996).

As an objective for conservation, biodiversity has been helpful as a scientifically more credible concept than the vague notion of ‘nature’: the concept, however, in its more simplified versions, has implications for the practice of conservation that may change (its) nature. The measurement of biodiversity at its crudest consists in the counting of species. There are other and more complex methods for biodiversity studies, but they are quite difficult to handle with respect to data gathering and processing, so that counting species is by far the most common way of assessing the biodiversity value of an area. Substituting numerical variety in nature for integrity of nature or for such seemingly elusive goals such as ‘wilderness quality’ or ‘originality’ as the main goal of conservation may lead to changes in its practice. Some ecosystems belonging to the realm of secondary nature are more species-rich than the original systems they have come to replace, precisely because of the interventions that have created or shaped them, e.g. some of the secondary forests of tropical Asia. If they are considered worthy of being preserved on account of the species count, conservation must, paradoxically, consist in the suppression of natural processes that are likely to bring back the more simple original state, and in the retention of sometimes dated forms of land use in order to perpetuate the landscape in its desired state. An example for this are the heath landscapes of Europe such as the Luneburger Heide in northern Germany, which has been created through the combined impact of cutting down the original forests in order to supply the nearby salt-manufacturing industries with wood, and subsequent pasturing by sheep. When the area was put under protection and sheep grazing discontinued, regeneration of the original forest cover started and prompted the protected area management to reintroduce – and subsidize – sheep grazing in order to prevent the reestablishment of the original – and natural – vegetation, and maintain the species-rich heath communities.

**Conservation paradigms: nature conservation for people**

Another trend of modern nature conservation is leading in a similar direction. In the past, protection of nature was conceived of as separating nature from people and by clearly segregating protected areas from areas where land use was practiced. As the idea of nature conservation and the concept of the national park spread from the western United States to countries of the Old World, with dense populations and deeply entrenched land use arrangements, setting aside reserves for the sole purpose of protecting nature was found to be either impractical or to cause conflicts with local communities. Moreover a focus of conservation on wild land and wildlife was felt to be inappropriate in developing countries, where large segments of the population depended on natural resources for their livelihood or even survival. A change of thinking on conservation was initiated by the conference on African conservation problems at Bukavu in the Belgian Congo in 1953, which broadened the concerns of conservation from simply the preservation of fauna and flora to the wider human environment, and suggested a new convention to address the whole natural environment and focus on the needs of Africans. The African Convention on the Conservation of Nature and natural Resources, which was then adopted in 1968, broadened the definition of conservation to embrace not only the preservation of fauna and flora, but also the conservation of natural resources for the benefit of people. As such, it was a direct forerunner to the idea of ‘sustainable development’ proclaimed in the World Conservation Strategy of 1980 (Adams 2001).

These events have set in motion a process of reevaluating conservation in terms of its benefits for people and of reorganizing conservation practice so as to involve local people more intimately with conservation planning and management. This is a pragmatic and therefore positive development as nature conservation in the narrow sense has suffered in the past from a too rigorous implementation of its demands. There is, however, no way of foretelling how far the pendulum may eventually swing; but it is safe to say that nature conservation is gradually distancing itself from the original aim of preserving nature for its own sake. With biodiversity value replacing wilderness value as the main aim of conservation and thus providing a rationale for the protection of cultural landscapes, and with conservation gradually merging its aims with those of sustainable resource management, there are signs that there is a growing willingness to accept secondary nature as a valid substitute for first nature.

**Do we need nature?**

This brings us back to our question: if secondary nature is capable of satisfying our essential needs, is there any rationale left for us to keep on protecting the remaining approximations to first nature that still exist? Do we actually need nature?

This brings us also back to the less tangible issue of the ‘inspirational’ value of wild or authentic nature, which had been emphasized by the American Transcendentalists and which has served as spiritual justification for the establishment of the first national parks. The postulation of wilderness as a value in itself and as something that has value also for people, and hence the proclamation of original or authentic nature as an asset worth of protection has been denigrated by the politically correct as an act of imposing western values on non-western cultures, and by social scientists as an act of aggression on the side of natural scientists in the war of the two cultures that had been identified by C.P. Snow, i.e. in the war between natural sciences and non-natural sciences.

That the concept of wilderness protection as applied in the early national parks has its roots in western traditions of thought cannot be gainsaid. That it has been accepted so readily outside the realm of western civilization, not only by governments, but also by non-government and other grassroots organizations is an indicator that the idea touching upon a value is also recognized in other cultures. In Thailand, for instance, where wilderness has traditionally not been perceived in positive terms, there is a more recent development which has its roots in Buddhism and which has brought about an appreciation of wild undisturbed forest that is comparable to the western concept of wilderness and its spiritual values. This is the tradition of the forest or *thudung* monks who spend extended periods on their own in the forest to meditate in
congenial surroundings. The tradition of relocating to the forest for spiritual purposes is centuries old, but has received new impetus in the twentieth century and also a political dimension, with Buddhist monks now leading conservation movements against the destruction of forests (Tiyavanich 1997; Ivarsson 2001).

The question concerning the value of original nature for scientists provokes another question: how well do we know nature and how well do we know our needs? As long as we do not know conclusively what nature holds in store for us and as we cannot know what resource needs may arise in the coming years or decades, we should protect nature in order to protect our own unpredictable future. For this pragmatic reason, we should not lose sight of retaining as many of the original expressions of first nature as possible. There are ways to do this – recognising secondary nature not as a substitute for the original, but utilising its substitution value to provide relief from human pressure, as suggested by the guild of secondary forest researchers, is one of them. There is still a long way to go before striking a balance between first nature and our second nature has become second nature to us.

References:


Swift, M.J., Izac, A.M.N. and M. van Noordwijk 2004 'Biodiversity and ecosystem services in agricultural landscapes – are we asking the right questions?' Agriculture, Ecosystems and Environment 104: 113-134.
