PBL Netherlands Environmental
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NATURE IN MODERN SOCIETY NOW AND IN THE FUTURE

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Hans Mommaas, Bruno Latour, Roger Scruton, Wilhelm Schmid, Annemarie Mol, Matthijs Schouten, Ed Dammers, Marian Slob and Hanneke Muilwijk

Nature in Modern Society –
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The Interwovenness of Nature and Culture

Hans Mommaas, Ed Dammers and Hanneke Muilwijk

People and nature are related in many ways

Nature is omnipresent in everything we do.[1] Our daily lives are full of activities that provide us with a variety of experiences of nature, or more precisely: the rest of nature. Holidaymakers hiking in the mountains may experience the beauty, challenges and grandeur of nature. Farmers working the land and earning a living off it incorporate and experience nature as a production factor. Restaurant owners and their guests make use of what nature has to offer in the way of the food and wines that are served.
To researchers, nature can be a source of inspiration for developing new products (biomimicry), or studying the vast biosphere, the global ecological system of all life forms and their relationships. Car drivers may be aware of the fact that their vehicle consists of components made of all kinds of natural resources, such as iron, oil, and silicon. Inhabitants may include aspects of the landscape that surrounds them in a shared sense of home, even naming elements of it in regional anthems. And of course, people need to be nourished, with all kinds of food produce, in one way or another extracted from natural resources, from close by to faraway places.

On the basis of these and numerous other activities, people routinely develop different types of interactions with and notions of our natural environment, while valuing nature in a variety of ways. For example, nature is valued for its wildness or remoteness, for its generic beauty, as a life-enabling ecosystem or for its utilities.

In general, most people do not experience any major problems or inconsistencies with respect to the plurality of their everyday interactions with nature. On a political level, however, these interactions are defined in a more one-dimensional and even ideological way. For instance, farmers throughout Europe interact with nature in more diverse ways than currently are represented by larger farmers' organisations at national and European levels. As a result, interactions between people and nature on these levels often come into conflict with each other and with the plurality of interactions on local levels.

Variety of experiences with the rest of nature: the beauty of orchids growing on a mountain side, the sense of a cultural landscape, the connection with nature through regional cuisine, nature as a production factor in agriculture, and nature as a source of inspiration for new products. Photos: Hollandse Hoogte, Hollandse Hoogte, Hollandse Hoogte, Ed Dammers, and Hollandse Hoogte

In Europe, environmental policies, including those on nature, have achieved some important successes over the last decades. In many regions, air, soil and water pollution has been significantly reduced. Nature areas have been protected and nature networks extended. And the numbers of species and habitats of secure or improved conservation status have increased, albeit only slightly.[2] At the same time, however, nature policies still face serious challenges. The diversity of species and habitats continues to be under pressure. There are problems regarding the implementation of nature policies. Furthermore, it appears to be difficult to integrate nature-related interests with other interests, such as agricultural production, recreation and tourism, renewable energy production, and urbanisation.[3]

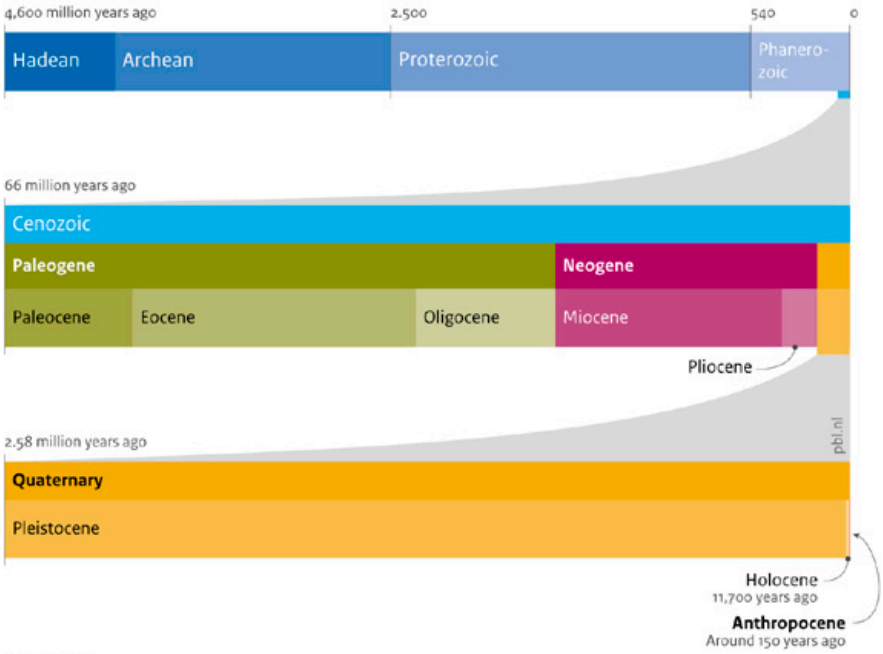
The challenges are related to the increasing possibility of conflicts arising between the various ways in which nature is being used, caused by the expansion of human activities within a natural environment. The challenges also correlate to one-sided or instrumental ways of developing and implementing nature policies. They are often based on sound ecological-scientific and regulatory arguments, but the involvement of public debate or stakeholders, in practice, is only limited.[4] This reduces the level of local ownership and triggers resistance among local citizens, farmers, businessmen and others against nature conservation and the development of 'new nature'. Others emphasise the beauty of cultural landscapes, the relevance of agricultural production or the importance of the regional economy. At the same time, many people are highly committed to nature conservation. Almost one third of EU citizens feel that they are making a personal effort to protect nature, and more than half of them would like to do more.[5]

In response to this, many national and regional authorities have resorted to more participatory and integrated forms of policy-making. These forms of policy-making are often combined with regional instead of sector-based approaches, focusing on the regional level and merging nature conservation and development with the facilitation of other forms of land use.[6] These new and more comprehensive approaches aim to combine nature-related interests more effectively with other interests and to help nature policies to gain responsiveness, legitimacy and effectiveness.

Although policymakers strive for a greater public participation, this has proven difficult to realise, in practice.[6] There is still a gap between the envisaged participation and actual policy implementation. Participation, often, is characterised more by bargaining than by deliberating, making it difficult to find new solutions that do justice to all relevant interests. The results of these processes are often ambiguous, weakening ecological goals quantitatively (number of hectares) as well as qualitatively (lighter shades of green).

The generalised science-based approach on which European nature policies to a large extent relies, causes friction with the local experience-based valuations of landscape, culture and the economy by local stakeholders. Besides, in the context of the unfolding 'knowledge democracy', traditional authorities in the realms of policy-making, science

Figure 1
Geological time scales and the anthropocene



Source: PBL

A new era in the earth's history: the Anthropocene.

and the media lose their self-evidence.[7] Within this context, allowing a greater variety in notions of nature seems a wise thing to do. Doing more justice to the variety in notions may not only increase nature policies' 'license to operate', as this would cause people to award them greater legitimacy, but may also contribute to biological diversity, since nature policies thus would provide more room for regional diversity. Furthermore, people may become more motivated to care for nature and natural landscapes, which in turn would stimulate sustainable land use and enhance landscape quality. Although, from a nature conservation's point of view, it seems a little odd that people are deciding what nature is and what it may be, it is, however, in line with the recent acknowledgment that we live in the era of the Anthropocene.

Nature and Culture in the Anthropocene

The above examples of human–nature interactions illustrate how difficult it is to understand our natural environment separately from the cultural context in which it is experienced. Holidaymakers, farmers and car drivers all deal with nature on the basis

of their personal history and feelings. How we, as individuals or as groups, perceive and address nature is influenced by our background, language and heritage. Nature–culture relationships have been vividly illustrated by British historian Simon Schama, for the case of Polish people living in Białowieża, Europe's oldest forest.[8] In telling the history of this primeval forest, Schama explains how the people's understanding of the forest was closely intertwined with its cultural conception and political status. Kings and foresters alike identified themselves with the landscape over which they ruled and in which they laboured, and with the animals living there.

The story of Białowieża illustrates how 'nature' is a construct of human understanding, shaped by our practices and experiences. It is untenable to try to divide the world into 'culture' (the human domain) and 'nature' (the wild and pristine domain) which exists beyond human influence. Even in Europe's oldest and wildest forests, human lives have been intertwined with nature and its significance. Schama positions 'landscape' as the intermediating platform between 'culture' and 'nature'. People form and alter landscapes, and by doing so merge culture and nature into an undividable conglomerate. Perhaps the most powerful recognition of this is the recent proposition of the Anthropocene as a new era of earth's history, and the subsequent ongoing debate about what it means to be living in this era.[9]

Human interference with the earth's geological, hydrological, and ecological processes is now so omnipresent and profound that the Dutch Nobel Prize winner Paul Crutzen has suggested to recognise this interference by discerning a new era in the earth's history: the Anthropocene. In this new era, which was generated by the industrial revolution, human activities can be traced in all the biophysical systems of the earth. The new era follows the Holocene, the post-glacial era of the past 11,700 years.[10] Changes in climate, land use and biodiversity indicate how people today touch, more or less literally, every molecule and every natural system of our global environment. Crutzen and Schwägerl argue that '… the long-held barriers between nature and culture are breaking down. It's no longer us against nature. Instead it's we who decide what nature is and what it will be … In this new era, nature is us…'.[11] The human domain is everywhere, but nature is everywhere, as well. The extent of the human impact has fundamental implications for how to think about and include nature in our everyday activities.

Some people view the Anthropocene as a global threat or as the latest and final disaster, leading to 'the end of nature'.[12] According to this view, large-scale action would be needed to save what is left of nature. Other people think of the Anthropocene as the ultimate challenge for human ingenuity to keep our planet habitable. The debate on what the era means has by no means been settled, but, at the very least, it calls for a rethink about what kind of nature we would 'want'. Not as an outside realm, a reconstruction of some pristine or universal reality beyond human history, but as something that is interwoven with human history. In this new era, we humans have no choice but to choose and create our future, including the natural environment that goes with it.[13]

Dialogue held in Brussels on the futures of nature in Europe, organised by PBL Netherlands Environmental Assessment Agency and ECNC (European Centre for Nature Conservation), as part of the Nature Outlook. Photo: Ruben Jorksveld

Dialogue on the nature we want

Having a constructive and productive conversation about the type of nature we would 'want' is a difficult task, maybe even more so at the level of the European Union. If it is true that our understanding of what nature is, is shaped by our cultural background and the landscape we grew up in, we might not immediately understand each other.[14] Therefore, it is an important challenge to create dialogues in which these cultural patterns can be discussed, reflected upon and democratically renegotiated.[15]

Recognition of the cultural character of nature and tying the human and natural domains together also imply that the way we perceive nature is part of a larger cultural discourse, which is continuously changing. Today, we perceive nature differently compared to several decades ago. Different parts of society take different positions in the discourse, leading to discourse coalitions that may change over time.

In trying to make sense of the larger cultural discourse, the role of nature in it and the various coalitions that are formed around it, it is helpful to look at the undercurrent of ideas and connected concepts – ideas and concepts that structure societal debates without real justification or question.[16] Looking at the current discourse in the EU, examples of these undercurrents are 'stimulating jobs and growth', 'realising green growth' and 'guaranteeing a level playing field'. These are more than just buzz words; the way of thinking behind these concepts is steering the debate in self-evident ways. Through their structuring power in discussions, certain ways of thinking and certain possibilities are included, while others are excluded. Consequently, some scenarios for nature policy are 'thinkable', while other scenarios are not taken into consideration. The challenge is to disentangle the notions we have about nature, to create a situation in which 'the nature we really want' can be discussed.

Nature policies, from European to local levels, may benefit in various ways from considering nature and culture as inseparable, and from acknowledging the diversity of notions people have about nature, as a fundamental starting point. If we could break with the concept of nature as something that is 'out there', something that stands for the 'natural' in terms of the authentic, the pristine, and the reality beyond, we may create the possibility of a more 'involved' sort of dialogue, one which acknowledges

the serious character of all the participants.[17] Rather than mourn the end of nature as we know it, a lost nature, we might start to think about the kind of nature – and society – we would actually want, both now and in the future.

Following the same line of thought, it is important to understand how advocating a non-interference kind of nature implies a rather narrow concept of interference. As remarked above, nature is present in all human action, because human actions take place in nature, and themselves belong to nature.[18] Interference with nature can either be gentle and constructive or rough and destructive, but some form of interference is unavoidable in all human actions. Being aware of this is helpful to recognise the existing ways in which nature is being handled, to explore alternative ways to interact with nature in a gentler and more constructive manner, and to limit or avoid 'not so gentle' and 'destructive' interactions. In this exploration, it is important not to play down, but rather to accept and even foster the various notions of nature, based on the various practices and relationships with it.[19]

Here, scientific knowledge is important, because it provides good and reliable answers to many types of questions about nature that we would not be able to ask only on the basis of a purely practical engagement in our environment.[20] There is nothing wrong with using unified scientific knowledge for developing and implementing nature policies, but in doing so, it is also important to accept the relevance of local practical knowledge. Each type of knowledge needs to recognise the situation-related character of the other, together with its underlying values and truth claims. Recognising that there is no knowledge 'from nowhere' may even help to open a broader realm of possibilities for more inclusive strategies to which stakeholders feel more committed.

Purpose and structure of the book

The main purpose of the book is to inspire people who are, or may become, involved in nature policies or other efforts intended to benefit nature within Europe. With this in mind, the book reveals the changing relationships between nature and modern society, people's various notions of nature, the fundamental values that underlie these notions, how societal engagement in nature actions may be fostered, and which roles could be played by environmental policies, including those on nature.
The book may be of interest to people throughout Europe, who are involved in environmental policies, or in the domains related to nature, such as agriculture, tourism, water management, urbanisation, energy production and health care.

This book is based on the Philosophers' Dialogue on *Nature in Modern Society – Now and in the Future,* held on 11 November 2015, in Pakhuis De Zwijger in Amsterdam. The speakers presented their views on nature and society and discussed them with each other and with an international audience, among others consisting of policy staff responsible for nature conservation, people from nature and business organisations, and researchers.[20]

Philosophers' Dialogue – from left to right discussion leader Matthijs Schouten, Annemarie Mol, translator, Wilhelm Schmid, Roger Scruton, and Bruno Latour. Photo: In2Content

The organisation of the philosophers' dialogue and the publication of the book are part of the *Nature Outlook* study, conducted by PBL Netherlands Environmental Assessment Agency.

This outlook study offers a fresh look at European nature policy by exploring different future perspectives (normative scenarios) on nature in Europe, based on the different ways people perceive and value nature. Connecting to these different expectations and motivations may help to increase the engagement of citizens and businesses in nature conservation and development and to strengthen the relationships with other domains, such as agriculture, urbanisation and energy.

In the chapter on *Europe and the Politics of Nature,* Bruno Latour suggests not to defend nature but to attack it. Taking the grand narrative of modernisation and emancipation as a starting point, he challenges some fundamental concepts which still dominate our relationships with nature. These concepts also play important roles in environmental policies, including nature policies, from European to local levels. The concepts concern, for instance, the belief that there is one single nature that can only be known by science, and the belief that there is a distinction between nature and culture as well as between humans and things. Form his point of view, there is no basic structure of reality that could only be known by science. Instead, there is a large multiplicity of realities that are known in various types of knowledge. And nature should not be considered as a zone of reality that provides a background for other phenomena, such as culture. Instead nature and culture, like men and things, are highly interwoven.

