

## 2 Cultural understandings of the environment

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### A WORKING ENVIRONMENT

An old man weaving mats and baskets in front of his house in Giriama country in Kenya dismissed the idea that this was work. This and similar activities, such as growing tobacco, keeping goats, and trapping small animals, he regarded as spare-time activities fitted in with more important tasks such as attending meetings, advising younger people and tending ancestral shrines. Real work, for him (as for everyone else), was urban salaried work or entrepreneurial farming, and then subsistence farming. An elderly Chinese grandmother modestly described herself as too old to work now 'only able to do her bit by cooking the meals, taking care of the grandsons and raising two pigs and chickens'. What she neglected to add was that her non-work contribution, selling pigs, chickens and eggs, provided just under half the household's total annual cash income. A salaried worker in a southwest France village casually referred to the many hours he spent tending his fields of maize, sunflowers or planting fruit trees, as merely a pleasant distraction (*pour m'amuser*) and looked forward to his retirement so that he could devote more time to this.

(In all three cases, each individual earned more from such apparently agreeable sidelines than from any accessible salaried employment. The subsistence and domestic work of Giriama women is similarly regarded as non-work compared to wage-employment and intensive, commercial farming, though not, however, as a form of leisure pursuit. Here, too, women's contributions far outweigh what they or men could ever earn in the formal labour market (Parkin 1979). In China, where a skilled woman's annual income from farming and handicrafts could far exceed the wages of an able-bodied male, an important issue has been whether domestic sidelines are considered as formal income-generating activities or 'work' deserving of legislation

and protection, or whether they are to remain informally indistinguishable from domestic labour (Croll 1983).

These kinds of work are undervalued in such comparisons by the workers themselves because they have been taught or have learned that 'work', as a terminologically distinct concept, refers to tasks itemized, organized and controlled by a social hierarchy of employers or state officials. It does not refer to work carried out on one's own initiative which merges with other everyday tasks. The Giriama old man and the Chinese grandmother are also fully aware of the back-breaking work involved in men's clearing new ground, and in the planting, weeding and harvesting undertaken mainly by women. But they distinguish between such regularly vital activities and their own, what they regard as inessential ones.

Here is a labour hierarchy in which materially productive activities are only given differential value in relation to an idea of the absolute worth of a salaried or commercial living. The old people's contribution dovetails so importantly into the wider mosaic of productivity that boundaries between essential and inessential labour become meaningless, for if the elderly did not earn money in this way, then someone else in the homestead would have to make up the shortfall.

Such so-called lesser kinds of work do not necessarily depend, as does factory or office work and some forms of intensive, commercialized farming, on an ideal of standardized rules of procedure, timed measurement of tasks and precise expectations of results. They constitute instead a kind of productive *bricolage*, in which tasks are carried out according to available materials, weather conditions, availability of land, and the health, skills and disposition of the producer. They expand and contract according to need and desire and are intertwined with other activities but neither strictly prescribe nor are prescribed by them.

In fact, all work is a form of productive *bricolage* from the worker's viewpoint. Salaried employment and commercial farming may be based on ideals of rules, regularity and precisely determined results, but the reality of fluctuating levels of employment and cash-crop prices, and agricultural failures, oblige people to resort to coping strategies and constantly to re-assess what are their own resources and assets and how much these are part of what they themselves are as persons and how much are external to them. It seems worthwhile, however, retaining the term, productive *bricolage*, to refer relatively to tasks over which agents see themselves as having some control, as distinct from work controlled by others outside the home.

Productive *bricolage* is not utopian: too many droughts, excessive

floods, epidemics and famines testify to its inadequacy. It is, however, an unorthodox starting-point for transcending the perennial dichotomies between work and non-work, between the environment and its exploitation by people within it, and between culture as a system of strategies and meanings and the external, surrounding landscape on which these are brought to bear.

This idea of the exteriority of the environment has an epistemological consequence. It presupposes that ultimately persons are passive in the face of environmental menace. Here the environment is a capricious or intentionally controlling agent and the human the object, who may nevertheless seek mastery over it. Similarly, the privileging of salaried work and commercial farming over clusters of smaller tasks is based on the idea of some people being subject to the power and will of others (employers, the state) and of non-human agents (weather, the soil, opportunities, luck, land and sea spirits and so on).

The distinction between people and things as environmental agents is indeed best rendered as that between the human and non-human components of the cosmologies of many peoples. In this sense environment is never a neutrally acting force, innocently shaping or interacting with human interests. This is obviously the case when westerners speak metaphorically of a human political or economic environment influencing human events, or of the environment as geographically comprising physical terrains of forest, mountain, savannah or bush, acting upon populations. As numerous chapters in this volume indicate, such habitats are chosen by or forced upon people and become ontologically part of them as a result of such choices or pressures. People identify, give names to, and thank or blame their habitat for their prosperity or misfortune, often personifying it in their own deeds and misdeeds.

The most prevalent example of such identification is drawn from people's distinction between village or settlement and bush or forest. In personifying the latter they create overlap and ambiguity between categories which in the hands of outsiders sharply separate culture and environment and types of knowledge about them.

### A FALSE DICHOTOMY: CULTURE AND ENVIRONMENT

Ellen (1982: 277) urges us to resist a discourse of such oppositions as 'man' and 'nature' or 'society' and 'nature': human ecology is human society. Ingold (Chapter 3) similarly criticizes that between 'culture' and 'environment': the idea that culture imposes meaning on an empty *tabula rasa* of an environment is only to say that people read into

things what they want and so makes unnecessary the very idea of environment. Environmental determinism reverses this priority and makes humanity its *tabula rasa* so denying both culture and human volition an initiatory role in shaping events. Neither this nor its opposite, cultural determinism, are much found in current literature except in modified, 'soft' forms. So-called possibilism, the idea that environments do not determine people's activities and cultures but only limit them to within a sometimes wide range of possible constraints, is the prime soft candidate. Yet, as Ellen argues (1982: 50-1), this, too, appeals to ultimate limits and so is in the end deterministic.