If scientists and policymakers really want to deal with ecological crises, such as the decline in biodiversity, it is necessary to move from naturalism to multinaturalism. This move implies a return to politics, since multinaturalism acknowledges that there is a great variety in human–nature relationships, and that an appeal to nature no longer suffices to reach agreement. Instead, agreement must be composed. Latour concludes his chapter by stating that the governance of men and the governance of things have become more and more intertwined, and by raising the question of what might be the difference between good and bad governance of men and of things.

In *Whose Nature?,* Matthijs Schouten adopts the idea of multinaturalism and gives an indication of the variety in notions of nature ('views of nature') that can be distinguished. Views of nature consist of three dimensions that are highly interlinked: a cognitive, a normative and an expressive dimension. Nature can be *understood* either as a collective of creatures or as landscape, but also as health, earth or even as 'everything'. Nature can be *valued* as something that is there for us to be used and colonised, as something that is there to be used but not to be abused, as a collective of subjects with certain rights (such as animal rights), or as the world around us which is inseparable from us. And nature can be *felt* as something beautiful, for instance a cultural landscape, or as something sublime, for instance overwhelming wilderness.

Schouten emphasises that the concept of nature is complex. This is reflected in the multiplicity of views in the public debate on nature. The debate can be rather emotional as it is charged with aesthetic preferences and normative convictions. At the same time, the debate can also be quite confused as different cognitions of nature are at play. Therefore, Schouten suggests to pause for a moment, to carefully listen to the variety of views on nature, and to investigate which views may be helpful to engage citizens in the project of 'European nature'.

The subsequent two chapters represent two notions of nature that currently play a minor role in the policies on nature and the environment, but which could contribute significantly to the engagement of individuals, groups and organisations in actions that benefit nature.

In *Green Communities*, Roger Scruton presents a picture of what the interactions between people and nature would look like if they would not be interfered with by policies created elsewhere. People would form communities that live harmoniously with nature, creating a sustainable landscape that changes only slowly over time. For this picture, Scruton relies on two human traits. We are *attached* to other people and to places. This attachment makes us want to be *accountable* for the impact of our actions on the community and the landscape we live in. 'Oikophilia' is Scruton's term for the simultaneous experience of the beauty of the landscape and the attachment one feels to it. Oikophilia makes a community want to protect the surrounding landscape.

Disassociation from this 'natural', spontaneous oikophilia creates ecological problems. Such dissociation can take various forms, such as that of a multinational with no intrinsic ties to a certain landscape disrupting that landscape in its quest for profit, or EU institutions disturbing beneficial communal practices by 'blindly overruling' them, as happens by subsidising large-scale farming. According to Scruton, centralistic or neoliberal policies destroy nature, because they do not acknowledge attachment and accountability as motives that drive human behaviour. The EU should find ways to stimulate civil initiatives and remove regulations that stand in their way, and put pressure on governments to give voice to local communities in decisions that affect them. Moreover, the notion of beauty should have its proper place in all decisions that affect the relationship between people and their natural surroundings.

In his chapter on *Ecological Intelligence*, Wilhelm Schmid starts with the acknowledgement that ecological issues have never been as huge as they are in the Anthropocene. For him, this is a fact, but this fact does not give rise to a certain policy – facts in themselves never just transform into policies. A policy can only prove sustainable if its underlying reasoning is adopted by individuals and digested in their lifestyles. It is the 'ecological intelligence' of individuals and its ensuing prudence that one should hope for and rely on when developing and implementing environmental policies.

Schmid believes that, as soon as individuals truly realise the impacts of their actions on the planet, they will develop an ecological lifestyle. These individuals will exhibit sustainable behaviour in an everyday, practical way, and thus show they are more than merely the calculating subjects that economic science considers them to be. Like Scruton, Schmid thinks that this ecological awareness starts at home (oikos), where the experience of 'home' extends gradually from our home, to our neighbourhood, our city, and eventually to our planet, which we share with other living creatures. On the level of policy-making, ecological considerations may be reflected by setting prices that influence individual choices, if citizens call upon politicians to do so. For instance, policymakers may impose arrangements, such as energy taxation, by which both consumers and ecologically 'prudent' companies will win.

Annemarie Mol, in her chapter on *Natures in Tension,* notes that the word 'nature' has different connotations in different European languages. When developing and implementing nature policy, it should be kept in mind that there is not one 'nature'. Mol discerns two major ways to frame nature: nature primarily as an assembly of creatures or of processes. Regarding processes, one will see that nature has no boundaries. For instance, the food Europeans eat is often the product of global production chains. A chunk of Amazon forest burned down to cultivate soya which serves as fodder for the animals whose meat we eat. European policies should take the environmental effects of food production on other continents into account.

Mol pleads for a form of policymaking in which decisions are made late in the process and policymakers are informed through diverse 'intellectual repertoires'. In her view, economic repertoires dominate public discussions too much. More attention should be given to ecological, anthropological and other scientific repertoires and to those of farmers, walkers, eaters, poets and others. Policies should preferably be developed and implemented by 'tinkering care', for instance, by inviting stakeholders with different repertoires to participate in focused projects and to jointly work on innovations.

The final chapter presents the speakers' responses to each other as well as to the audience, and gives some indication of what these responses may imply for nature policies and nature-related policies in Europe. First, the chapter gives a brief overview of the speakers' views on human–nature relationships. Although their views differ in many respects, they agree that in the Anthropocene nature should be understood in a loose way. Furthermore, the concerns articulated by the speakers regarding nature and the

solutions they put forward are presented. These concerns and their solutions are related to the conflicts between economic and other interests, the organisation of policy in various sectors, the dominance of regulation and protection in nature policy, and the domination of scientific knowledge. Finally, the chapter gives some indication of how the suggested solutions could be put into practice. These indications are focused on the organisation of informal dialogues aimed at strengthening regional qualities, and on finding new roles for policy-making, using knowledge and including design. Although experience with this has already been gained, further experimenting and the exchange of experiences and enthusiasm between regions are recommended.

Each chapter is preceded by an intermezzo, written by Marjan Slob. Each intermezzo describes and visualises a special interaction between one or more European individuals and nature, thus illustrating a notion that plays an important role in the chapter that follows.

Notes

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18 Ibidem.
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22 Videos of brief interviews with the speakers can be found via: http://www.pbl.nl/node/62528.

‘Facilitating the Parliament of Things’

Facilitating the Parliament of Things is the mission of Partizan Publik, an Amsterdam-based initiative headed by historian Joost Janmaat (38) and communication expert Thijs Middeldorp (37).[1] This initiative could be considered as an example of good governance of men and of things, as mentioned by Bruno Latour in his essay.

According to Joost Janmaat and Thijs Middeldorp, Latour made his call for a Parliament of Things in 1991. ‘You might say we have accepted his challenge. We really wanted to organise such a parliament – a space where bacteria, squirrels, lakes, people and ferns come together to jointly make decisions. Our founding meeting took place in September 2015. Recently, we launched a writing contest. Its commission: write a short story or poem in which an Animal or a Thing states its interests for the Parliament of Things. We received almost 500 entries. The contest attracted a lot of media attention and brought us new allies. An architect and a theatre director have now joined us to puzzle over how to further design the Parliament. Is it a physical place, a website, a story, a dream? Is it a building, a ritual? That is what we hope to find out.

For us, the Parliament of Things is a way to escape the worries and fears around climate change. As we see it, reactions to climate change are either apocalyptic or all hope is set on some sort of technological fix. Our aim is to investigate and criticise the opposition between nature and culture underlying both reactions. Although our mode may be playful and merry, the outset is serious.

In cooperation with the theatre director, we are currently designing a ritual that will transform attendants into a mountain, a forest, a goldfish – you name it – and will enable them to speak by means of communication techniques provided by us. As you may appreciate, communication is rather an issue within the Parliament of Things! We don’t yet know what will happen. Maybe the North Sea will be making a case in Parliament against humans, and state that the interests of humans are far too dominant. Maybe the algae will react: “That does not bother us; we will survive no matter what humans do”. Whatever happens, we must judge the interests of the North Sea from a broader scope than that of economy, or even sustainability, alone. We should take the well-being of the North Sea itself into account. It will demand of us to see non-humans as autonomous actors with their own identities and their own value systems.

This is not as far-fetched as it may sound. If a company can be a legal “person”, why might a sea not be one as well? And nor is it without precedent. The Ecuadorian constitution acknowledges the rights of its rainforest as an ecosystem. Recently, a New Zealand river,

Representing non-human entities, such as trees and plastics, plays a key role in the Parliament of Things. Photo: Michiel Cotterink

the Whanganui, became a legal person. We have visited this river to learn more about this new way of relating with nature as an entity. This approach is not completely unknown in the West. Do you know the story about the US general who returned from the civil war? He was so happy and grateful to see the familiar tree before his house that he decided to set it free. He drafted an act in which he assigned the plot of land on which the tree stands to the tree itself. This tree has become known as *The Tree that Owns Itself*.

We fancy ourselves to be part of a longer emancipation history, in which blacks and women have become political entities. Granted, it is more difficult to see how animals and things could be entities. Perhaps we can work along the analogy using children as an example; children have personalities, interests and rights, but they cannot legally speak for themselves – therefore, we have set up a system of guardians. Maybe you could become the legal guardian of a particular animal or natural object. Of course, all sorts of problems are bound to appear: demarcation problems (can sub-species make a case for themselves?), weighing problems (does every voice count in the same manner?). You might even ask whether legalisation of natural things is the right and proper way to proceed. But questions like these are exactly the ones we find exciting.

For us, the *Parliament of Things* is a public space in which we communicate with non-humans on an equal basis. A parliament is a place where laws are designed; in that respect, it is a place of power. But it is also a house of communication, which centres more around ethics and spirituality. As yet, we do not know which aspect will eventually dominate, but we certainly hope to become smarter during our design of the whole process.'

Note

1 More information is available on the Parliament of Things website: blog.theparliamentofthings.org.

Europe and the Politics of Nature

Bruno Latour

The end of Nature

I am convinced that, if we wish to tackle the subjects of the dialogue and this book on Europe and Nature, instead of *defending* nature, we must now *attack it*, in all senses of that word! In the grand narrative of emancipation and modernisation – to refer to Koyré's excellent book – infinite universe is obviously nature, whose secrets were finally laid out before the eyes of humans, as they gradually wrested themselves from the limits of their finite and archaic cosmoses.[1] With the further advantage that, the more nature extended itself, the broader the *agreement* among humans would grow. 'Oh!' they all exclaim, 'if we were finally capable of substituting for the vagaries of subjectivity, for the diversity of religious affiliations, for ideologies, for passions, for the brouhaha of politics, the universality of the laws of nature, we would also be capable of assuring a stable foundation to life in common. We would all be rational, united, in agreement. Politics would finally be founded on reason.' So thinks a Modernizer. Even if he's well aware that it's difficult, even if it has to take centuries, he believes (it's most assuredly a 'he' and not a 'she') that it is always possible for us to take up residence in the primary qualities, abandoning in passing the old building of the secondary qualities. Such is the cry of those who believe they are in a universe: *Let us naturalise ourselves!*[2]

It seems to me that we all, in Europe, feel the terror of witnessing *the end of nature.* To begin with, it is possible that nature does not extend everywhere, and by that I mean the notion of Nature, which I shall henceforth indicate with a capital letter. I very much enjoy telling students this marvellous anecdote from Claude Lévi-Strauss.[3] You've surely heard of the Controversy of Valladolid in 1550, which pitted Las Casas (1474–1566), defender of the Indians, against Juan Ginès de Sépulveda (1490–1573), defender of religious orthodoxy, on the question of whether the newly discovered Indians possessed a soul that could be saved by baptism. But do you know that on the opposite coast, near Pernambuco or Costa Rica, at exactly the same time, the Indians were trying to find out whether the Spaniards – whom, to their misfortune, they had just discovered – had *bodies?* Yes, bodies. And do you know how they went about deciding? They immersed

the conquistador prisoners in a large pond to see if, once they had drowned, they decayed or not. If they decayed, there was no doubt, it was because they had bodies. For them, the question of having a soul did not arise: all beings in the world have a soul, and a soul in human form. That was in a sense their default position, whether they were dealing with a toucan, a tapir, a jaguar, a palm tree, or a clan. What differentiates these beings is therefore not the soul but the body, which offers each of them a different *perspective* – hence the word 'perspectivism' to describe that position. That view appears odd to Westerners only because we have chosen a different default position: we all have bodies – toucan, tapir, human, or palm tree – but only some of these beings, namely, humans, possess souls. Not without irony, Lévi-Strauss points out that, all things considered, the Indians were more scientific than the Portuguese clerics, since they took their method not only from the resources of scriptural argument but also from the natural sciences.

You can already see that it would be a big mistake to think that nature is a universal schema (along the way, you'll free yourself from the cliché of Amazon Indians supposedly being 'close to nature'; not at all, they were totally ignorant of the notion of nature itself!). As Philippe Descola shows, it is rather *naturalism* that, from the anthropologist's point of view, is an oddity, a rarity.[4] True, it has recently spread over the entire planet, but precisely through the intermediary of modernisation, through the *idea*, or better, the *institutions* of modernisation. Nature (as opposed to culture or thought or values) is not, as we might believe in hearing those who want to 'defend' or 'protect' it, a zone of reality. It is rather a certain manner – dating to a particular historical period, somewhere between the sixteenth and seventeenth centuries, but a manner that was truly realised in the nineteenth century – of *linking together* a whole series of properties of *multiple beings* by assuring them a *supplementary continuity* that is often useful and sometimes superfluous. Nature is somewhat like the *res extensa*: it is a thought, a schema, an imaginary, and also, as we shall see, a *politics* of extension and expansion.

We would need a term that would make the two experiments or controversies – that of Valladolid and that of Costa Rica – comparable, without taking sides for one or the other. That's why I borrowed the term 'multiverse' (or 'pluriverse') from James, in opposition, of course, to *'universe'*. I have proposed that you use that word to *leave open* the question of the means by which the diversity of the cosmos is or is not unified. I therefore say that all of us, both things and people, live in *the pluriverse* and that it is now possible to detect various and often contradictory ways of giving that pluriverse its *unity* or *unities*. Instead of beginning with the obvious idea of a unified nature, *it is the work of unification through* the schema of nature (but also *through many other schemata*) that will be foregrounded. It is there that the exercise of drawing cosmograms will turn out to be very useful.[5] Thanks to these cosmograms, instead of using nature as the background from which other phenomena (cultures, for example) would stand out, we will observe *how many different ways* the multiverse can be *composed* – which is not without consequence, as you may well suspect, when it becomes necessary to deal with ecological crises for real. All this century's politics depends on this question: How can we succeed in unifying

slowly what the schema of nature unified prematurely? Can we move, in other words, from naturalism to *multinaturalism*.[6]

Nature is included in multinaturalism

It's a tricky argument, I realise. One misstep and you fall back into all the clichés about disenchanted Science, which supposedly 'lacks a soul' because it 'believes it understands everything in terms of mechanical causes,' and because it supposedly 'reduces' values, the human, the spirit, to 'mere objects'. That's not what I'm saying with the unusual expression 'multinaturalism', it is not to add a 'supplementary soul' to a cold and material 'natural' world. Such a position would amount to swallowing hook, line, and sinker the notion of the bifurcation of nature. It would mean accepting the distinction between primary and secondary qualities by drawing up a sort of Yalta Pact between all the madmen: 'You scientists get the material world; we humanists get the world of values'. That's not at all what I'm proposing. It's true that it seems impossible to believe, following Descartes, that our souls or spirits reside in the *res cogitans*, but *it's even more true of our bodies* and of the world that surrounds them. How could they hold on, how could they survive in the *res extensa*, that environment so *hostile to all life?*

I'd like to show you that it is completely wrong to confuse the extension of the *res extensa* with science, true science. In its development, science has created a *habitat* for the beings of the multiverse, one that is completely different from what is called 'the scientific view of the world'. No one grasped that better than Darwin. No one was more resistant than he to the idea of thrusting all the scattered results of living things into the single environment – universal, anonymous, and frozen – of Nature.

What is so moving about the Darwin moment, is to measure the immense, unfathomable distance between the splendour of his discoveries and the dreary naturalism to which people have constantly tried to reduce him. What is so shocking about Darwin is not at all that he has us descend from the apes, or that he puts an end to anthropocentrism, or that he dispenses with God the creator. It's that he dispenses with Nature conceived as a universal and continuous environment that would give meaning to all living beings, making them merely the *gradual realisation of a law of causality that would be higher than them all*. It's not the priests who are shocked about Darwin, but, first and foremost, those scientists who have confused materialism with the ideal of the *res extensa*. For Darwin, precisely, there is between each being and the next a vertiginous *discontinuity*, which presupposes, for each generation, a unique and singular invention, as if the consequence always somewhat outstripped the cause. And you'll note that there's nothing to be done: 150 years after the publication of his book, people still want to wedge poor Darwin into the great false quarrel of Creation versus Nature, of God the creator versus the blind Watchmaker,[7] two perfectly substitutable forms of an *external* meaning attributed to living things.

Similar to other animal species and humans, the tick produces its own world of meanings.
Photo: Image Select

But that's not at all what he discovered. What he discovered is much more interesting, much more radical: no law – in front, behind, below, or above – leads, for example, one population of wild horses toward the following, supposedly more evolved population. What has to be considered is every horse in itself, with its unique risk and unique opportunity to continue or disappear. No *Idea* of a Horse guides that history. That history *goes nowhere*, that's what's shocking for clerics of all religions – even academic sects. No Providence guides it, not even that secular Providence called the Optimum, the Survival of the Fittest. No Creation, naturally, but no Meaning either. With Darwin, God has of course lost, but so too has Nature. Nature no more exists than ether. It's every man for himself, a stupefying discontinuity that no arbitrary unification can prematurely recover, not even that of the Life Force or the Strict Play of Material Constraints. Darwin is the patron saint of the multiverse, the one whose thinking must be contemplated on a daily basis because it absolutely escapes the reductionism of the *res extensa*. I told you, living beings, in order to survive, need a completely different *environment* than that of Nature with a capital N.

And this may be the time to speak, precisely, of the environment, the *Umwelt*. That word, so important in present-day politics, was invented by a totally original thinker, Jakob von Uexküll (1856–1944), who influenced Martin Heidegger as well as Gilles Deleuze, Peter Sloterdijk, and a whole tradition of ethologists.[8] On the surface, Uexküll was not at all Darwinian. But what these two great naturalists had in common was that neither of them sought to have the beings they studied remain at rest in an *artificial continuity* that would explain them all in advance, in terms of a mere transfer of causes and consequences. Both insist on the thousand discontinuities that separate a cause from its consequences, an ancestor from his descendants, an animal from its neighbours, or, to generalise, an antecedent from its consequents. For Darwin, it's the small, singular invention that allows the adaptation and transformation of living things, without any higher meaning to guide them. For Uexküll, it's the idea of *Umwelt*, in opposition to one's 'surroundings', an abstract notion invented by humans for the sheer sake of convenience to designate the universal envelope that supposedly surrounds all living things. For him, on the contrary, it is as if *every animal*, snail, tick, crow, dog, and of course man, created around itself a sort of bubble that would extract from its surroundings a certain number of pertinent signals. These signals must truly be called *subjective*, if by that one understands that there are not, in living nature, objects in the strict sense, but only,

as he says, 'meaning-bearing subjects'. And yet they really are objective in the sense that it really is in that world that the animal resides. The tick is less articulate than the dog or the human – all in all, it grasps only four values within the infinite number of perceptions – but it nevertheless produces a point of view, a world of meanings, that is, a tick-specific *Umwelt*. As impoverished (for us) as the tick's world may be, it is as articulated as our own or as that of the elephant.

That means it is perfectly possible to escape the eternal opposition between the subjective and the objective. When Uexküll says that there are only subjects in the living world and that they establish relationships of meaning (and not of causality) among themselves, he is not in any way opposing materialism, experimentation. Don't see that as some New Age appeal to a wisdom that would supposedly be superior to the old science (too cold, too objective, too disenchanted). He has no need to add the subjectivity of all living things – the tick included! – to the 'strict objectivity' of 'true positive science'. No, he asks only that we examine the absurdity of producing a space common to *all* living things that would have the extraordinary property of being itself *devoid* of all meaning – and which we would call 'nature'.

It is always necessary to take metaphors seriously, even when they seem to be opaquely abstract: when someone speaks of a 'scientific view of the world', what giant being's *view* would it be, whose *eye* would it be the view of? Yes, for what living being would the space of the *res extensa* be the bubble, the lived environment, the *Umwelt*? Answer: such a living being does not exist and has never existed. It is a mythical creation of the nineteenth century. Even Laplace's demon, you know, that omniscient calculator capable of deducing all the consequences from a single cause, remains an entirely speculative being. Uexküll calmly writes: 'If we cling to the fiction of an all-inclusive space, it is simply because such a convention facilitates our communication'.
You understand how radical such a conclusion can be: for him, there is no meta-supra-super-*Umwelt* capable of encompassing all at once *all living things*. 'There is no space independent of subjects.' And hence no *res extensa* at all. Between the illusory space and the real intermingling of *Umwelten*, one must choose. Or rather no, one mustn't choose, one must welcome both into the multiverse. In other words, the universe *is included* in the multiverse as a particular case, nature, soon to be a historical curiosity, like a past form of politics – or better, of political epistemology – is included into multinaturalism.

The danger would be to believe that at this point I'm attacking the 'mechanistic explanation' of the world, which, thanks to the grand narrative we are beginning to know well, has become the 'mere extension of the rational approach'. Or to believe that I'm complaining, like so many others, of the reductionism of science; as if the alternative grand narrative, that of entanglement and attachment, called for 'transcending' the positive sciences and moving 'beyond'. It's exactly the reverse, as I've shown several times: in that second grand narrative, the sciences are being asked to immerse themselves in their *true environment*, in the unique *Umwelt* where they can be fertile in a lasting manner. Science does not need to be transcended at all, or even 'reenchanted';

it needs only take into account what it is really doing, which it foolishly believes it is its duty to dissimulate. When Descartes speaks of the animal machine, he ill-uses animals, of course, but he *also* ill-uses machines.

Do you detect the risk of confusion that might occur if you begin to move around by means of thought – or rather, by means of sight – in the space of the technical drawing? You'll start to believe that this is the environment in which the machines themselves – once they have been engineered by the engineer, built by the worker, cast piece by piece in moulds, indented, crimped, deburred, then validated by engineering consulting firms, overseen and maintained by maintenance technicians – continue to exist. In the technical drawing, whether on the page or in the computer, these machines seem to move, to project themselves, without losing any of their relationships, without undergoing any transformations, without needing any humans, any standardisation, any regulation. And yet, on the outside, machines will need an entire active, living, complex environment, a whole fragile ecology, in order to function in a lasting manner.[9] There again, the continual discontinuities of practice are concealed behind a continuity that exists only in thought (and I should say in the *imaginary* of a thought that has itself been rendered artificially continuous, since nothing is less continuous than the *cogito* jostled by all the jolts of existence, by dreams, inattention, habit – not to forget anger and desire). A whole multiverse must be kept assembled in order to set up any machine whatsoever.

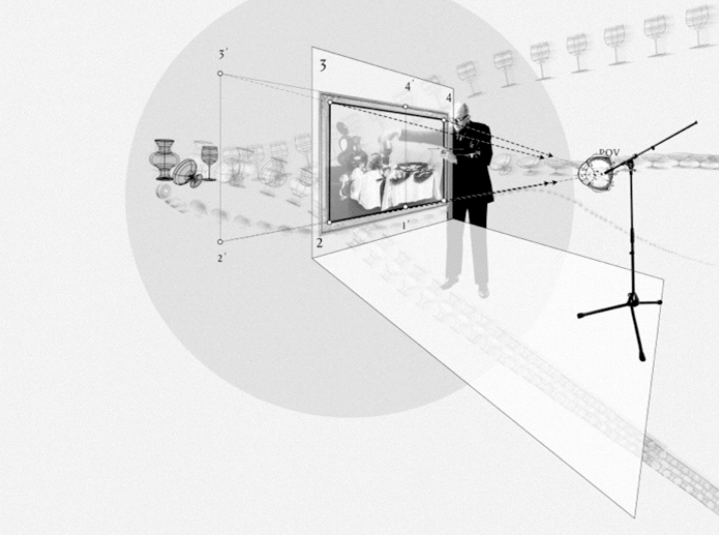
And we know with what speed the various components of a machine can disperse, like a flock of sparrows, at the slightest opportunity. If you have any doubt, just visit the industrial wastelands of Lorraine or along the Ruhr. It takes only one breakdown, one labour strike, one accident, one relocation, and what appeared to be a mere *object* becomes an *issue*. I have reflected a great deal on the painful transformation of the Columbia spacecraft, from before its departure in February 2003 – a beautiful autonomous object, whose take off interested very few people – and the same shuttle after it exploded, when it became a shower of scattered pieces, *membra disjecta*, which the investigators collected across the southern United States, gathering them together in a large hall to discover the cause of the unexpected explosion. Before, it was a technological object, a *Gegenstand*; after, it was a sociotechnical issue, an assembly, a puzzle, *ein Ding*. Before, the shuttle circulated only in the sky of the *res extensa*; after, people realise it had resided in the *institutions* of NASA, that it had circulated through them, depended on them.[10]

Quite obviously, however, that is a retrospective illusion, since space shuttles that do not meet with any accident and that return to earth in complete safety are also fragile sociotechnical assemblages. They too travel *through* their institutions. They too are solid assemblages only because they are fragile assemblies. See the problem? *Where*, in what space, would Descartes situate a space shuttle circulating *with its NASA, in* the sky? For those who believe they invented the infinite universe, this is something truly surprising: *they don't have enough room!* They don't have enough space to situate their

own discoveries. Everything lies in that. All modern history can be explained by that oddity: we have deployed a material science that cannot find anyplace to set up its own materials. People may have felt cramped in the old cosmos, but we are suffocating in the infinite universe as well. Give us some air. Give us the multiverse.

And don't think it stops with living things or technical devices. It continues with inert ones. I could show you that that inversion in the ways of moving something without its undergoing any transformation is exactly what Einstein fought against under the name of *ether*. What is *relativity*, if not the effort to restore between each point and the next the slight discontinuity that will literally make it possible to *set the clocks right*, and thus to assure, in the end, the continuity of the laws of nature in every respect? There again, yes, the continuous is obtained, but only on the condition that discontinuity is taken into account: in this case, the very real discontinuity of the time it takes for the signal to pass from one point to another, and the equally real work by means of which an observer measures time via the juxtaposition of the big and little hands of a clock. Physicists before Einstein had somewhat facilitated their own task by imagining a fixed reference point that, they believed, would assure the comparability of all sites. They didn't realize that they would multiply the distortions to such an extent that they would lose any chance of making the laws of nature similar in every respect. They were all suffused in an ether with contradictory properties, both infinitely elastic and infinitely resistant. They painlessly constructed an artificial continuity, which Einstein shattered by reintroducing the need for a calculation that is actually called, so that no one will mistake the argument, the 'Lorentz *transformation*'. Continuity will be re-established, but only with the absorption of a new source of discontinuity. Ether vanishes just like that. And even if you immediately start once more to erase the physicist, his work, and his calculations, the world of relativity will never be the same, since it will now include the obligatory reference to frames of reference. It will no longer be possible to ever again efface the relativity of the world's construction, that is, the obligation to establish pathways, instruments, sequences of signals, to be able to establish, assure, and maintain the similarity of the laws of nature in every respect. If physics is so beautiful, if its results are so stunning and its history so full of new developments, it is precisely because, through it, we constantly escape the strict materiality dreamt of by a frenzied continuism, that 'novel of matter' of which Descartes remains the most brilliant writer.

And yet I haven't told you about the Einstein revised, corrected, amplified, restored, and especially, *resituated* by Peter Galison.[11] A fine example of an inversion of the inversion I mentioned a moment ago. Einstein is too often made out to be the disembodied thinker par excellence, who like Archimedes ignores any practical considerations and interests himself (I am quoting Plutarch) only in objects 'in which the only doubt can be whether the beauty and grandeur of the subjects examined, [or] the precision and cogency of the methods and means of proof, most deserve our admiration'. Galison very calmly immerses Einstein once again in the revolution of trains and telegraphs, in his work at the Patent Office in Bern. Doing what? Why, assessing the originality of a



No information can be obtained without transformation. Image: Bruno Latour

multitude of patents for a multitude of machines for calibrating, synchronising, standardising clocks. Now there's the world of the scientific humanities! And believe me, that description (materialist in a word) of the 'father of relativity' does not take away any of Einstein's genius by placing him in the Patent Office of Bern, since we begin, on the contrary, to understand – we have only to read his articles from the miraculous year of 1905 – the extent to which practical considerations are needed to instil a desire to assure the commensurability of all the frames of reference in the universe. The very real machines he examines in Bern and the ideal ones he reconstitutes by means of thought are as complex as they are only because the world's continuity is *not* given from the start. Unity must be gradually obtained; yes, it must be *composed.*

The world is not made of unified knowledge

Don't believe that there is physics in the first place and that, afterward, one would be concerned with metaphysics, if, moreover, one has any time left over, if one is a philosopher, a humanist, or a moralist. Metaphysics has been *in* physics since the beginning, the same way that yeast is in bread dough. In an astounding argument, Schaffer showed them the entire system of reliable information that Newton needed to write the *Principia Mathematica*, that apparently isolated monument. He showed that Newton, yes, the great Newton himself, had to meditate at length on angels, in order to discover by what intermediary he could make the force of gravity – which he had just discovered and made calculable – transportable from one body to another one vastly remote from it in space. No, Newton no more believed in action at a distance than did the Cartesians. He needed an instantaneous and immaterial transporter. He looked everywhere for a vehicle capable of such a feat. Nobody offered his services except the angel, in Newton's interpretation of Christianity (which smacks of blasphemy).
Score one for the angels! Provided that someone delves into theology and writes thousands of pages about a scientific discipline of which you are probably unaware and which bears the lovely name 'angelology'. Then the angels will gradually lose their wings and become forces, so that the messenger angels of Newton's God live on obscurely even in the calculations of the physical world.

If we had time to do a little more philosophy, I would show you that the confusion about the connection or disconnection of physics always comes from an inversion of the relationship between the terms *displacement* and *transformation*. Or from the little operation by which *translation* turns into mere transportation *without transformation*. In the real, living, lived environment of science, displacements can be obtained only at the cost of a series of transformations, often vertiginous and painful: recall the spate of inscriptions in articles, or the series of tests undergone by laboratory evidence. No *in*formation without *trans*formation. But in the end, the truly astounding result is that, from any research centre whatever, you can speak of infinitely distant phenomena, having assured between the first site and a second a (dis)continuous path by which every stop along the way transfers a piece of information *at the cost* of a transformation. From Pasadena, you move a robot on Mars; from a pressure cooker at the Pasteur Institute, you manipulate the behaviour of previously invisible viruses; through the intermediary of an equation, you model the climate as a whole; and so on. The part stands for the whole, and these metonymies are as varied and as beautiful as any in literature.