These points refer to a voluminous literature on ecological anthropology over the last half century and need not be reiterated. The central epistemological problem seems to rest on the use of such dichotomies as culture and environment, man and nature, society and habitat, as prescribing subsequent argument. Such an analytical contrast locks one into proving or disproving it but perhaps never reaching the conclusion that it may be a false assumption.

Others also suffer such impasses. As, for example, Richards (1985: 54) points out: agricultural experts in Africa may 'package' types of farming practice and discriminate between those thought suitable and unsuitable for particular areas and peoples, failing to realize that African farmers have, for generations, developed experimentation skills according to changing conditions and needs. If, in the twentieth century, they still practise shifting cultivation, this is not because they have no knowledge about crop rotation or other intensive-farming techniques. On the contrary, there is some evidence that they have long been aware of such alternatives but have found them wanting: much of Africa has, and has had, sparsely populated areas where there is a labour shortage for intensive farming. It differs from many Asian regions in which a high-density population has often favoured, for instance, terraced agriculture or rotational cropping. Shifting cultivation in sparsely populated areas enables farmers to keep forest or wilderness at bay through the slash-and-burn method, but enables them to move into other areas when new soil is needed so leaving the previous area to long-term fallow. Into this mosaic of shifting plots is fitted an indigenous system of intercropping of diverse plant species, which variously benefit from the different stages of regenerative growth in the return from cleared settlement to bush. Neither fixed settlements nor mono-cropping in ordered lines would be an improvement on the indigenous method (see Pottier and Nkundabashaka, Chapter 9, this volume).

Richards' approach is culturally and environmentally non-deterministic: environment and culture are neither reified nor do they interact

with each other in a game of alternating dominance and concession. Rather, the farmers themselves are the principal agents in shaping their own destiny. Of course critics will impute 'sentimentality' and the 'Myth of Merrie Africa' to this populist approach. But it is not here argued that hazards beyond human control do not cause utter blight and misery. Alternatively, we can reject the extreme argument that takes such 'natural' misfortunes as evidence of farmers' impotence and out-dated techniques. No-one can wholly predict and control hazards, but, now and for generations past, peasant farmers have created diverse skills which cannot be ranged in a scale of evolutionary development: just as some hunters and gatherers may be aware of settled agriculture but find it irrelevant to their needs, so farmers may find shifting cultivation and intercropping more efficient than intensive methods of food production.

With regard to Africa, Richards (1985) not only urges outsiders to recognize traditional skills, but claims for them the status of an indigenous science, from which western agricultural and development specialists can learn. Numerous chapters in the current volume (not just those from West Africa where this is emphasized) justify this appeal to reverse the learning process, for instance the notion of coping has become increasingly a key word in describing indigenous science.

The title of a recent work is *Coping with Uncertainty in Food Supply* (de Garine and Harrison 1988), while that of another of Richards' books is *Coping with Hunger* (1986). Similarly, Shaw (Chapter 12, this volume) talks of farmers' 'coping strategies'. This concept connotes the flexible methods of interpretation and experimentation typical of ecologies which have not come under the rule of textbook theories and admonitions. The metaphor is born of a more general movement in the natural and, especially, social sciences towards methodological reflexivity, in which facts are no longer simply tested against theories, but are, together with the theories, investigated for their rhetorical effect. This represents a trend towards a politico-semantic appreciation of theories and their findings: of how theories and data are used in power struggles to achieve particular ends and not just to advance neutral areas of knowledge.

Analogously, Ingold (Chapter 3) attacks the classical ecological claim that organisms fit and test themselves against and within environmental niches, as if the latter exist prior to the organism, which has only to find them. An organism not only makes sense of possible niches, it imaginatively creates them out of spaces and situations, competing with other organisms, therefore, not just for already existing refuges but for imaginative supremacy.

People likewise do not just adapt to environments, they make them, shaping them from both materials and the possibilities they see in the habitat and surrounding life forms. What is interesting here is the way in which peoples classify their environment, sometimes including and sometimes excluding themselves. Yet, while much of the foregoing has stressed the experimental and often provisional nature of peoples' coping strategies and their changing interpretations of what constitutes work or resources, it is also evident that when people do classify they can only proceed step by step on the basis of distinctions of some sort. We do not need to debate whether thought is necessarily fundamentally binary to accept the role of oppositional or contrastive thinking in human cosmology, however much such distinctions may constantly be dissolved, reconvened and recombined.

The peoples discussed in this volume do indeed often start an explanation of their ecology from a key distinction, such as that between village and bush. We may then encounter a conundrum: peoples cope and experiment by flexibly transcending set ideas; simultaneously they commonly resort to seemingly timeless cosmological dichotomies when explaining to themselves and each other how they live, work, thrive and survive.

What is the relationship between this apparent flux and fixity of environmental understanding? How do such folk distinctions differ from those made by, for example, development advisers and central governments in their evaluations of modern and traditional methods of cultivation, herding and land and forest usage? Is the way 'experts' distinguish between modern and traditional methods paradigmatic of the ways peoples themselves separate domesticated settlements from wild bush? And if so, why do outside specialists and local folk so often disagree as to what is relevant in the management of such distinctions? In the latter, what kind of negotiations and renegotiations take place with regard to the meanings of, say, bush and farm, cleared and uncleared, cultivated and uncultivated or the wild and the tame?

Crucially, negotiation involves a hierarchy of power of things over people, of people over people and some people over things. Control and therefore power is thus central to discussions of the environment and its relations to culture and human endeavour. Here the implications for power and control that such folk and external distinctions carry will be examined, beginning not with those voiced by specialists but those inhering in people's own cosmologies.

## AN IMAGINATIVE DICHOTOMY: BUSH AND BASE

Others have established recognition of the diversity of indigenous knowledge or sciences and the need to learn from them. Here we try to understand the cosmological premisses of such diverse forms of reasoning, which, while experimental, do also turn upon common oppositions, that between village and bush being perhaps the most prevalent, figuring especially in the chapters on West Africa and elsewhere, too. Oppositions can, of course, be set up by a people and then transcended, for example, that between village and bush: having been established they may then be merged, portrayed as antagonistic or, conversely, as life-nurturing, or provide people with alternate modes of identification.