The only thing is, as soon as access to distances (infinitely large, infinitely small, infinitely complex, infinitely dangerous) is assured, the same transformation will occur in the sciences as the one we discovered by following the twists and turns of technology. People will forget the transformations necessary for the transfer of information, and they will act as if information circulated effortlessly, without any expenditure of energy, without cost, without organisation, from the thing known to the knowing mind. Translation no longer translates, it merely transfers, relocates, transports. Instead of obtaining the continuous via the discontinuous, people have the impression they have finally discovered what can be displaced *without undergoing any further* transformation. It is as if knowledge moved about in the world without loss, without effort, without a laboratory.

Soon, in such a phantasmagoria, *the world itself will become knowledge,* unified knowledge: at that moment, the multiverse will become a universe. Knowledge, instead of remaining the means of access to the world one wishes to articulate through laboratories, becomes the (fantasised) *material from which* the world is supposedly made. It is no longer made of matter but of knowledge. What a stupefying reversal, and especially, what a lack of realism! There is no longer anything in the universe but the *res extensa* of the *res cogitans*. *The real and material world has become the reverie of thought*.[13] And the most dreadful thing is that all the work of science is now offered without any defence against the assaults of scepticism, which that reverie cannot satisfy – fortunately. Even worse, disenchantment will increase: people will start hating science. You understand why we must defend it so stubbornly, even against itself.

I know, I'm dragging you around rather quickly, from Darwin to Einstein to Newton. That's because my argument is very simple and because it bears solely on that key question of *discontinuity*: if even physics can do without ether, there's no point in

Effects of 'good governance' in the countryside. Painting made by Ambrogio Lorenzetti, Palazzo Pubblico, Siena. Photo: Image Select

continuing to believe in the *res extensa*. That's not what the world is made of. The world is not made 'of' knowledge – even less of unified knowledge. *It can be known*, which is not at all the same thing. The fragments of knowledge thus obtained can gradually be composed. Furthermore, that knowledge is possible, lasting, cumulative, solely on the condition that the true environment that makes it possible is restored to the sciences: Darwin must be put back on his ship, the *Beagle*, with which he made his famous voyage; Einstein must be sent back to Bern, to his Patent Office; Newton must again be seen filling page after page on the power of displacement of the angels in the Bible. In short, we must rediscover all the paths of transformation that make it possible to reach distant places. Isn't it strange to see that the three major terms that supposedly define science – reductionism, naturalism, mechanism – are all incapable of doing justice to matter, to bodies, and to machines, whether to praise their virtues or to condemn their vices?

You understand why, though it is of course necessary to beware of reductionism, it is also necessary to beware of antireductionism, which is often worse, because it attributes to science sins that it is quite incapable of committing. When it is said that Science with a capital 'S' will never understand consciousness, we need to see that, by the same token, it also does not understand a chemical reaction, the development of an embryo, the up thrust of a mountain, or the functioning of a jet engine. Or rather, when people say that it 'understands' them, it's simply a way of asserting that all the multiple isolates of the *sciences* – with a small 's' and in the plural – have been plunged into a Nature whose extension and universality was made from the start, without precautions and without examination. We must therefore not say that scientists would be wrong to be mechanists, materialists, and naturalists. On the contrary, we must *wish with all our heart that they finally become so,* that they abandon these three idealisms, impossible to realise anywhere except in the utopia of the *res extensa*, and that they *literally come back to earth*. That they drop ether. That they finally move from nature to multinaturalism, to their own, to ours, to the one of today and not those of yesterday.

Good governance of men and things

Can we come back to earth? That is really the question, isn't it? It's impossible to find a middle ground, polite and pleasant, between the two grand narratives, whose

opposition I have purposely exaggerated. The great narrative of European emancipation and European modernisation presupposes the gradual extension of nature, whose universal laws would gradually replace the diversity of subjective belief; the other grand narrative, which I have called that of attachment and entanglement, presupposes for its part the gradual disappearance of the distinction between the world of subjects and that of objects, the ever greater intertwining of the governance of men and the governance of things. In the first, it is Nature that ultimately comes to pass, with the reign of Reason; in the second, it is nature that finally disappears, along with the waking dream of a reign of Reason. I am very aware that, if I today speak of multinaturalism, it is because Nature has been found lacking, and we perceive more and more every day that we have again moved from the infinite to the finite, or rather, from the infinite to the multiple, the complicated, the entangled.

Could we be witnessing a reversal in the passage of time? I was dazzled by Lucien Febvre's masterwork on the world of Rabelais, and I really believe it's because that world resembles our own more and more each day.[14] Febvre uses the adjective 'gigantal' to designate the scientific doctrines of Gargantua and Pantagruel. I find that an admirable word. If we feel close to the sixteenth century, it's because it already had all the ingredients of future science, except that of unified nature – and that is precisely the ingredient that is vanishing before our eyes! The results of science were still sparse, controversial, disputed. No one had as yet imagined the Giant capable of having the universe as its *Umwelt*. Nature had not yet bifurcated into primary and secondary qualities. No one was as yet enchanted with the disenchantment that the sciences would usher in. And above all, no one hoped to obtain indisputable agreement through a Nature that was itself entirely papered over with indisputable facts. On the contrary, there were lively disputes everywhere. No one had as yet imagined the calamitous solution of resolving political crises by resorting to the ideal of a prematurely unified Nature. It is true that no one had as yet assessed all the horror of the religious wars, from which it would truly be necessary to find the means to extricate oneself. In the face of the crimes committed in the name of religion, it is clear that the lack of plausibility of the *res extensa* seemed a very small price to pay, if the benefit it offered was ultimately the indisputable agreement of minds. Plato had already resorted to that solution.

But four hundred years later, we have rediscovered dispersal, fragmentation, the multiplicity of worlds.[15] In the words of mythology, 'The Great Pan is dead'. The appeal to Nature no longer suffices to obtain agreement. Henceforth, it is result by result, laboratory by laboratory, effect by effect, that the fight must be waged to obtain the unification too quickly promised by the strange idea of following, saving, or defending Nature. Of course, we will never return to the sixteenth century, and fortunately so, but it seems to me that I am not the only one to have the strange feeling of finding myself at the end of a long parenthesis, whose beginning was witnessed at that time. Much fun has been made of the sixteenth century, that century full of monsters, wonders, and oddities. It seems to me that our own century produces some strange ones as well and that the socio-political imbroglios students of scientific humanities learn to note in their

journals every day trace the outlines of rather lovely cabinets of curiosities. It seems to me that the Renaissance bestiaries, with their networks of correspondences and analogies, have nothing on today's bestiaries, with their animals enclosed within the fabric of sometimes very lively political relationships. If Koyré's book were to be rewritten today, it wouldn't be called *From the Closed World to the Infinite Universe* but rather something like *From the Infinite Universe to the Complicated Multiverses*. And, if we are to believe the evidence, the world is not close to becoming simpler – and I'm not only thinking of 'climatosceptics'. All the questions of nature, in fact, have now become controversial.

End of the infinite frontier. In a sense, we are witnessing the great return of *things*, of issues, of disputes, of a generalised casuistry that makes all the ancient 'natural' subjects into arenas for conflicts, which we must find the means to resolve without taking any shortcuts. And, as a result, we are also witnessing the return of politics, which the excessive penchant for the European notion of Nature had in some sense supplanted. Agreement, which the universe obtained without meeting any resistance, must now be *composed*.

In fact, there is nothing so new about that, since in reality politics has always been preoccupied with the cosmos. On the contrary, it is the distinction between Nature and Politics that is strange, and which held, clumsily at that, only for a short parenthesis, from the mid 17th to mid 20th century. We have only to look at the famous fresco called 'Good and Bad Government' in the splendid town hall of Siena, where the painter Lorenzetti clearly encapsulated all the political and moral philosophy of the early Middle Ages.[16] You will easily perceive that it is in fact ecological, or rather ecopolitical, avant la lettre. The cosmos of 'bad government' is a ravaged landscape, destroyed villages, suspended communications, whereas the cosmos of 'good government' is a carefully tended landscape, flourishing farmlands, diverse flora and fauna, well-constructed cities, numerous arts, active commerce, abundant industries. What might be the difference today between the Bad and Good governance of men and of things – for sensitive minds, is there any difference more important than that one?

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‘It is loss of ego that I am after’

Peter Spruijt (65) is the founder of* Nemo*, the Dutch ‘Association of Free Walkers’.*[1] *For him, walking is a privileged way to experience nature. Free walking illustrates a participant’s view on nature, as also described by Matthijs Schouten.

According to Peter Spruijt, ‘*Nemo* has existed for 28 years now. We started as a walking action group. Every Sunday, we would drive in our van to the starting point of a route we had planned using a map from the Dutch Kadaster [The Netherlands’ Cadastre, Land Registry and Mapping Agency]. Fences or barbed wire did not stop us; regularly, we were chased by farmers with pitchforks or manure spreaders. Back at our van, we collectively ate the soup we had brought with us. On Mondays, we wrote letters to the authorities concerning any unruly obstructions we had met the previous day. The media loved us. By the mid 1990s, we counted a thousand members and had had an audience with the Minister of Agriculture, Nature Management and Fisheries.

Around that time, walking became more of a public issue. Official lobby groups of walkers and organisations like Staatsbosbeheer [the Dutch institute for nature reserve management] took over the debate and shifted their attention from “management of nature” to “experience of nature”. They achieved a lot, but I resent that they approach nature as some sort of park and treat walking solely from a recreational point of view. The farmers who used to chase us away nowadays see business opportunities. They design their own walking routes on their land and their wives bake pancakes which they sell, dressed up in folkloric costumes. I find this rather smothering.

Even though, by now, we have walked with thousands of people, *Nemo* has always stayed marginal. This has been so on purpose; we do not want to become encapsulated. These days, we organise fewer walks. We have shifted our attention towards establishing natural zones, in Amsterdam and in Poland, where we can wander in *Nemoland* without being hindered by conservation managers.

Presently, I am digesting what we have done over the past 25 years; our march through the institutions, our encounters with the “walking lords“, the way we were de-energised by organisations that decide what nature ought to be. Certified nature, ugh! I personally do not find real nature in a park, not even if such a park is “wild”. I can find more of real nature in a neglected plot amid an industrial area. No man’s land; that is where the magic is. Land has its own value, its own force. It does not need to be managed.

Free walking. Photo: Nemo

The experience of nature and the magic of nature have gradually become more important to me. When walking, I become attuned to the tales a landscape tells me. To experience nature, I find that I need a story or poem, a kind of myth. This myth does not need to be old. Recently, *Nemo* organised a poetry walk in the Westerpark in the middle of Amsterdam. Parts of this park are rather swampy and seldom visited. In such a medieval farming plot, we read a musical poem by Lucebert, a Dutch hermetical poet. Right there arose a connection between nature and text, rhythm and movement. Landscape sustains this movement. This plot is confined by bicycle paths and a railway embankment; aeroplanes are flying over. But this does not stop the magic. You need a sort of log-in code to experience nature in this way, and a poem can be such a code.

I hesitate to say things like these, because it may sound rather woolly. I do not pretend to be some sort of modern shaman. To my mind, shamanism is just another way to consume nature, which makes it a rather egotistical affair, whereas it is loss of ego that I am after. Walking can bring this about. If on a Nemo Sunday, you are walking in the rain, boots heavy with mud, and are halted by a “no trespassing” sign, then not much is left of your ego. You are simply too tired for that. Such Sundays were not always fun, but nowadays I think that it is precisely this experience that has transformed me. Walking filters out the ego. I now understand this is what I am looking for in nature.

At the risk of coming across as a mystic after all, I have the strong impression that nature wants us to leave ego behind. A landscape desires to become “nobody”, it wants nothing more than to become no man’s land. I am interested in the zone in which people connect with nature by losing their ego. This process does not require a wild location. But, at least in my experience, it *does* require movement. So, in retrospect it may not be strange that I have never wanted to be stopped by a “no trespassing” sign.’

Note

1 More information about NEMO can be found on the website: http://nemo.pz.nl.

Whose Nature?

Matthijs Schouten

Plants, animals and humans all need space and suitable living conditions. Many wild plants and animals can find a niche in human-made landscapes; some are even favoured by human activities and various forms of land use. Others, however, can only survive in environments which are largely free from human impact. From this perspective, the conservation of wildlife is primarily an issue of space. How much space do we, humans, exclusively claim for ourselves? How much space do we grant exclusively to wildlife? And where are we prepared to combine our needs with the requirements of wild plants and animals? The answers to these questions, and therefore the actual taking and granting of space, is intimately related to our view of nature.

Views of nature

In environmental philosophy, the concept 'view of nature' or 'image of nature' has received much attention. The way in which people perceive nature is in part rooted in the personal life history and is connected to where one lives and has grown up (e.g. city or countryside) and to personal experiences in relation to nature. It has been shown, for instance, that close contact with wildlife in childhood is a strong determinant in the attitude towards nature in later life.[1] But views of nature are also rooted in social processes. They are at the same time part of socially elaborated (thus culturally and historically contingent) systems of understandings, values and experiences – so-called 'social representations' – that are used by social groups to understand a phenomenon.[2]

As the image or view of nature arises from both the individual's unique biography and experiences and from socially elaborated systems of understanding, it has also been described as part of what in social science is called 'identity content', that is the complex of behaviours, preferences, motivations, ideological positions, meanings and narratives by which people define their identities both on the individual and the collective level.[3]

In environmental philosophy, a distinction has been made between three different dimensions of the image of nature.[4] The *cognitive* dimension refers to people's

understandings of nature, to how they define and describe *nature*; what phenomena in the real world do they consider to constitute nature? The normative dimension concerns people's ethical views on the values of nature and it is connected to ideas on how humans should treat nature. The *expressive* dimension pertains to how nature is experienced aesthetically and emotionally.

The cognitive dimension: what is nature?

A couple of years ago, one of my PhD students interviewed over a thousand young Dutch people on their perceptions of nature.[5] One of the questions asked was what associations they had with the word nature. The most common response, given by two thirds of the respondents, was 'forest' (which is quite remarkable in a country that is not renowned for its woodlands). Next came 'green', followed by the generic terms 'animals' and 'plants'. Furthermore, various types of landscapes were mentioned, such as mountains, heathlands and beaches. Apparently, within this group of people nature was primarily perceived as specific types of physical space, that is specific landscapes, and furthermore, as a collective of certain creatures.

All the people interviewed were Dutch citizens but hey had different ethnicities: one third had a Dutch, one third a Turkish and one third a Chinese cultural background. It is interesting to note that the respondents with a Turkish or Chinese background more often than the native Dutch used terms that did not refer to types of *topoi;* such terms were among others 'natural processes', 'health', 'fresh air', 'earth' and even 'everything'.

The interviewees were also asked to classify different types of landscape with varying degrees of naturalness, ranging from largely untouched on the one hand to strongly cultivated on the other, as nature. The respondents with a Dutch background in many cases classified only the untouched landscapes as nature, whereas the respondents with a Turkish or Chinese background did not seem to be as strongly affected by the nature/culture dichotomy that has been quite central in the Western worldview since Classical times.[6] They often classified also the strongly cultivated landscapes as nature.

The above shows that one must be careful when using the term nature. Cognitions of what constitutes nature vary on an individual level and also between different cultural traditions.

The normative dimension: nature's value

It is obvious that nature is instrumental to human well-being both on a physical and a mental level. An important question is, however, whether that is the only value that can be attributed to nature. And with this question another one arises: Is nature ours to claim? Answers to these questions are above all an expression of the view that we have

Ownership – industrialised agriculture.
Photo: Hollandse Hoogte

of the relation between humans and nature. And just as with cognitions of what constitutes nature, this view varies between individuals and between different cultural traditions and contexts. Environmental philosophers have distinguished between a number of different attitudes towards nature which each reflect a specific idea of nature's value and of the human-nature relationship.[7] These have been labelled respectively: humanity as the owner of nature, steward of nature, partner to nature and participant in nature.

The owner

In the history of Western thought the concept of nature has persistently been limited to that of just a resource; to a storehouse of divine design filled with goods and services with one purpose only: to serve humanity. The Aristotelian 'Great Ladder of Being' in which it constitutes 'the good' for the lower to serve the higher, led during Classical philosophy to the idea that nature was designed by the gods to serve humans, the only beings with a *logos*, a rational mind. A view which was adopted by the theologians of Christianity, who in this respect, one could claim, turned more to Hellenistic than to Judaic images. For centuries Christianity taught that nature constitutes God's gift to humanity. Granted, something had gone awry with the fall from grace and the exile from the garden of Eden; nature became obstinate and unruly. Humanity now had to toil in order to mould and shape nature and to bring it to utility. And for centuries it was considered a religious duty to cultivate nature.

Now, we may no longer adhere to the idea voiced by the 17th century British philosopher Henry Moore that cattle were created to keep beef fresh for human consumption, or the view of his pupil John Ray that it is God's plan that humans turn barren wildernesses into fruitful gardens. Nevertheless, the notion that nature is there for us to use and colonize runs deep in our veins. The cultivation of nature may not be considered a religious duty anymore, but for many it still represents a cultural duty. It is, therefore, not surprising that the plans to flood a polder in the Southwest of the Netherlands, at one time reclaimed from the sea and now in agricultural use, for what is called 'nature development', have met with opposition from quite a number of people who consider such an enterprise to be a sheer act of barbarism.

Stewardship – a common in Transylvania.
Photo: Hollandse Hoogte

The steward

According to the Talmud, the collection of rabbinical commentaries on Judaic law, mankind is a tenant of God's earth. The Qur'an states about crops: 'Eat of their fruits... but be not prodigal; God loves not the prodigal'; it, furthermore, stresses repeatedly that mankind may use creation but not abuse it, as it is in God's hand that rests ''the dominion of everything'. In the Talmudic and Qur'anic statements, humanity does not figure as the owner but rather as a steward of nature, with a responsibility towards the creator to whom nature ultimately belongs. It is interesting to note that a substantial number of the respondents with a Turkish cultural background in the aforementioned research project expressed that sustainable use of natural resources and conservation of nature represent a Muslim's religious duty.[8]

The idea of stewardship also appears in a secular context. Into the present day European natural landscapes such as mountain heathlands and Atlantic blanket bogs are used as common grazing grounds by local communities. The practice of managing and protecting so-called commons (or commonages) for the present but also the future generation of users was once widespread in Europe, but has greatly diminished as private ownership of land has become the norm. However, in the second half of the last century, when the notion of a global ecological crisis took hold, a wider interpretation of nature as a common emerged. Terms such as 'ecosystem services', and 'green capital' became widely used. The concept of biodiversity which initially only pointed at nature's variability, gradually also started to refer to a collective good, a common heritage of humanity which should be wisely managed – in good stewardship, for all people, including future generations.

The partner

The Talmud states that a wild animal may be killed when it enters the human settlement but that it may not be pursued into the wilderness as this constitutes the animal's home. In traditional India, three types of forest were distinguished. First there was the *shrivan,* the 'forest of prosperity', which was meant to yield harvests; and which could be natural, or like mango plantations, be cultivated. Next, there was the *tapovan*, the 'forest of austerity', where ascetics withdrew and communities of hermits were formed, and where every human inhabitant had the duty to guarantee protection to all being.

Partnership – demonstration for animal rights in Pamplona. Photo: Image Select

Lastly, there was the mahavan, the 'great forest', that belonged to nature herself; no humans were allowed to enter it.[9]

In such ideas and practices, nature is not seen as an object, or a collective of objects, but rather as a subject, or a collective of subjects; or in other words, as a partner of humanity with certain rights, such as a right to a 'home'.

Since classical times the notion of animals as subjects with certain rights has regularly also emerged in Western philosophy. Among others, Pythagoras, Plutarch and Michel de Montaigne reflected on this theme. But it was not before the 19th century that public movements for animal rights were formed. During the 20th century, certain rights for certain animals were incorporated in our legal systems. In recent times, a further shift in perception has become apparent. Various philosophers and conservationists have stressed rights of nature in a more general sense.[10] In 2008 the Ecuadorian constitution recognised the inalienable rights of ecosystems to exist and flourish. Furthermore, arguments have been made for widening the democratic assembly to involve both humans and non-humans.[11] In 2015 even a Declaration of Universal Rights of Materials – in line with the UN Declaration of Universal Human Rights – was proposed in which one of the entries reads: 'Every material has the right not to be locked into compounds from which it can never be released'.[12]

These are interesting developments but that is not to say that the image of a partnership in which nature has a voice and rights is commonly accepted in our society. A couple of years ago, some private landowners and certain nature conservation organisations in the Netherlands launched an initiative by which they intended to challenge the idea of human ownership of nature. They designated certain stretches of land to 'be given back to nature'. These areas were formally closed off by a royal princess and no human was supposed to enter them anymore. Ecologists were delighted until they were told that the latter would also apply to them; and several politicians and civil servants ridiculed the enterprise because nature cannot be entered as an owner in the land register.

Participation – living in ecologically built houses. Photo: Hollandse Hoogte

The participant

In the introduction to one of his books the Vietnamese Zen philosopher Thich Naht Hanh writes:

'If you are a poet, you will see clearly that there is a cloud floating in this sheet of paper. Without a cloud, there will be no rain; without rain, the trees cannot grow; and without trees, we cannot make paper. The cloud is essential for the paper to exist. If the cloud is not here, the sheet of paper cannot be here either. We can say that the cloud and the paper inter-are... If we look into this sheet of paper even more deeply, we can see the sunshine in it... And if we continue to look, we can see the logger who cut the tree and brought it to the mill to be transformed into paper. And we see the wheat. We know that the logger cannot exist without his daily bread, and therefore the wheat that became his bread is also in this sheet of paper. And the logger's father and mother are in it too... Looking more deeply, we can see that we are in it too. This is not difficult to see, because when we look at a sheet of paper, the sheet of paper is part of our perception...
You cannot point out one thing that is not here – time, space, the earth, the rain, the minerals in the soil, the sunshine, the cloud, the river, the heat... This sheet of paper is, because everything else is... To be is to inter-be.'[13]

These words represent a poetical phrasing of the idea that our own existence is inseparable from the world around us. Similar ideas were reflected upon by Western philosophers such as Henri Bergson and Alfred North Whitehead. From this perspective nature is neither an object nor a subject; here, our relationship with nature is seen as one of participation.

The images of the human-nature relationship presented above have been described as representing a range of attitudes varying from anthropocentric on the one hand to ecocentric on the other.[14] Traditionally, an anthropocentric and rather utilitarian attitude towards nature has prevailed in Western civilization. Recent research indicates, however, that this is changing.[15] It has been shown, for instance, that about two thirds of the population in the Netherlands now adhere to a combined participant/steward image: they feel that humans are part of nature and at the same time should take good care of it.[16] A study commissioned by the PBL Netherlands Environmental Assessment Agency on citizens' images and values of nature and performed in nine EU Member

Experiencing the beautiful – landscape in Tuscany. Photo: Thinkstock Photos

States, shows similar results.[17] Furthermore, research indicates that – in an increasingly secular society – nature is gaining in significance as a domain which provides meaning and spiritual experiences.[18]

The expressive dimension: the sublime and the beautiful

I regularly attend debates on management of nature or on nature conservation policy. What often strikes me is that – however rational the debates seem to be and however objective and scientific the arguments used are – invariably a factor resonates in the debate which rarely is made explicit: namely that what the different participants like in nature, what they experience as beautiful, attractive, thrilling or moving; how they are emotionally affected by nature.

Ever since the work of Edmund Burke we tend to associate the experience of 'the sublime' and 'the beautiful' with specific types of nature or landscape. Where majestic wildernesses are associated with sublime experiences, the traditional rural landscapes in which nature and humans appear to co-exist in a sort of timeless Arcadian harmony, tend to be linked to the 'beautiful'.

In a different context – namely the experience of art, in particular of theatre – Friedrich Nietzsche used the terms Dionysian (after the god Dionysus) and Apollonian (after the god Apollo).[19] He described the Dionysian experience as 'the wild ecstasy of bliss and terror', whereas he associated the Apollonian experience with feelings of harmony, serenity, peace and tranquillity. According to the philosopher Peter Sloterdijk the Dionysian and the Apollonian form a dialectic.[20] This view came to mind some years ago, when I was engaged in ecological research into Irish peatlands and brought a friend out to see one of my study sites. She is a true Dubliner with no interest in the countryside and all matters rural. She had expressed the wish, however, to see a real Irish wilderness, namely a pristine and untouched bog. On the way to the site in question she hardly ever glanced out of the car window, engaged as she was in discussing various projects in which she was involved. The walk over the quaking bog surface, where she regularly lost her footing to sink away down to her knees, turned out to be a true Dionysian experience. Thrill and excitement slowly gave way to bouts of hyperventilation and finally to sheer

Experiencing the sublime – mountains in Triglav National Park. Photo: Image Select

panic. She almost had to be carried off the peatland. On the way back to Dublin, she was unusually quiet and stared out of the window at the passing rural landscape. The only words she occasionally uttered were: 'Isn't this beautiful!' The wilderness experience had, apparently, 'reset' the appreciation of the rural landscape.

In traditional rural landscapes, which have not been affected by modern large-scale developments, the history of human settlement can usually be traced in the field and road patterns and other human-made elements of varying age. The landscape's past is manifest in the visible present. Such landscapes provide a sense of orientation in time; in experiencing them one feels part of a historical narration. Moreover, the patterning usually shows a certain coherence and direction. The landscape, therefore, also gives an orientation in space. One does not easily get lost. The wilderness, on the other hand, constitutes a domain largely outside the human measure of time; there, passing years, decades, and centuries are not recognisably marked. And its patterns and forms do not provide immediate references to the human realm. As such, in the wild we easily lose our sense of orientation, both in time and in space; to 'reset' it again when returning to the inhabited environment. The Arcadian rural landscape and the wilderness can, therefore, also be described as domains of orientation and re-orientation respectively, which indeed constitute a certain dialectic.[21]

Nature in modern society

The three dimensions of the image of nature described above are not entirely independent of each other and in certain ways they interlink. For instance, people who adore wildernesses tend to have a narrower definition of nature than those drawn to Arcadian landscapes. Similarly, the view of humans as participating in nature implies a rather broad definition of nature.

It is obvious that the concept of nature is a complex one and that is reflected in the complexity of the public debate on nature. On the one hand this can be rather emotional as it is charged with aesthetical preferences and strong normative convictions. On the other, it can be quite confused and confusing as different cognitions of nature are at play.

The debate also reveals the multiplicity of the view of nature in modern society. The post-modern breaking up of dominant religious, intellectual and philosophical repertoires, together with increased mobility and migration resulting in a multicultural society, have brought Europe a wide variety of perceptions of nature, possibly wider than ever before. At one side of the spectrum are visions of new wildernesses as is indicated by the programme of the Foundation Rewilding Europe[22]; on the other, modern designers attempt to merge nature and technology.[23] The economic repertoire describes nature in terms of ecosystem services and monetary values while in certain spiritual narratives nature figures as a domain of meaning and transcendental experience. What nature then are we talking about when discussing nature in modern society? Whose nature are we referring to? What nature is there to conserve?

It may help to first look back for a moment at the history of nature conservation. In many European countries nature conservation movements and nature conservation policies have primarily focussed on the conservation of specific sites – so-called nature reserves – which were deemed of such natural value that they needed to be protected from cultivation and exploitation.

In the second half of the last century, it became increasingly clear that more was needed to maintain the integrity of ecosystems and the variability of species. Many environmental and ecological processes, such as hydrological cycles and dispersion and migration of plants and animals, function at a larger scale than that of protected sites. As a result of intensification of land use in the landscape surrounding such sites, the integrity of these processes became more and more compromised. Modern agriculture depends on deep soil drainage and input of large amounts of fertiliser. Consequently, many European nature reserves suffer from desiccation and eutrophication. Modern farming practices as well as infrastructural developments and urbanisation have, moreover, isolated protected areas from each other, thus impeding migration and dispersal of animal and plant species, which threatens species survival. Therefore, a second approach in terms of nature and the environment was introduced: the attempt to integrate conservation into various cultural and societal domains such as agriculture, water management, land-use planning and trade and industry.

The European Union has in its conservation policies followed both equally important and necessary paths: separating nature from cultural developments in specific locations and domains and integrating them in others. The traditional approach of designating reserve areas has been continued as is indicated by the Habitats and Birds Directives and the Natura 2000 sites. In a physical sense these sites are protected from cultivation and human colonisation. In a more abstract sense, they have, nevertheless, been colonised. They have been classified, ranked and labelled with acronyms and rather prosaic terms such as SACs, SPAs, Annexes I and II. They have also been framed as European common heritage. But they are not always experienced as commons by the Europeans. There has been substantial public opposition to the implementation of the Habitats and Birds Directives.

This, however, does not seem to reflect the general feeling of Europeans about nature. Various studies and polls suggest that a majority of Europeans care about nature[24] and when somewhere in the landscape an old tree or another natural element is scheduled to be cut or demolished, there usually are strong protests from the local community. The love for nature does, however, not always extend to the nature of Directives and Annexes, which many associate with bureaucracy, legal issues and 'eco-elitism'. Representations of nature are apparently not the same for ecologists and policymakers on the one hand and the general public on the other.[25]

The policies aiming at integrating conservation objectives into various cultural and societal domains have also not always brought what was hoped for in terms of new visions and practices. For instance, rural environmental protection schemes and strategies for environmentally friendly farming, which in in many EU member states are managed by national ministries for agriculture, more often than not turned out to primarily serve the interests of farmers rather than of wildlife and the environment.

That is not to say that EU policies have not worked at all. In part, they have certainly been successful. The decline of biodiversity has slowed down; environmental conditions have improved on various levels. But, at the same time, we have to conclude that there are also points of concern. Although the process has slowed down, biodiversity is still declining; in many respects the environmental quality is still suboptimal; and there are considerable problems regarding implementation of policies.

Maybe it is time to pause for a moment and critically reflect on the intellectual repertoires and images of nature that traditionally have been used by conservationists and policymakers; to pause and carefully listen to the diversity of narratives, images and views pertaining to nature that modern society displays, and investigate which of these may be helpful in positively engaging citizens, both on the individual and community level, in the vast and challenging project of 'European nature'. The fact that presently many Europeans see their relationship with nature in terms of partnership and participation, holds a significant promise.