The identification of persons with the surrounding bush and forest is most marked in the Dogon example described by van Beek and Banga (Chapter 4). In fact it is more a merging of human and non-human existence than an identification, for the bush or forest actually become human beings over time: trees and plants are a life force which nourishes humans. Without the bush, humans and their villages stagnate, cannot progress and eventually die. The authors even say that the Dogon do not see themselves as agents of their own reproduction, thus, humans cannot themselves replenish the bush, for they are not its masters. Nor need they do so, for the bush is regarded by the Dogon as *sui generis* inexhaustible.

This seems to preclude outsiders' attempts to get the Dogon to protect the bush and forest from degradation through overuse: if they see themselves as subject to the omnipotence of wild trees and their habitat, then how can anything they do save or increase vegetation? But this is mistakenly to conclude that the forest or bush is a potential adversary *vis-à-vis* humans, and that it rigidly controls human destiny. True, there is a hierarchy of forest over humans, but this is based not on an unreflecting use of power by trees but on the expectation of respect from humans. The Dogon must both respect the bush and work on its endless transformation into humanity. They work not *on* or *against* the environment (the typical western way), but respectfully *with* it. Freedman (1969) drew this distinction, describing the Chinese geomancer's view of the environment of buildings and landscape as ideally to be integrated harmoniously with the lives of people, as distinct from the once-typical western perspective, to see the environment as an outside force or field to be attacked, conquered and domesticated by establishing towns and buildings. Undoubtedly, this view underlies most forms of colonial domination.

The Dogon sense of themselves and their bush is hierarchical not colonial: the bush is central to human life but does not dominate it. Bush and village together make up a spiritual and moral entity, exemplified in the punitive entry of masks from the bush into the village. These masks are worn by men, chastising the women's lack of respect in using certain trees favoured by men. Clearly, male concerns are served by this drama which further elaborates the hierarchy as being that of forest over men, and men over women, but with respect for wild vegetation as fundamental. Where forest degradation does occur, it cannot be said to be due to Dogon indifference or unconcern. If deterioration of the bush is to be reversed, it has to take account of the Dogon veneration of their forest and of their view of it as the life force which makes possible their own existence as village-based humans. Village and bush, human and forest, are complementary and part of each other and by no means opposed.

The situation described by Leach (Chapter 5) for the Mende of Sierra Leone is a contrasting case of the forest being regarded as opposing humankind and an obstacle to human progress, for the Mende believe that the bush contains innumerable dangers including evil spirits, and that it constantly threatens farms cleared from the forest. Men echo earlier warrior values in their attack upon trees when they hack them away for farming.

Yet, although humans and forest are antagonistically poised in their relationship with each other, particular strands of association indicate the precarious balance and ambiguity which obtains. Thus, forest spirits can be malign but can also lead a man to unexpected riches; the bush harbours dangers but is also a source of potency and regeneration – secret society initiations take place there; the forest is resisted in its threat to reclaim the space which has been cleared for an upland rice farm, but then welcomed when the farm is left subsequently to fallow. The upland farm itself is intermediary between town and bush, partaking of the forest and the human settlement. Finally, the spaces occupied by farm, forest or town are, through their transformations one into the other, subject to fluctuations of identity.

This ambiguity favours metaphorical play in the relationship between human settlement and forest and between men and women. In carving out forest space, men claim that they make farms for the women, which seems to denote the virgin forest as male, and the cultivable space as female. Yet the fact that some husbandless, female household heads themselves clear bush, while some low-status men cultivate in women's spaces, and that the relationships of some women to each other (e.g. senior and junior co-wives) become more like those

of men to women, render such clear associations untenable.

In their warrior mode, men *are* like the forest, while women as domestic sustainers of cleared farmland connote the human security of the village. But not all men and women assume such modes and it is precisely the metaphorical room for renegotiations of identity that the ambiguous, triangular opposition of forest, farm and town affords. It is these kinds of 'affordances' (see Ingold in Chapter 3) that human potentialities exploit. Thus, while the Dogon experience forest and village as ontologically part of each other, the one being the life force for the other's continuing existence, the Mende situation is neither straightforward nor hierarchical: Do humans or the forest control creativity? Do men in fact dominate women? These are matters to be negotiated.

What does come across as a fundamental distinction is that between abrupt, one-off acts of transformation (e.g. men's vigorous conversion of forest into women's farming space, or men's immediate disinterest in a farm after the harvest) and the gradual changes that characterize farm life and its slow reversion to bush, during which women harvest at different times as a result of intercropping. We have an image of male bursts of energy that open and close pathways in the environment, while female is the power that first sustains and then slowly seals off such pathways. But this is an archetypal image which informs cosmological understanding but does not prescribe social roles and actions, which, throughout, are defined through negotiating the meanings of cleared and uncleared spaces.

This picture of negotiable and creative uncertainty is, however, threatened by a recent shift from upland to swamp rice farming, and to cocoa and coffee cultivation and vegetable gardens. Women clear and cultivate swamp farms and gardens themselves unlike in the upland farms where men clear for women. Conversely, men alone own tree crops. Whether swamp or tree-crop cultivation, the plots are permanent, just as men's and women's tasks are sharply distinct and not complementary. Marital relations have also deteriorated. The environmental ambiguity associated with upland rice farming in forest spaces has given way to more predictable control of swamp and tree-crop farming but to greater uncertainty in gender relations. The metaphorical association of forest and farm with men and women has been reduced in the face of socio-agricultural changes which are becoming more common in other parts of Africa and Asia.

Echoing perhaps the western search for balanced ecosystems, academics commonly emphasize the wisdom of indigenous cosmologies which treat tree, plant, animal and human interactions as a single spiritual, moral and regenerative system. In their different ways,

the Dogon and Mende attitudes to their forests and bush sustain the view that such cosmologies are often well, if imperfectly, suited to traditional or pre-cash-cropping conditions.