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‘Nature is our livelihood’

The Mihai Eminescu Trust is a UK-registered charity which helps local communities in Transylvania to protect and restore old villages and the surrounding nature.[1] Caroline Fernolend (52) is the Rumanian director of the Trust. This initiative is also mentioned in Roger Scruton’s essay.

‘Recently, some German scholars visited our countryside. “What is your connection with nature?”, they asked the villagers. They did not know how to react. For them, nature is not something you study or contemplate. It is just there, completely intrinsic to daily life. “We survive because of nature”, the villagers said after some time.

For me, it is more or less the same. I have grown up in the countryside, in Viscri, and have loved and respected our old trees ever since I was a little girl. Not primarily for aesthetic reasons, though, but because big trees give shade, will conduct lightning during a storm, provide acorns for our pigs. I love to eat outdoors in summer, to smell the flowers, to hear the frogs. But although we can appreciate nature’s beauty, it is first and foremost because of its practical functions that we value nature.

The land here in Transylvania traditionally belongs to the community. From early spring until the first snow arrives, farmers send out their cows to the common and in the evening the cows walk themselves back home to be milked. Their manure fertilises the land, and after two years we leave plots ungrazed, so they can restore. This practice has gone on for centuries and has resulted in a beautiful pastoral landscape. The Trust acknowledges this harmonious landscape spotted with old villages is a tourist opportunity. To give the tourists something to do, we are developing walking routes through the forests. Our villagers find this strange. They are not used to people using nature to relax. But agro-tourism provides them with funds; it has meant that 68 farmers can stay here and don’t have to leave to face an uncertain life in the city.

No, we are not turning the countryside into some sort of a museum for tourists! Honestly, I get a little angry when I hear comments like that. We restore houses, churches and pastures, give the villagers something to be proud of, and provide them with means to sustain themselves. Of course, we hope tourists like what they see, but we do not put on a show for them. I know how Rumania is looked at in the rest of Europe, but, to be frank, when it comes to nature, I think we are close to important values you may have lost. We live in harmony with nature and do not exploit it. Modernisation and large-scale, top-down enterprises are just not synonymous. We recently installed an ecological water system which provides running water to houses that formerly had none. To me, this counts as modernisation. Our opening up to Europe has given me more perspective on our stance. Gradually, I am finding words to describe the values which formerly I only felt intuitively.

Restored houses in a village in Transylvania.
Photo: Image Select

When it comes to EU policy, I have mixed feelings. Our villagers are mostly subsistence farmers who own two or three cows and perhaps a horse. These farmers are not really protected by EU policy. They need EU milk subsidies to survive, but even so, milk is imported from Bulgaria and Hungary, where farming takes place on a larger scale. Our farmers may stand more of a chance if they would unite and form associations, but for historical reasons they are very reluctant to take this step, as it reminds them of a soviet-style *kolkhoz*. Rich farmers are starting to lease formerly common land, which puts our heritage in danger.

Nowadays, there is less respect for nature in Romania than there used to be. Plastic bottles and other rubbish pop up in the landscape. Companies dump materials here that are not allowed anywhere else in Europe. We need good legislation to protect our nature. But what is most important, and what the EU might bring us, is the upholding of our human rights. As European citizens, we theoretically have rights that for us, Rumanians, often remain empty phrases. If our villagers would be able to truly practise their rights, they would not be compelled to change their lifestyle in order to survive. Given the opportunity, I am confident that our small farmers will keep on living in harmony with nature, since they know that nature is their livelihood. So I say: EU, empower our villagers, and you will protect nature.'

Note

1 More information is available on the Mihai Eminescu Trust website: http://www.mihaieminescutrust.org.

Green Communities

Roger Scruton

Oikophilia is often neglected as a motive for environmental protection

In confronting their environmental problems, people rely on two features of human nature that do not standardly appear in the writings of economists, even though they are fundamental to human life: accountability and attachment. We humans are certainly self-interested rational choosers, as the economists insist. But we are also naturally disposed to hold each other to account, to confess to our faults and to make reparations to those whose interests we have damaged. Someone who lacks those characteristics will be pushed to the margins of the community and deprived of his privileges. And human societies in which accountability is unknown have long ago been driven to extinction.

We acquire our sense of accountability in part because we are attached to others, grow up protected by them, and learn to spread our concerns across a circle of intimates. The experience of attachment relates us not only to people but also to the places where we reside and the customs that bind us. It involves an intrinsic vector towards settlement, home and belonging. It is the source of the attitude that I call 'oikophilia', the love of the shared home and the desire to protect it. This love calls me to account, not only to my present companions, but also to past and future people – to all for whom this place is not just yours and mine but *ours*.

Environmentalists frequently tell us that human beings must be subjected to a top-down regime of regulation and control, so that their shared resources can be protected from their individual greed. By thinking in this way, we transfer to governments and bureaucracies the problems that beset us, while neutralising the motives that would lead us to solve those problems for ourselves. In an important book for which she was awarded the Nobel Prize in economics Elinor Ostrom described the way in which we combine to protect our shared resources, through exercising our accountability and

Children's oikophilia. Photo: Image Select

attachment to each other.[1] The sharing of water among farmers in arid regions of Spain, for example, has been managed over centuries by locally constituted rules and courts established under local jurisdiction. Likewise, the Alpine meadows of Switzerland are allocated by farmers under cooperative principles that promote both fair shares and the renewal of the resource.

Ostrom shows that 'common pool resources' can be managed as a stable asset, provided they are managed by a local community with easily accessible procedures for resolving conflict; and provided the rights of the community are recognized by higher-level authorities. Ostrom's far-ranging examples are of great relevance to environmental problems as we confront them today. For they show how, when sufficiently localized, a common resource can be managed from below, by those with an interest in its conservation. Much of the antipathy to market solutions has come from those who see markets as *competitive* arrangements, in which dog eats dog and the biggest dog survives. But competition in a market depends on cooperation, and it is only cooperatively disposed beings that can make markets work. Markets, like the common pool arrangements discussed by Ostrom, depend on promise-keeping, accountability, conflict resolution and the punishment of cheats. They promote cheerful cooperation between their participants, who for the most part see themselves as engaged in a positive-sum game from which everyone can benefit. Ostrom's cases are not departures from market principles but ways of modifying them to cover institutional forms of property. These forms of property crucially rely upon the accountability and oikophilia of those whose cooperation is needed. To put it another way: the society of self-interested rational choosers envisaged by the economists exists only because those rational choosers treat each other as accountable beings, motivated by attachments that run deeper than their self-interested desires.

The motives to which I refer are therefore part of what distinguishes real people from the abstractions invented by the economists. For the economist, our actions result from our choices, which in turn result from our preferences, ordered according to our subjective assignment of their relative importance. This leads to tidy mathematics. But it overlooks the fact that our preferences arise in different ways, from different parts of our being, and that our motives are not of a single kind. Some motives belong to what we are, some merely to what we want. When, having injured another person,

I feel called upon to make amends, this motive is not just a preference of mine, like my desire for a swim on a hot afternoon. It is connected with the kind of person I am, how I view myself in relation to others, and what things I truly and ultimately value.

Accountability is the root of the moral life, and it is enshrined in our relation with others and spelled out by our courts of law. We don't need governments or bureaucracies to implant this motive in us, nor do we need additional incentives in order to act on it. It suffices that we are judged for what we do, and that what we do can be harmful or offensive to others. The point was fundamental to the environmental philosophy of Hans Jonas (*Das Prinzip Verantwortung*, 1979), and also to a long tradition of moral philosophy beginning in the 18th century with the second *Critique* of Kant.[2]

Likewise with attachment, which is not a matter of what we want, but of what we are. The people, place, customs and culture to which I am attached belong to my identity, and not to my individual ambitions and desires. These things are not to be weighed in the balance and acted on only if the desire to do so is stronger than, say, my current desire to go for a swim. They are non-negotiable demands. In time of war they tell us that we must be prepared to sacrifice everything for their sake.

We should remember that the environmental movement is not the recent thing that many people take it to be. The desire to protect the environment arises spontaneously in people, just as soon as they recognise their accountability to others for what they are and do, and just as soon as they identify some place as 'ours'. Oikophilia is deep in all of us, and it is illustrated by the ongoing campaign in my country (England) to preserve the countryside, by the similar campaign in the United States to protect the unspoiled wilderness, and by all those small-scale local arrangements studied by Elinor Ostrom. Because the example is so instructive it is worth briefly reviewing the history of the environmental movement in England, and the lessons it might have for the European Union as a whole.

It was in the sixteenth and seventeenth centuries that the English began to take measures on behalf of their natural inheritance. Their popular literature developed the myth of the Greenwood – the garden of Eden on the edge of society, to which men and women could repair in order to renew the natural order in their souls, as in Shakespeare's *As You Like It*. The poem of Robin Hood, *The Greenwood Tree*, appeared in 1600, telling the story of the outlaw who rectifies the injustices of human society by creating a society of his own in the bosom of nature.

This literature draws on the vanished experience of the European forests. It is not campaigning literature, and was originally associated with no specific movement. But it emphasized two factors of enduring importance in all subsequent campaigns for the protection of the natural environment: first, that this place is not yours or mine or his or hers, but *ours*, the place to which we belong and which also belongs to us, for which we have a shared and collective responsibility; second, that this place deserves our

The beauty of the countryside – North York Moors, Yorkshire. Photo: Image Select

protection because it is beautiful. All the literature of environmental protection that followed adopted those two ideas, and what is true of England is also, in my experience, true of other places in the world where the preservation of nature has become a real and successful cause – notably of France and Italy. The sense of belonging, and the desire for beauty, are two complementary aspects of oikophilia, and they both have their roots in the mutual accountability that binds people together in communities.

Beauty has an intrinsic value

I think it is especially important, now, to emphasize what I have just written about the desire for beauty, because it is the neglect or downgrading of beauty that has done so much to advance the degradation of our environment in recent times. There is a prevailing prejudice that in some way beauty is not important, or that it is 'merely subjective', a matter of arbitrary opinion, about which we can make no binding judgments and which must therefore be left out of account in all attempts to form a coherent environmental policy. In my book *Beauty*, I have argued rather that the search for beauty stems from our acknowledgment that there are things with intrinsic value, things that are not to be traded, the conservation of which is a duty and not just a choice.[3] When human beings are guided by the sense of beauty they are disposed to defend their decisions, to find lasting reasons for what they do, and to represent the things that attract them as permanent features of a shared home. It is a flippant modern prejudice that judgments of beauty are 'merely subjective', a prejudice that is adopted precisely because it reduces all reasoning to economic reasoning. And yet the whole function of aesthetic judgment is to protect our world *against* economic reasoning. Aesthetic values are not market values: that is their point.

I am not arguing that aesthetic judgments have the kind of objectivity that attaches to statements of fact. Rather they *reach for objectivity*. In judging something to be beautiful, as Kant puts it, we are 'suitors for agreement'.[4] The judgment of beauty is a move towards consensus, an invitation to join. We make these judgments in part because agreement is important to us. We live in spaces and surroundings that we share. We wish these surroundings to be participants in the dialogue that binds us together as a community – objects that we value equally and which reflect back to us the terms on

which we coexist. Through aesthetic judgment we are extending the accountability that binds us to others within the community. We are rightly blamed for our acts of uglification and desecration, and the community as a whole has an interest in resisting this. And all of us are entitled to ask 'why?' of the person who damages something that we love, regardless of legal ownership.

The sense of beauty is therefore an important part of oikophilia, and those who think we can develop a coherent environmental philosophy on the premise that aesthetic values are merely subjective and therefore to be set aside, are in fact undermining the only motive on which we can rely, in confronting our environmental problems. We see this clearly in the strict standards adopted by the Italian local councils in implementing the Law of Cultural and Landscape Heritage of 2004 (consolidating earlier legislation of 1922 and 1939). Local pressure groups have effectively prevented the corruption that is endemic to Italian local government from invading this sphere, in which all residents, criminals included, have an interest. It is one reason why Tuscany today is recognisably the same place, with the same landscape and same integrated hill-top towns, that I remember from half a century ago.

The movement to protect the English countryside is rather older than the Italian environmental legislation, most of which dates from the 20th century or later. And it is worth dwelling on the English case, since it illustrates a major difference between European countries, and one that has not been sufficiently taken into account by the structures of the European Union. In Italy and France, inheritors of the Napoleonic jurisdiction in which law is dictated from above, local communities must depend upon influencing central government in order to protect their assets. In England, this is not so, and the environmental movement has been able to grow and achieve its goals without aiming for legislation. I will illustrate the point with a brief history.

In England, the Greenwood literature of the early seventeenth century was followed by a host of printed works lamenting the destruction of the forests and pleading for them to be replanted, culminating in John Evelyn's *Silva, or A Discourse on Forestation* of 1664, which was immediately popular and precipitated a movement to conserve and replant the woodlands across the kingdom. (Acts of Parliament followed, that of 1668 to plant the Forest of Dean, and that of 1698 to plant the New Forest, now one of our most treasured ecosystems.) The republication of Evelyn's book in 1776 by the public-spirited conservationist Dr Alexander Hunter led to the environmental movement as we know it today. It also brought about a revival of the Greenwood legend, when Joseph Ritson published, in 1795, a collection of the old Robin Hood Poems and Ballads. This collection was the inspiration for Sir Walter Scott's enormously influential novel, *Ivanhoe*. Thereafter the romantic movement in literature and painting was virtually inseparable from the cult of natural beauty, and it is to the painters and poets that we owe much of the inspiration for the many civic associations that arose during the 19th century with the goal of protecting the natural world.

Nature, as the English conservationists envisaged it, was not a wilderness. They did not envisage the countryside that they so much loved as something apart from and untouched by human intrusions. On the contrary, the beauty of the countryside as they described and painted it was, to a great extent, a man-made beauty. The wilderness, the wild ocean, the barren hills – these might be called sublime, and appreciated for their looming and threatening remoteness. But, for the early conservationists, true beauty lay in the valleys, where pasture had been grazed over centuries, where dry-stone walls and stone-built farmsteads divided the fields, and where every tree was there because someone had decided to keep it. In short, the love of beauty was directed, in England, towards protecting a particular kind of human habitat, and not to saving the wilderness from encroachment. It did not have to be that way: the American wilderness movement which also arose during the 19th century and led to the creation of the national parks, was equally driven by aesthetic values. But its goal was the opposite of the goal of English nature lovers: namely, to protect nature *from* humans, rather than *for* them.

In other words, the early environmental movement in England was concerned to protect a human habitat – one to which people had become adapted, and which they had adapted in its turn. This does not mean that nature was treated merely instrumentally, as a means to support human communities. On the contrary, it was precisely against such an attitude that the love of beauty was invoked. To see something as beautiful is to see it as an end, not a means. And when human beings see their landscape in that way they make room in their hearts for all the things that seem to be useless – the birds, insects, flowers and rock formations that are there because they are there, and not because they have been put there for our uses. Of course, as we now know, these things are not useless at all: one by-product of the love of beauty is the biodiversity on which we all unknowingly depend for our long-term future. Still, it was not biodiversity but beauty that set the environmental movement in motion, and all the good that has come from the love of beauty has come because it has led to the protection of things once thought to be useless.

The beauty of the English landscape is inseparable from the process of adaptation, which can be read in the contours of the walls, fences and hedgerows, in the shape and materials of the crofts, sheep pens and barns, in the lay out of the trees, the ponds and the wildlife coverts. In other words, what people were trying to protect was an existing *solution* to environmental problems, one that had arisen by an invisible hand through the interface over centuries between the human and the non-human world. To use the modern jargon, they were protecting a sustainable environment, one that could reproduce itself unchanged from generation to generation and which would return after every major shock to homeostasis.