Van den Breemer (Chapter 6) raises the question of how is it that a people's wise, conservationist understanding of their forests can nevertheless be abandoned in favour of growing new crops that will inevitably ruin them. The Aouan of the Ivory Coast fervently observed their earth goddess's prohibition on cultivating rice and the cola tree and keeping goats. No explanation is given, yet they appear to be logically consistent with other aspects of social life and with environmental preservation. Van den Breemer argues that, with an increasing population and more individualistic and permanent farming plots, rice cultivation is harmful long term to the forest, because it needs sunlight and therefore extensive clearing of forest, which under modern conditions has less chance of regrowth. The goat harms vegetation more than sheep, for it has sharper hooves, stronger and broader jaws and can climb to greater heights. An unintended consequence of the bans on rice and goats is that the ecological balance is more easily maintained.

This is reinforced by powerful beliefs insisting on separating the bush and village by a neutral zone and by a system of rest days when neither the forest nor village can be worked. The Aouan explicitly affirm that the bush, like social life, needs to be restored regularly if it is to fulfil its function of replenishing human needs and resources. In maintaining a separation between bush and village, the Aouan see themselves as conserving both themselves and their environment.

Their beliefs are similar to those of the Dogon, but traditionally lack the ambiguity of the Mende relationship between settlement and forest. A kind of ambiguity has been thrust upon them, for, recently, increasing conversion to Christianity and Islam, and government encouragement to plant rice in the forest, has obliged them to defy the divine prohibition. Eventually as former non-Aouan slaves and dependants began to do so, the Aouan finally followed suit, so eliminating the conservational effect of their cosmology.

The Aouan have not, then, completely abandoned their belief in the bans but have found practical reasons for ignoring them with regard to rice cultivation. But this exception may be enough to transform their environment radically. Meanwhile, the cosmology has sufficient sway in its present form to advance in effect a folk theory of environmental conservation, which may be a valuable asset to outside agricultural officers.

Schlee (Chapter 7) also illustrates environmental conservatism as

inherent in indigenous beliefs in and restrictions on the use of landscapes in describing the remote Gabbra camel herders and neighbouring peoples of the Kenyan/Ethiopian borderlands, but focuses on the fundamental ontology of their identification with the territory and mountains in their region. The Gabbra nomads make pilgrimages to a variety of holy sacrificial sites at times determined by solar and lunar cycles, culminating in great age-set transitions. Each Gabbra subgroup has its own holy site and follows a specific route to it, resulting in routes of different groups converging, diverging and cross-cutting each other, each journey being part of the sacred attachment to the destination. The routes are made up of distinctive landmarks that are given meaning by the Gabbra and figure in origin myths.

Thus, a group may re-enact its origins and formation on the route to its site. Groups do not claim exclusive rights over particular areas, either to the holy site itself or parts covered by the journey. The various groups recognize landscapes and the history that each represents from their own particular perspectives, acknowledging that, while for one group a mountain is the sacred endpoint of their journey, for another it is part of a chain that reaches its own endpoint.

These cross-cutting routes broadly follow a south-north direction towards the holy sites, each moving in a precise direction. Schlee calls this patterning in space one-dimensional: the various landmarks (points) on a route are connected to each other as if by lines. The holy sites he calls zero-dimensional. Together, these two types of spatial imagining constitute the Gabbra view of their landscape as a continuing personal history and ontology. What is of special significance is the absence of territorial boundaries.

Schlee notes that the Gabbra are perfectly aware of the pragmatic importance of boundaries in other respects and will defend them like any other people. But as pastoralists they appropriate space more like hunters and gatherers than agriculturalists and nation states. The latter divide land up into delimited surface areas, i.e. two-dimensionally. Pastoralists, however, move from one relevant feature of the landscape to another, turning and following an alternative route if necessary, depending on available pasture. Bounded areas would thus be incompatible with nomadism, which is not to suggest that nomads wander into pasturelands totally at will: they negotiate with others, based on the shared understanding of land as one- rather than two-dimensional. The pilgrimage routes can, therefore, be seen as reiterating information about the landscape and providing a distinctive Gabbra identity, which will also at times overlap with that of other pastoralist groups in the region. The holy sites are best viewed as

ontological reference points, to and from which lines are attached.

Schlee presents us with a complicated, fascinating ecocosmology that does not really fit any folk dichotomy: the distinction between holy sites as zero- and pilgrimage and pastoralist routes as one-dimensional, is hardly one expressed by the Gabbra themselves. And where, as in other parts of East Africa, farmers and pastoral nomads compete for diminishing land, both dimensions are evident, and the situation becomes even more complicated. In trying to order such apparent complexity, development projects often place, say, cattle pastoralists into demarcated group ranches similarly to organizing farmers into settlement schemes. But order for one agent is disorder to another. How much longer will the Gabbra pilgrimages, which are constitutive of their pastoral livelihoods, remain unaffected by such issues?

### OUTSIDE ADVICE AND INSIDE WISDOM

The threat to such ecocosmologies does seem, in all the cases in this volume, to derive from market and political pressures to grow cash crops, resettle, farm or herd in new, formally defined ways. However, so-called traditional ecocosmologies do not always harmoniously integrate persons with their environment. Perhaps such cosmologies satisfactorily explain to people disasters and misfortunes over which they have no control, such as incessant drought, floods, disease and war. Like witchcraft, they explain the problem as aberrant but specific, so making it manageably credible, and allowing personal adjustment to change.

Such 'self-mystification' needs no special commendation and clearly can divert people from confronting recurring dangers, but like productive *bricolage*, it is a sometimes successful coping strategy whose rationale is not always understood when changes are proposed from outside. The experimental nature of such strategy blurs set differences, contrasting starkly with the firm distinctions often made by outside specialists between 'traditional' and 'modern' farming, herding and land and forest use.

A distorting feature of any applied dichotomy of this kind is that it is already hierarchical, the external view tending towards the status of an absolute, scientific truth, and the local one having provisional and relative standing, sometimes approved but more often denounced. When a people no longer believes in its indigenous ecocosmology (if an alternative is rhetorically substituted by a higher authority), they may lose their experimental adaptability. It may be dismissed as mere

trial-and-error and as inferior to so-called scientifically based prescriptions.

Drijver (Chapter 8) shows how a series of 'lessons' can be learned through analysing development projects which have failed and succeeded. As with anthropological typology-making, the number of lessons can increase indefinitely as more and more projects are examined. Alternatively, if the lessons are seen as having both a local significance drawn from a particular case and as only possibly relevant to other cases, then they avoid the danger of becoming posited as universally significant. The fact that it is necessary to read all the cases Drijver presents to appreciate the findings of any single one, makes generalization beyond them especially difficult.

For instance, Drijver convincingly shows that a development or conservation project is more likely to succeed provided the local people are both consulted and take central decisions in its implementation, a participatory approach that can lead to unexpected changes in the original aims and interests. He includes an Indian project which was particularly successful after sufficient reallocation of land had been made among all households and each had a share of irrigable land and so, thereafter, co-operated in making the irrigation system work.

What might have happened in a community with sharp, entrenched divisions between large and small landowners? Would the former agree to reallocation? Under a political regime favourable to them, it is unlikely. Are not Drijver's lessons applicable only within relatively egalitarian societies, as his four cases suggest, and is his approach not in fact a kind of useful though limited form of social (rather than environmental) possibilism? The chapter is additionally interesting for raising this question of the ultimate power interests at work in the distribution of environmental changes and directions.

While the division between rich and poor landowners, or stock owners, is an obvious example of such unequal participation and decision-making, there still remains that between a community and an outside agent, who does not modify his specialist knowledge by incorporating local ideas.

Participation has to be seen in the light of power differences which include some members of a society but exclude others lacking influence. Pottier and Nkundabashaka (Chapter 9) describe how farming extension workers in Rwanda encourage mono-cropping and the use of fertilizer and scorn the traditional self-fertilizing system of intercropping. A housing estate in Butare town accommodates salaried workers who, identifying with the educated extension workers and

their appeal to modern, scientific methods, grow the recommended crops in neat, straight lines and use chemical fertilizers and pesticides. They do not plant either bananas or sorghum which the extension workers regard as unproductive, taking too long to grow. In a different part of town, traditional intercropping occurs constantly resulting in humus-rich soil. Bananas and sorghum are grown, the former sometimes alone and sometimes providing shade for other crops. Weeds interspersed with sorghum, and using only the flat, top soil, allows the land effectively to fallow. Farmers experiment with the numerous possibilities of shade and sunlight that such intercropping affords, discovering and developing, for instance, different bean strains. The long-term productivity and soil quality exceeds that of the modern plots, but does not meet the rule-based requirements of the extension workers. Folk wisdom challenges their textbook knowledge.

Cosmology here once again enters into the thinking of farmers and extension workers. The banana grove, central in the organization of traditional intercropping, nevertheless is a dark area associated with buried ancestors who, if angered, are feared for the madness they may induce in people. It is both male and female and so, like a persistent religious cult, called Ryangombe, which also merges male and female, threatens notions of fixed structure and hierarchy. Extension workers distrust it and sense its decentring and destabilizing connotations, just as they and government distrust the Ryangombe cult. Their cosmological unease with the banana grove supports or perhaps is supported by their agricultural definition of the banana as a plant to be rejected.

The authors point out the problem of how the extension workers might listen to and learn from the traditional farmers, the most important of whom are women, about their agricultural knowledge and techniques. Dialogue is not helped by the fact that the Ryangombe cult is a vehicle more of protest than debate, as the farmers' co-operative has also become.

However, women have been given equality in these spheres. Given that most traditional farmers are women, then it may be through women's partial control over the co-operative that men, including the extension workers, will have to listen to women. As the main authors of intercropping in and around banana groves, women are associated with its fertility.

A main problem of both the co-operative and the radical, anti-establishment Ryangombe cult is that members tend to want to replace old ideas and practices wholesale with new ones, rather than gradually changing. However, in representing the fertility and environ-

mental creativity that comes from intercropping, women may be able to advocate a gentle mix of old and modern methods and an environmental approach which encourages flexibility and negotiability (as among the Mende). Such women will then have transcended the absolutist stance of the extension workers.

Drinkwater (Chapter 10) discusses programmatic and inflexible government land-use policy with reference to cattle herding in Zimbabwe. His analysis seeks to provoke outside range-management specialists into understanding the cattle herders' own viewpoint, but does not claim that it is always superior. Indeed, more unanswered questions are raised than the case began with, which he sees as opening up interpretive possibilities rather than solutions.

The Zimbabwe government has always rigidly adopted the same policy of restricting the number of cattle to the carrying capacity of the land, through rotational grazing between permanent paddocks. The environment is here envisaged as existing in a fixed, external relationship to humans and cattle. Drinkwater observes that farmers use a number of herding strategies which vary according to the time of year, and the availability of different forage and of labour. He actually favours the 'opportunistic' strategy employed by herders who reduce or increase their herds, and even the size of their beasts, depending on available grass or other nutrition rather than the 'conservative' government strategy based on fixed notions of the land's carrying capacity. This is again an appeal to recognize the variability of practice, skill and opportunity in indigenous farming management as against the fixed textbook assumptions.

The inevitable protest from outside advisers is that allowing unrestricted grazing will lead, and has led, to overgrazing and soil erosion. This is said to be especially so in societies where cattle numbers are a status index and increased as much as possible regardless of consequences, along with a general rise in the human population.

Drinkwater does not ask whether there really are such societies which apparently engage 'irrationally' in the destruction of the habitat on which they depend, or whether they do so in ignorance, or whether their documentation is a myth to support outside agents' dominant theoretical premisses. It does appear in the Zimbabwe case, that farmers are extremely sensitive to the fragile relationship between man, beast and pasture availability and try to manage the sizes of their herds accordingly.

He seeks to question the official assumptions about the savannah land in which much grazing occurs, and supports the views of some ecologists that this form of tropical vegetation actually has a much

broader cycle of environmental decline and regeneration than is commonly supposed. What sometimes appears as degradation of land through overgrazing may in fact be the lower end of the cycle, at which point cattle are withdrawn to other areas, allowing subsequent regrowth of pasture.