I don't say that the love of beauty was sufficient to have this effect, but it was, I think, a major contributing factor, since it drew the attention of conservationists to what was permanent in the arrangement, and to long-term human needs and values embodied in

the landscape. When public-spirited people began to combine in defence of the landscape, in the wake of the industrial revolution and the growth of the manufacturing towns, it was always the loss of beauty that was their first concern. Parliamentary politics had a part to play, but it was largely associations of individual citizens that took the initiative in preserving the things that they loved.

Civil initiatives are important

In response to the destruction of nature in the first half of the 19th century a nature-loving Member of Parliament, George Shaw-Lefevre, founded the Commons, Open Spaces and Footpaths Preservation Society in 1865, while a group of concerned Londoners in the same year founded the Society for the Preservation of the Commons of London. These societies were not initiated or controlled by the state. They were associations of private citizens, who made use of old common-law rights and easements both to protect places from destructive development and to keep the ancient rights of way unobstructed. The existence of these rights of way – which were not created by the state, but 'discovered' by the common-law courts over centuries – proved to be one of the most powerful weapons in preventing large-scale invasions of the landscape, since it was a weapon that anyone could wield in the courts, regardless of social status or ownership.

A similar story can be told about the protection of wildlife in England. Wildlife enthusiasts founded the Selborne Society in 1885, commemorating the nature-lover's manual, *The Natural History and Antiquities of Selborne*, by the Rev. Gilbert White, vicar of Selborne, which has been reissued in every year since its first publication in 1788. The Selborne Society still exists, as a private trust managing a nature reserve. It set the pattern for other such trusts, notably the Society for the Promotion of Nature Reserves, founded in 1912, which became the Royal Society of Wildlife Trusts, giving rise to Wildlife Trusts in every county in the kingdom. The Royal Society for the Protection of Birds began life under another name in 1889, to become, during the 20th century, one of the most vigilant of pressure groups in defence of wildlife, with today 1,500 employees and over a million members.

Many of the civic initiatives were inspired by John Ruskin, who founded the 'Guild of St George' in 1870, and who wrote tirelessly in defence of natural beauty against the incursions of modern industry. His defence of the landscape against the railways is today regarded as somewhat quaint; but he inspired the educated class to defend beauty against spoliation wherever the fight could be joined, publishing his great plea for the conservation of our urban fabric, *The Seven Lamps of Architecture*, in 1849, and thereby stimulating the movement that was to culminate in the Society for the Protection of Ancient Buildings in 1877.

The first garden city – Letchworth.
Photo: Image Select

Thanks largely to Ruskin people began to see that nature could not be meaningfully conserved in isolation from the human habitat – a point explicitly recognised by the Italian legislation of 2004, referred to earlier. Towns and villages are an integral part of the nature that surrounds them, and should be organic, adaptable, places of concentrated settlement in which the pursuit of beauty inspires a true sense of belonging among the residents. In 19th-century England the disorderly overspill of towns and factories into the countryside became the target of organised opposition, and led to the foundation, in 1895, of the National Trust, by three Victorian philanthropists under the leadership of Octavia Hill, a long-standing environmental campaigner and disciple of Ruskin.

The National Trust was to be the 'guardian of the nation', and its initial goal was to acquire coastline and countryside and to protect them from uncontrolled development. The Trust was not then, and has not been since, a government organisation and to call it an NGO is to misrepresent its moral character. NGOs, after all, are 'non-government' organisations, organisations that define themselves through roles that *might have been* the roles of government, and which therefore have an inevitably 'political' stamp. The National Trust is a civil association, granting privileges to its members, of whom there are now 4 million, and setting an example of stewardship to the nation as a whole. Its members are not mobilised behind a campaign but settled around a common interest, and they refresh that interest by visiting the places that the Trust maintains.

Perhaps the most interesting civil society movement for the protection of the natural environment is that which began in 1899, when Sir Ebenezer Howard formed the Garden City Association in order to advocate a new kind of conurbation, free from the overcrowding and pollution of the Victorian slum, and reviving an idea (the 'garden city', in which nature and streets interpenetrate) that had been first entertained by John Evelyn in 1661. The Garden City Association was eventually to become the Town and Country Planning Association in 1941, joining forces with other civic associations to press for planning laws that would constrain development in both town and country. Today it is one of the most important campaigners for 'eco-towns' and sustainable development. The Campaign for the Preservation (subsequently Protection) of Rural England (CPRE) was launched in 1925, and now has branches all over the country, doing what they can in the cause of the 'beauty, tranquillity and diversity of the countryside'.

The efforts of the CPRE were boosted by the historian G. M. Trevelyan, whose book *Must England's Beauty Perish?*, published in 1926, awoke the reading public to the threats posed by urban sprawl and the growing network of roads. Trevelyan's warning was amplified in 1928, when the architect Clough Williams-Ellis, founder of the model town of Port Merion in Wales, published *England and the Octopus*, describing the danger for both town and country of ribbon development – sprawl along the roads between conurbations. Williams-Ellis's concerns, like Trevelyan's, were primarily aesthetic, but the book provides an eloquent illustration of the role of aesthetic values in environmental protection.

Sustainable farming, wildlife habitats and energy conservation are all threatened by ribbon development, and Williams-Ellis's initiative was one of the most fruitful of all the pre-war attempts to conserve the many managed environments of England. In 1938, when the situation was worsening, he gathered together some of the most eminent authors of the day, including E. M. Forster, A. G. Street, G. M. Trevelyan and H. J. Massingham, to produce *Britain and the Beast*, a book that profoundly influenced government thinking, and which was eventually to lead to the Town and Country Planning Act of 1946, establishing Green Belts around the towns, forbidding ribbon development and laying down nationwide constraints on building in rural areas. Comparing England as it is today with Holland or Belgium gives a pronounced sense of the ecological benefits that have flowed from the 1946 Act. What is important for present purposes, however, is to recognize that the Act was a response to a long series of civil initiatives, and a transcription into law of demands that had already been fully articulated by private citizens.

In almost all the controversies in which the environment of England has been at stake, homes and habitats have been as much threatened by the top-down plans of government as by the ambitions of the developers, while the work of conservation has been initiated by civil associations, which have enjoyed the endorsement of government only *after* they have changed public perception. To say this is not to take sides against the government. It is the duty of government to cater for and if possible to reconcile competing interests, of which a loved environment is only one. Nevertheless, it is to offer confirmation of the thesis that environmental protection comes from the oikophilia of people, and not from those who use money, influence and political power to impose large-scale projects from on high.

The efforts of civil associations are sometimes dismissed as the work of middle-class 'nimbys' and hobby farmers, and we need to bear that sceptical attitude in mind. It resonates in many people today and there is a truth contained in it. It is part of living properly that one should love one's surroundings; and it is part of love to resist unprecedented change. But we cannot base our policy towards the past on mere resistance. We need a philosophy of conservation, one that will make the distinction between policies that conserve the life of a country, and those that merely pickle what is dead. After all, no conservation makes sense if it is directed *only* to the past. It is for the

sake of future generations that we do these things. But the history of conservation in England suggests that an effective environmental philosophy will not be shaped by government or government agencies. It will arise as all other successful environmental movements have arisen, through free association of the citizens, working to restore the homeostatic systems that are destroyed or disturbed by the wrong kind of government. These citizens will be animated first and foremost by the love of beauty and the feeling for home.

The strength of those feelings in England partly explains the resistance to wind farms: objects which have been embraced by the German and Danish green movements as part of the solution. For many English environmentalists, they are part of the problem. Whatever the ecological benefits in terms of clean energy, English people tend to the view, endorsed by the National Trust among others, that wind farms are a form of aesthetic pollution, and that aesthetic pollution is a real ecological cost. A sustainable ecosystem arises, today as in the past, as a by-product of a landscape shaped by our sense of what fits and harmonizes. And wind farms don't fit. The turbines intrude on the horizon like an army of visiting insects, their sails agitating the skyline, their raw, asymmetrical structures negating the contours of the land. Wherever these eerie visitors settle, people are unsettled, and the motive of stewardship receives a damaging blow. Hence civic associations have been springing up all over England to fight the proposals for wind farms, and to put pressure on the planners and on central government to protect the horizon from the ghouls.

I don't say that the resistance to wind farms is always justified. But it is important to understand the motive for it. The sense of beauty belongs to oikophilia, which is the only known motive in ordinary people that will cause them to adopt the environmental agenda as their own. Even in Germany it is not, as a rule, those who live under wind turbines who campaign for their installation. And if wind farms alienate people from the landscape in which they live, then they undermine the motive that leads ordinary people to include the conservation of nature in their agenda. Without oikophilia, people will lapse into the kind of 'rational' conduct that interests economists, and which leads inexorably to the 'tragedy of the commons'.

The history that I have very briefly sketched illustrates the exceptional nature of England, as much as the value of citizen's initiatives. The English common law is not the property of the State, and the English law of associations is built on the concepts of equity and trust, which are unique to the Anglosphere, and which enable citizens to associate for purposes of their own, without permission from the State. It is these legal instruments that have made civic movements so influential in my country, since they mean that the law responds automatically to social realities, and does not have to wait for the State to intervene. The case of *Rylands v Fletcher*, 1865, established the principle that 'the polluter pays', long before any government had addressed the question of industrial pollution, while that of *Chasemere v Richards*, 1859 was used by the Anglers' Conservation Association in 1952 to bring river pollution to an end, even though it was

State owned industries that were responsible for the mess.[5] Those cases are common-law cases, in which a judge 'discovered' the relevant law without the intervention of the State. And in the second case the laws of equity were used, both to create the legal entity (the Anglers' Conservation Association) with the *locus standi* required to sue, and to offer the needed remedy: the remedy of injunction, which essentially criminalises any attempt to defy the ruling of the court. It is not to be assumed that civil association is either so easily achieved or so effective in its results outside the peculiar circumstances created by common-law jurisdiction. And it is probably the persistence of this jurisdiction that encourages people in the anglosphere from taking charge of their environment and lobbying for its protection.

Just the same history of nature protection by civic initiative is displayed in the American case, though with very different results. From the expedition of Lewis and Clark in 1805 to the founding of the National Trails system in 1968, nature has been associated in American feelings with the frontier experience – the experience of standing at a threshold, civilization behind you, the wilderness before. 'In wildness is the preservation of the world' wrote Thoreau, and although *Walden* describes a domesticated place, the writer sees it as a place that dwarfs his humanity, returning him to his proper and subordinate place in the scheme of things. That is the sentiment taken up by John Muir in his religious panegyric to the Yosemite Valley, and which led to the foundation of the Yellowstone National Park in 1872, the National Park Service in 1916 and the Wilderness Society in 1935.

The concern for the wilderness is readily explained when we remember that the American landscape was being taken over by the settlers from hunter-gatherers and subsistence croppers just when the new industrial methods of production were growing in the towns, and spreading along the railroads to the remotest frontiers of the country. There were few settlements, and those that existed were not under threat from the communications on which they depended – on the contrary, the goods and knowledge that came to them along the railroad amplified the oikophilia of their residents and overcame their sense of isolation. The thing most under threat was the 'wilderness', that partly mythical residue of the interaction between tribal man and hunted animal, into which the white man had come uninvited. This wilderness was lovingly described by James Fennimore Cooper in *The Last of the Mohicans*, and lovingly painted by the artists of the Hudson River School. It was invoked by Muir, Emerson and Thoreau as a sacred background to the American adventure, and their sentiments were absorbed by educated Americans during the latter half of the nineteenth century in the same way that Ruskin's very different sentiments about the cities of old Europe were absorbed by their British contemporaries.

The Sierra Club was founded by John Muir and others in 1892, and at first had a role comparable to that of the English National Trust, founded three years later. Today the Sierra Club has 1.3 million members. Unlike the National Trust, however, which has remained a civil association without campaigning goals, the Sierra Club has become an

Aesthetic pollution – windfarm behind Stirling Castle. Photo: Image Select

active campaigning NGO, devoting itself to the defence of wild places and threatened landscapes. The pastoral valleys and ancestral homes kept up in England by the National Trust for the benefit of its members have their likenesses in America, and especially in Jefferson's Virginia; but for the most part they find private protectors and are seldom the subject matter of campaigns. Rather than attend to those small-scale ecospheres, the Sierra Club identifies with the large environmental 'causes', and today is in the forefront of the battles over logging, ranching and urban sprawl.

The Wilderness Society was founded in 1935 and today has 350,000 members, devoted to visiting and protecting the unspoiled hinterlands and to defending wildlife from the adverse effects of civilization. Among the founders of the Society were Aldo Leopold, whose writings in defence of 'ecocentrism' inspired a whole generation of environmentalists after the Second World War, and Benton MacKaye, originator of the Appalachian Trail in 1921, and the first dedicated campaigner against urban sprawl.

The campaign against sprawl in fact illustrates the downside to the wilderness obsession, which is the comparative neglect of the human habitat. The natural environment is seen not as the place where we are, and where we settle, but as the *other* place – the untamed place where we go, like Thoreau, in search of our soul. For wilderness lovers, the true *oikos* is a place of solitude where they commune with a non-human nature. This is the sentiment invoked by Leopold and affirmed in the comfort of the suburbs by the National Geographic culture that governs the coffee table and the video screen. Yet real oikophilia, like charity, begins at home, and it is precisely in this respect that American environmentalism has been deficient. Urban sprawl is only part of the problem; far more serious has been the collapse of the inner city, under the impact of zoning laws, inhuman building styles and ghettoization – all of which are now dominating the growth of European cities, it being a law of politics that governments follow the worst examples since anything else requires thought, and thought is in short supply.

Again, however, we should recognize that the problem is no sooner brought into prominence than the civic initiatives begin that promise to mitigate it. In reaction to the wilderness cult there has arisen in America an agrarian culture represented by writers like Wendell Berry and Allen Carlson, and by associations like the National Family Farm Coalition and the Food Family Farming Foundation.[6] In reaction to the devastation of

the cities there has arisen the New Urbanism movement, strongly influenced by the example set by the Prince of Wales in the new town of Poundbury, England. Such small-scale civil initiatives continue to evolve in response to local problems – some of them described by William Shutkin in a book devoted to the cause of 'civic environmentalism'.[7]

Returning to the European case, we have to recognize that few member states of the EU enjoy the kind of legal and institutional flexibility that has made it so easy for the citizens of Britain and America to join in the fight to protect beautiful nature from degradation. Nevertheless, oikophilia is a human universal, and celebrated in the art and literature of Europe from the very beginning. The foundational poem of our civilisation describes a man who gave up immortality and life with a goddess, in order to set out across dangerous seas to his *oikos*. And it would not be a very great exaggeration to say that the art and literature of Europe has, since Homer's *Odyssey*, been an art and literature of home. From the *Aeneid* to *Pan Tadeusz*, and from Shakespeare's history plays to Proust's invocation of Combray, our literature has dwelt on the experience of settlement, and on places made beautiful by the work of adaptation.

The European Union should take sides with the oikophiles

To translate this love of home, community and beauty into creative initiatives to protect the natural environment is never easy, and it will be yet more difficult in the years to come, when migrations and trans-national commerce uproot people from the places that are dear to them, while putting pressure on governments to engage in gargantuan infrastructure projects. The work of the EU institutions should be to take sides with the oikophiles against the philistines whenever this is possible. This means opening the way to civil initiatives, removing the regulations that stand in their way, and putting pressure on governments to allow a voice to local communities in the decisions that affect them. It also means, if my argument is right, according a proper place to beauty in all decisions that affect the relation of people to their natural surroundings.