Folk wisdom may well be right in most such cases, but it is alarming that in other African regions, e.g. the Sahara and Sahel fringes, not even local expertise has been of help in cattle devastation. However, Drinkwater is not arguing for the inevitable supremacy and correctness of indigenous approaches to communal cattle-keeping. Rather, he seeks to convince advisers that local herders have a flexible and adaptable knowledge of their circumstances and see gains as pre-supposing risks and tactics. He advocates a forum in which outsiders' and farmers' theories are jointly evaluated rather than ranked.

Like Drijver, Drinkwater is clearly uninterested in the people's cosmology, or in the dilemmas of belief, desire and practice reported elsewhere. Is there no equivalent to the Rwandan extension workers' distrust of the banana grove because of the ancestral wrath and dangers that it harbours? Is the Zimbabwean official view so devoid of such allegorical judgement, which notions of pure reason cannot capture? It may of course be that the Zimbabweans described are themselves this pragmatic, though other ethnographies might suggest otherwise (e.g. Schoffeleers 1979).

However, we are challenged in Drijver's and Drinkwater's chapters on how to justify such excursions into conceptual otherness. The justification is surely that what westerners call economic efficiency and environmental preservation omits consideration (often deliberately) of the extent to which peoples identify personally with their habitat and with its produce. In Zimbabwe where cattle have been central in the use of bridewealth to make family alliances, and spirit mediums have figured prominently in the recent organization of national politics and armed struggle (Lan 1985), the identification with the land and its produce is crucial.

The Mentawai of Siberut island in Indonesia described by Persoon (Chapter 11) express their identification with their forest environment through their belief that all things have souls, even immaterial concepts. There must be complete harmony between them and any disharmony is repaired through ritual prescriptions and taboos. As among the Aouan, there is a system of rest days to allow regeneration of the forest. The Mentawai traditionally grow fruit trees in a small forest area which has been cleared but allowed to redevelop around the fruit trees, which are themselves nourished by

the humus of felled vegetation left to decompose rather than be burned.

The sago tree partakes of this inseparable identification of human and forest. It is never cultivated but is sufficiently abundant in the wild that it may be sought out for sago flour when wanted. To process one tree takes about a month but provides a household with food for about 4 months. The Mentawai most nearly approach Sahlins' description of affluent foragers (1974: 1-39), able to eat well, with sago as their reliable staple, and able to satisfy the need for a range of food and other products directly from their habitat. The sago also plays a central role in brideprice, other exchanges and the payment of fines.

Why then are the Mentawai being obliged by the Indonesian central government to switch to producing rice? An overarching reason is that rice is regarded generally in Indonesia as a socially more acceptable and dignified food, more befitting a civilized people. As a so-called tribal people who have had minimal contact with central Indonesian values until recently, the Mentawai are thus urged to join the mainstream of Indonesian culture.

Persoon shows that in all respects rice is more damaging to this particular environment, for similar reasons to the Aouan case. Although rice intrinsically is more nutritional than sago, the latter is always supplemented with vegetables, fish, etc., whereas rice is eaten as a main food without such supplements. Again, women cultivate rice, resulting in an increased workload. Men assume ownership of the trees producing copra, cloves and coffee planted in and alongside the permanent rice fields.

A subsidiary reason for the shift from sago to rice is the central government's reluctance to condone a form of subsistence which does not involve constantly intensive labour. A common criticism is that sago is a 'lazy man's food'. Thus governmental discourse also includes a moral evaluation of the Mentawai people. This evaluation reflects the view, associated with western thinking, that the environment is a protagonist to be attacked, tamed and worked upon, a colonial view of the environment, in which a material non-human other is exploited by centred and expansionary humans. This view may well become more prevalent in Africa and Asia, as central governments ruling over large polities, comprising many, often small and culturally heterogeneous peoples, attempt to standardize not only forms of education, language, and administration, but also what and how people should farm and eat, setting peoples apart from and polarizing their relationship with their environment.

## CATEGORIES OF MISUNDERSTANDING

We are here back to the 'western' idea of environment not as ontologically part of a people who give and draw sustenance from it, but as resting on the distinction between dominating and subordinating agents: with humans sometimes exploiting it, sometimes being controlled by it, or humans exploiting each other by means of available resources. This language of predation and exploitation is only one variant of the many possible cultural understandings of peoples' relationship to their environment. It still guides much thinking in development and aid projects, although often less explicitly than previously.

The appeal of such rigid distinctions separating, for instance, an environment from the human agents working on it is both their simplicity and their facility for privileging one view over another as its determinant (as in the so-called environmentalist and possibilist approaches already discussed).

We have tried to show that, in starting from peoples' own dichotomies, a highly varied picture emerges of the relationship of humans to their habitats. Distinctions may be set up by outside agents, but are sometimes established by peoples themselves. These have to be understood in relationship to each other as working, even competing, models for coping. Outside agents, as already noted, have a rhetorical advantage. Alternatively, just as their definitions of phenomena can, if they wish, have an open-ended semantic quality, being subject to adjustments of meaning in the light of practical experience, so this same quality may apply to the categories of understanding held by peoples themselves.

However, there is one distinction which can broadly be applied to all cases, namely that between human and non-human agents. Our main point is that this distinction subsumes that between people and their environment.

Thus, so-called natural hazards, or 'acts of God', are ascribed a self-determinate capacity which may conflict with that of humans themselves. Even when natural hazards are given different identities and blamed, say, as the evil work of spirits, or when human ineffectiveness is explained as being the punishment for sins, the notion of conflicting human and non-human agencies still holds. The conflicts commonly arise from misunderstandings.

Shaw (Chapter 12) shows how the very idea of what constitutes a flood in Bangladesh, and what part it plays as an agent in human affairs, varies not only according to its severity but also according to the social status of whoever assesses it. For the rich living on high land

in elevated houses, floods can be a resource which enriches large areas of low-lying cultivable land. For poor and land-hungry people living at lower levels, the same floods are disastrous, for they may eventually be required to abandon their dwellings and forsake their property.

In such cases gender differences may become critical. Bengali Muslim women are either supposed to remain indoors or remain in purdah. Purdah, a notion of closed-in personal privacy and propriety, may be lost if, as Shaw's cases suggest, families are obliged to flee from the floods to camps with minimal washing and sleeping facilities and almost no privacy. The belief is that a woman's loss of purdah makes families vulnerable to evil and noxious spirits which emanate from the floods. Women and children may become sick in the conditions of the camp. For such families the flood is not just an ecological hazard, but a moral hazard, for, through no fault of their own, their womenfolk have lost the moral and spiritual protection afforded by purdah. For women, too, their vulnerability becomes evident earlier than for men, though both are equally affected in the end.

One of the most amazing cases of admitted environmental misunderstanding by the government is documented for the former Soviet Union in Chapter 13 (Krupnik) and Chapter 14 (Vitebsky). The policy of *perestroika* (reconstruction) affects even the reindeer herders of the Soviet North. For decades their nomadic livelihood has been officially discouraged and threatened by the priority given to industrial development and oil and gas pipelines in their pasture lands. This policy is now being reversed as the government recognizes the ecological devastation of the Soviet North and reassesses the right of its citizens to determine much more their relationship to the state.

For the reindeer herders, cultural self-determination is an open issue and it is too early to say how full any return to nomadic pastoralism might be. But such issues are inseparably tied up with the area's ecological future: efforts to restore the ecological balance can only be successful if the northern peoples choose their own mix of traditional and modern modes of livelihood. This does not by itself ensure ecological harmony but is a *sine qua non* in any attempt to secure it. We are in effect witnessing the emergence of a judgement by the Soviet Union that peoples, their cultures, systems of subsistence and their habitats are part and parcel of each other and not to be distinguished separately as independently manipulable.

Previously the central government had imposed a kind of 'production nomadism' on the Even people, in place of their traditionally more holistic, self-managed nomadism. It envisaged nomads as factory workers, with the men out at work with the herds, and their

wives and children back 'home' in concentrated villages, with the women urged to produce goods for export unrelated to reindeer ecology (such as fur from raising arctic foxes). Apart from the fact that reindeer herding necessitated men's long absence from their families in the villages, the analogy with the factory completely misunderstood the family-based nature of traditional herding, in which all members had important and complementary productive roles to play. Further, the specially established villages became the new centres of Even activity, where schools, clinics, government offices and stores took on self-professed significance, while the herders became marginalized, literally living on the ecological periphery.

This contrast between centre and periphery inevitably degrades the outer landscape, which now became for government a material resource for exploitation rather than the Even traditional social map of movements, migrations, kinship and clanship.

What are the implications now for the Eveny in a future post-socialist society? Is there a parallel, Vitebsky asks, between this condition and the fact that the Eveny, like other native Siberian peoples, are also a post-shamanistic society? When they had a fully shamanic system, they could at least aspire to self-determination within its terms, adapting interpretations to acceptable versions of reality as is characteristic of shamanism. Thus, while the current push for decentralization seems to offer the Even once again the possibilities of self-determination, what form can this realistically take in the modern technological world which they have come to inhabit? Will they, in fact, return to shamanism as a self-managed and balanced means of reading the landscape? Or will they and others move in the direction they have been going: continuing to act as factory producers and at the same time reifying their culture and presenting it as if in a museum.

The imposition of such sharp distinctions as that between home and factory, itself reflecting that between domestic culture and exploitable environment, thus dislocates holistic social and productive systems. Yet, the offer to reverse this may also provide problems which have yet to be identified, let alone solved.

## WORKING DEVELOPMENT

Within the field of development we commonly deploy hard distinctions between culture and the environment, and between these and human agents wishing to define and work the environment. Just as the meanings and messages attributed to the concept of development have become so polysemic, so there is no single set of understandings of,

distinctions in or relations between culture and the environment which are characteristic of or unique to development. The concept of development particularly defined and applied to time and place is relevant here as a major statement about the environment and as a transformatory practice in the environment in most African, Asian and Latin American societies. Moreover, the development plan and project are also powerful in creating new performance contexts in which distinctions, say, between bush and farm, cleared and uncleared and cultivated or uncultivated, or the wild and tame, are managed and their interrelationships subsequently played out.

In relating cultural understandings of the environment to development, it might be useful to apply the notions of space, spatial metaphors and mapping or maps of meaning already mentioned. Thus we may think of development itself as a form of self-conscious or planned construction, mapping or charting both landscapes and mindscapes, and so incorporate both perceptions and representations of culture and environment. In this respect, much as Foucault (1972a; 1972b) conceived of architecture as constructed space, so development strategies, plans and projects might be thought of as spaces constructed through associated power and knowledge. Here, development establishes a very particular relationship between person and environment and between human agents for a specific purpose and with a distinctive practice. The specific objectives are thus applied within spaces bounded by this intentionality, will or agency, all notions which are inherent in the concept of development and the messages of development specialists. By this means the strategy, plan or project is marked out as a bounded space imbued with new meaning, language and intervention, so that human perceptions, beliefs and expectations of the environment may be endowed with acquired significance.

Within such spaces, the environment has often been isolated and observed by development specialists who bring their own distinctions, categorizations and knowledge to bear on it much as in another context the body has been subject to the clinical gaze. Indeed, the development gaze might be said to have its own history of negotiations between person and environment and between human agents, their distinctions and categorizations and in thus constructing its own environment, might be usefully divided into three general phases. Its history records a struggle between human and non-human agents over the extent to which each is thought of as separate and opposed, over how much status is given to other people's knowledge, and how much the environment is made exterior to the person.

In the first phase, possibly entitled colonial domination, the

environment is separated out from human agents and perceived as an exterior non-human habitat subject to appropriation, domination, attack, conquest and domestication. Although the environment also may be perceived as having agency of its own or limiting and providing constraints on human agency, it is still to be dominated and tamed in the interests of human agents differentiated and selectively defined. The material non-human other is subjugated by specialist, imposed outside distinctions and categories disregarding local distinctions and categories and in the interests of order, rationality, standardization and certainty. Their inventory of land use, for instance, marks the appropriation of spaces primarily in the interests of resource availability and extraction in a language of predation and exploitation in the service of selected others, usually of outsider and specialist.

In a second phase, a higher status has been accorded to the conceptual otherness of local populations and to the interactive relationship between person and environment in the interests of improving and replenishing the latter. The wisdom of indigenous cosmologies might be recognized, but in the guise of outside advice backed by funding, technology, mechanization and the market, the distinctions and categories of the outside development specialist remain privileged *vis-à-vis* local distinctions and categories. These continue to be subordinated despite being privileged in rhetoric, just as local populations may remain subjugated – supposedly in their own interests as perceived and defined by development specialists.

In yet a third phase, that of complementary and constructed integration, the practical management of the environment rests not just on the integration of distinctions and categories of specialist and local population, but on the recognition of the idea of the environment as ontologically part of a people who give and draw sustenance from it. In such a holistic view neither person nor environment is privileged in the mutual envelopment. Human and non-human agents are inscribed in each other in that people identify with their surroundings in particular ways, are constituted by them and explain disorders or successes in terms of their proper mutual ordering. As Ingold (Chapter 3) says: if enfolded within the persons are the histories of their environmental relations, so enfolded within their environment are the histories of activities of persons. Thus people's own dichotomies and their respect for the attributes and capacities of their own environment at least have parity in status with those of the outside development specialist and may even become the starting point for any plan, project and analyses.

If the development gaze, then, sets up statements about the construction of and competition between human and non-human agents, and the environment and human perceptions of the environment, then the plan, project and strategy can be thought of as a performance in which those statements in all their distinctions, relationships and understandings are played out. Indeed it might be said that it is the event and action of the performance which specifically constitute the transformatory practices both of the environment and of the participants themselves. The performances or transformatory practices vary according to the degree to which the development specialists impose the design without the participation of the local population and write the script for or with their co-operation and according to the general status of the local population.

The naming or identification of actors or agents who undertake the transformations is important for they are the architects of construction. In turn, the conferment of authority on both the development specialist and the local agent requires the acquisition of certain attributes and capacities. The international or national development specialist requires a training in performance design and direction. For the local populations the performance involves the learning of new lines and cues often based on scripts or codes incorporating outside knowledge, naming and categorizations which equip, enable and enhance the performance. The performance itself may vary and can be categorized according to the degree to which lines and cues are based on outside knowledge and the degree of respect for and incorporation of indigenous knowledge in the script. The responsibility of the directors and producers for writing the script and allocating roles, attributes and capacities to the local actors and the degree of their participation has become an increasingly important criterion in evaluating the performance. Performances, then, come to vary according to the degree of privilege, intervention and empowerment directed from outside or placed at the disposal of the actors to write their own script. Within the constructed space, then, a particular performance has a script, structure and a design which is subject to evaluation, surveillance and reflexivity by the directors, the participants and the audience.

Just as development practice may be conceived of as a series of performances placed on a continuum according to participation of local actors in the transformatory design and practice, so the environment might be said continually to incorporate or be inscribed in the history or memory of past performances. Within development, then, it may be useful to think of the constructed space as both a discourse and

transformatory practice bringing together cultural understandings of the environment with the recognition that, above all, the process of negotiation involves a hierarchy of power of things over people, of people over people and some people over things. Thus, control and therefore power is central to discussions of the environment and its relations to culture and human endeavour including development.

The development performance is primarily designed and has the capacity for transforming the environment in the interests of the utilization of resources, increasing productivity and for producing order out of disorder, chaos and wilderness through cultivation, harnessing, extraction or improvement. In the course of this transformation, cultivation practices on existing lands are improved, facilities and services expanded and new environmental spaces tapped through clearing, irrigation and forestation. To continue the theatrical metaphor, the performance is also enabled and enhanced by the provision of certain props including technologies and tools, credit, seeds, fertilizer and pasture improvement for technical intervention and empowerment as means to order, harmony and productivity. The question is: who maps out the spaces and decides the order, intervention and productive pursuits, and in whose interests is the environment separated out and dominated, tapped, exploited or otherwise acted upon?

### IMPLICATE ORDER

Such holistic environmentalism, carried to its logical conclusion, privileges neither the humans nor the environment in which they live. Indeed, all are the environment, a redefinition which contradicts the term's basic sense of things surrounding other things. Elsewhere Ingold (1990) has suggested the use of Bohm's (1980) notion of implicate order to convey this mutual envelopment.

Whatever we call it, this holistic view of people and their environment carries the idea of at most only provisional centres. At one moment it is the herders or farmers who strategically fit their cattle or crops into temporarily favourable niches, at another time so-called natural hazards such as floods, perhaps characterized as the work of spirits as in Bangladesh, or benign and well-timed rains (the fruits of the rainmaker's efforts) occupy central place in the course of events. But even more than provisional centres is the notion that human and non-human agents are constantly changing places in the drama, now dominant and vociferous and now silent and defensive, and as likely to engage in misunderstandings as remain in harmony.

This ecological drama is both a metaphor of and for competing environmental theories. The invariably vociferous proponents of western-style environmental projects are sometimes, though still rarely, silenced by those expounding the lay views of subject peoples. Sometimes the dramatis personae are representatives of agencies and peoples, but sometimes they speak for themselves.

The question of representation and representativeness reminds us of the inevitable play of power and control that underlies the competition to define how a people and their habitat, how human and non-human agents, should be inscribed in each other.

Holism has, in social anthropology, been associated with structural-functionalism and with a conservative disregard for the movement of interests and power. Yet, it is clear from this discussion and from the chapters in this volume, that in its ecological sense used here, holism comprises a constant struggle between human and non-human agents, and between humans themselves when they wish to define and manage the 'whole'. For it is precisely over trying to define what are the boundaries of an environment, and what is acceptable environmental behaviour and what is not, that specialists and lay people alike argue, among themselves and with each other. We are then dealing with a holism whose boundaries are, to emphasize a dominant theme in the book, always being contested and negotiated.

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