In Western continental Europe, enjoying the benefits of a long-standing rule of law, there are avenues to legislation that encourage local communities to agitate on behalf of their natural environment. But we must take seriously the contrast with Eastern Europe, whose national governments are heirs to the lawless social engineering of the Communist Party, and whose people have been for fifty years deprived of the right to associate for any purpose whatsoever, and certainly not for the purpose of protecting the environment. Reviving civic initiatives in those countries has been hard and fraught with disappointments. Nor have the European Institutions always been helpful. Heavily subsidised road building with European funds has created the opportunity to drive motorways through unspoiled landscapes, at enormous cost to the environment but with great benefits to the corrupt politicians who authorise it.

It is useful to conclude with a note on environmental projects in Eastern Europe, and the frequently adverse effect of the European Union on civil initiatives in the former communist countries. Romania is a particularly significant case, since, for all the devastation wrought by Nicolai Ceausescu, it survived communism with large tracts of unspoiled nature in which self-sustaining human habitats were an integrated part of the natural ecology. Perhaps the most important civic initiative for environmental protection in the country has been the Michai Eminescu Trust, named after Romania's national poet, but founded during the 1980s by an Englishwoman, Jessica Douglas-Home. At the time, all independent civil initiatives in Romania were both illegal and mercilessly persecuted if they occurred, so Douglas-Home had to work in a clandestine way (she tells the story in her book, *Once Upon Another Time*). The trust mobilised international opinion against Ceausescu's plan to raze old Bucharest to the ground, and also to level 20,000 of the lovely stream-side villages of the country. The trust was successful in preventing the worst of Ceausescu's plans, and after the fall of communism established itself in Saxon Transylvania, recruiting local sympathisers, and beginning the huge task of reviving the villagers' half-forgotten building skills and transferring English civic expertise to the day to day running of a citizens' institution. For the most part its projects have involved restoring the Saxon villages (deserted by most of their indigenous population after the fall of the Berlin Wall) and protecting the wildlife habitats of Transylvania.

The major obstacle to the Trust's work has been corruption, not least corruption fuelled and instigated by the EU. EU grants for infrastructure projects – sewage, roads, rivers, bridges, schools etc. – enter the economy via the local mayor (of which there is one for every five villages), not via any independent association of citizens. Invariably at least half is siphoned off and used to enrich the mayor and his cronies, often by embarking on unnecessary and environmentally destructive projects, among which the building of high-speed roads through sensitive habitats is by no means the least frequent.

In one significant event, earlier this year, the mayor of Bunesti village succeeded in obtaining permission for the area outside his village – containing wild forest, rare flowers, and a precious habitat for endangered species such as the lynx – to build a vast sports hippodrome, with a hotel complex, swimming pool, football stadium and more. Caroline Fernoland, a local director of the Mihai Eminescu Trust, was able with the help of sympathetic journalists to get the plan overturned, by proving the project to be illegal under EU legislation and certain national laws. In many cases matters have to be fought in this way through the courts, themselves often corrupted by the speculators and the mayors. The equivalent of the civil associations that have, by and large, protected the English countryside, has yet to arise.

A similar story can be told of Poland, Bulgaria, Slovakia and the Czech lands. In all such cases, we must take account of the effect of 50 years of totalitarian government. The fragile roots of civil society were torn up and trampled during that period, and are now hard to grow again from seed. The worst thing is to provide funding for

infrastructure projects, passing money through corrupt elites, who have an interest in building roads, whether or not roads are needed. The right approach must be to track down the oikophiles, and to respond to their requests. EU money and influence should be directed away from central government and from projects managed by party politicians, to the people who are acting out of love of their country. But how to find them? How to find them now, when, thanks to EU freedom of movement provisions, most have escaped to places where civic initiatives are effective – Britain, for example.

Notes

1 Ostrom, E. (1990). *Governing the Commons. The Evolution of Institutions for Collective Action*, Cambridge: Cambridge University Press.

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3 Scruton, R. (2009). *Beauty*. Oxford: Oxford University Press.

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Carlson, A. (2000). *The New Agrarian Mind. The Movement Towards Decentralist Thought in Twentieth Century America*, New Brunswick: Transaction Publishers.

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‘Creating a green neighbourhood’

People easily connect to each other and their neighbourhood out of their natural love for plants, finds Katarzyna Pudlo (33). She promotes ‘guerrilla gardening’ in Lublin, Poland. This could be considered an example of an ecological art of living, as described by Wilhelm Schmid.

Katarzyna Pudlo says: ‘At the beginning, it was just me and my friends. We started a small garden on a forgotten plot of land to liven up our neighbourhood. We chose cheap and not very demanding plants, because we did not have much skill, time or money. While I was busy planting herbs, many neighbours I had known for years but seldom spoken to, stopped for a chat. They advised me, provided shoots and seeds, offered to help maintain our little garden, asked how they could start one themselves. It is my experience that gardening easily leads to a conversation, and because plants are associated with positive things like health and beauty, these interactions are almost always joyful. I, for one, certainly met my neighbours in a new way. By now, I don’t maintain that first garden anymore, but some of the herbs and flowers I planted are still there. They are being looked after.

I now do this for my job, as well. I work at the municipal cultural institution of Lublin, a university town in the east of Poland, where I organise festivals, theatre performances and the like, and counsel all types of volunteers. I also advise people on how to start a garden, and this is my favourite activity. It is nice if people enjoy a festival, but even nicer if they become active themselves and get their hands dirty, digging the ground, and thereby beautifying their own habitat.

The first guerrilla gardening group arose in 1973 in New York, when Liz Christy had the guts to transform a derelict plot into a garden. Currently, the central figure in Europe, in this respect, is Richard Reynolds from London. He is our role model and inspiration, and manages the guerrilla gardener’s main website. Richard visited us a while ago, and it is funny how he sees possibilities for planting seeds everywhere when you walk the streets with him. Originally, guerrilla gardening was an illicit activity; one started gardening in a public space without consent, sometimes at night so as not to get caught. This is a bit different in Poland. Here it was never illegal; that is why I as a civil servant can promote it without any problem. In fact, the city council loves and stimulates it when citizens start a garden. They sometimes even fund it.

You should understand guerrilla gardening within Polish history. In the 1970s and 1980s, many people had their own *dacha*, a small house in the countryside with a home garden. Their *dacha* was very important and dear to people: it was private, it was yours, and it

Guerrilla gardeners in Pudlo, Poland.
Photo: Marcin Butryn.

provided fruit and vegetables that could be difficult to obtain in the cities. Dachas are still popular today and gardening still connects to this feeling of freedom. Especially elderly people start to glow when they see us gardening in the cities, and they encourage and advise us because they have grown up with knowledge of plants. Many Polish grandmothers are guerrilla gardeners without being aware of it!

There is also another side to it. Communism has left us with a peculiar spatial design. Our old city centres are very crowded. It is hard to create more green in the heart of town, because there is not so much open space. So, gardening in those places is at best small-scale; herbs in front of apartment buildings, perhaps a row of flowers alongside a road. In contrast, our suburban neighbourhoods often have very large, Soviet-style public spaces; people were not supposed to have private gardens, you see. The problem here is that people don't like to maintain these spaces because they were forced to do so under communism. The era of communism is decades ago now, but memories run deep.

This applies to me, as well. As a child, I lived in a small village close to the eastern border of Poland. This area is seen as backward by the rest of Poland, but I love it because it is so green. I grew up with my grandparents, who were farmers. I loved the plants, the animals, the nearby river. Our family owned a small forest, where we often roamed to inspect the trees. These are happy memories that have shaped me as a human being. I still love nature, and I deeply respect farmers because I know how much work goes into tending and harvesting fruits, grains and vegetables.'

Ecological Intelligence

Wilhelm Schmid

The need for an ecological art of living

The issue of ecology is not new; it has been with us throughout recent human history. What is new is the extent of the problem; it has grown in the wake of the technical and industrial advances of the 19th and 20th centuries and, if the signs and data are to be believed, it is set to become a threat to all humanity in the 21st. The main issue is the very energy source that has driven that entire progress – the use of fossil fuels. We have seen production and technology on an unprecedented scale, linked with the use of energy from fossil fuels; yet, at the same time, their use releases pollutants, on a huge scale. The consequences of climate change threaten not only the habitats of plants and animals, but ultimately that of humans.

Today's ecological awareness differs from the understanding of ecology in previous times and cultures in that it sees the role of humankind and deals with anthropogenic problems with a worldwide reach.[www] It engages with the world in a new way, seeing the whole Earth as the home ('*eco-*' from the Greek word *oikos*) that humans share with every other living creature and organism.[2] This idea of the inhabited world reminds us that this issue involves more than the impersonal 'environment' around us; the deep bond between ourselves and our planetary home means that this issue concerns the very existence of humanity, not merely the surroundings that affect us in an indirect way.

The Greek word *logos* in 'ecology' refers to 'knowledge' about all that constitutes this home: the interaction of the various spheres, on the overall, global level and in the smaller ecosystems of a particular territory or region. The concept of *ecology*, then, speaks of a culture of living, an understanding of how that way of living in a particular place interacts with the immediate environment and the world as a whole. It has an *epistemic dimension* as a form of knowledge, though one of uncertain status given that its object is imprecisely defined, the interrelated matters it examines are so varied, and their interactions so vast and ever-changing that they are hard to pin down.

Pictures made during the first manned mission to the moon contributed to the idea of the earth as the home humans share with other creatures. Photo: Image Select

Ecology as a science deals with nature, of course, but it has become harder than ever to determine what constitutes 'nature', since human involvement has acquired global significance.[3] The produced phenomena that we perceive as nature (*natura naturata*) no longer exist in their own right independently of human beings, whose imprint has long since marked the landscape that we still call 'nature'. Increasingly, this is even becoming true of nature in the active, creative sense, *natura naturans*, which we can affect by the use of technology on the atomic and molecular level. So, even at the moment that it comes into being, nature is exposed to manipulation by the human noosphere.

Our concept of nature has its own history, but nature and humankind are now inseparably intertwined on the closest and on the global level: humanity itself is no longer simply part of the system we call nature, and is not only subject to it but intervenes in the way that it functions, changing it to such an extent that we can no longer speak of 'nature' in an objective sense. Ecology in its epistemic dimension is more than a science or a sphere of knowledge; it also involves an *ethical dimension*. Ecology as a science can only examine given conditions and the changes occurring in them; the issue of what is to be done about its findings is a question for ecology as ethics and the art of living.

We need to find rules to follow and work out the reasoning behind them. We need to find the right approaches and practical ways to apply them, and they must be capable of dealing with the threatening situation we face. This is more difficult than it might appear. The mere fact that there is a threat does not automatically constitute a demand for action. *An 'is' does not necessarily imply an 'ought'.* Moreover, by no means everyone agrees that an existential threat exists, and by no means everyone who sees a threat concludes that action must be taken. Nor is it entirely clear, if the threat is taken seriously, what the right actions would be or who should carry them out.

It is not clear how we can get out of this situation without making a fundamental *choice*, one that needs to be taken by every individual who sees it as a matter of personal ethics and lifestyle to consider ecological issues, to be concerned about them and to take responsibility. *Intelligence* has the advantage that it does not take an abstract approach. This is prudence. Instead of just formulating well-meant, ineffective statements of how things should be, prudence builds on the innate *self-interest* that protects us all from

drifting into incalculable danger without realising it. Risks and dangers can arise, of course, without our doing; but it is madness to exacerbate those dangers by our own actions. Prudence does not have to wait for facts about some present or expected reality to be confirmed before it acts; it works on the basis of probabilities. In life in general, if we wait for absolute certainty it can be too late to act. So it is in matters of love, for instance. So it is in matters of ecology.

How an ecological art of living might look like

An intelligent assessment tells us that if we as human beings disregard ecological interrelationships, or act in a way that upsets the ecological balance – it could rebound on us. This is quite independent of what we think about these matters – whether we see them as ethically indefensible or otherwise. Prudence in ecological matters gives us the clear principle: *Do not put yourself into a situation where the ecological risks are so high – and could rebound on yourself and the whole of humanity – that there might be no escape.* Nothing and nobody can force someone to accept this principle. The only way that individuals can make it their basis for action is by following their own insight, and it is their own choice that makes it effective. A lifestyle based on prudence does not need to be justified by anything else; it simply relies on individuals' concern for themselves and the ecological circumstances in which they live. Others may come to different conclusions, and this must be accepted. Maybe the conditions on which their lives are founded are unimportant to them. In the end, it is an existential, democratic choice. However, if individuals do accept this concern for themselves, this results in a certain lifestyle:[4]

1. The ecological art of living calls for an *extended self-concept*, reminding the prudent self that this is one and the same planet inhabited by a whole variety of different life forms. Human behaviour affects other life forms. This self-concept teaches individuals to look beyond their own immediate environment and to see their existence in a wider context. They constantly try to look beyond their own inner world and see their role with new eyes. The ability to move to and fro between their own individual perspective and a global one gives them flexibility of thought, helping them to a standpoint above and beyond the merely personal and forming a bridge to other individuals, life forms and ecological structures, distant in space – other individuals, life forms and ecological structures – and distant in time – future generations who will have options opened up or destroyed by what is done in the present.

2. Against this broader background, an ecological lifestyle means leading a *prudent life*: that is, a moderate use of resources and technologies that is ecologically sustainable. The considered approach thinks first before it intervenes in the web of interrelationships around it. When it does act, it does so only to the extent that the system can bear it, and avoids creating irreversible damage. In many situations, the responsibility for this lies solely with the individual: lifestyle, and the part played by the individual in forming the general attitudes by which society decides what the

Urban gardening in Berlin. Photo: Image Select

extent of human action should be. In this way, guiding principles emerge as to how resources and technologies should be used. These create a framework around which rearrangements of social structures and institutions can be oriented to meet ecological concerns.

3. The work done by individuals in *building up and forming their own selves* gives them an inner strength that they can apply when dealing with technologies. This *power of the self* enables individuals to become, quite literally, a superpower: it gives them power over the old kind of power which had become ossified into 'mastery over nature'. This has found expression in all kinds of technological interference in ecological matters. This inner strength gives individuals power over the forces of technology, something to which they would otherwise remain helplessly subject. An ecologically prudent individual is not obliged to avoid the use of technology completely. Rather, this power of the self makes it possible to use technologies in an individual way that is reflective, restrained and carefully thought through, and also to make use of alternative technologies, which have long been available in many spheres of life.

4. Another very useful approach to making the ecologically aware lifestyle a reality is to *reflect on our own habitual behaviour.* Our unconscious choice of materials and objects and the way we use them out of sheer habit, often, have ecological consequences. The set habits of individuals or societies are a greater hindrance to an environmentally helpful lifestyle than nameless forces of whatever kind. So, we should reflect carefully on all our everyday actions, however insignificant they may seem, and consider their ecological consequences. This means rethinking the commonplace actions of everyday life that we mistakenly discount as trivial. It is not enough simply to *know* that we need to make changes in order to develop an ecologically helpful lifestyle; we need patient *practice* of changed habits and attitudes, so that they become 'second nature'.

5. An individual who takes this prudent attitude and is working to make ecologically useful changes is more than just an economically calculating subject; this kind of person is an ecologically calculating individual. These individuals are making the change from mere consumer behaviour to a consciously chosen lifestyle – *from consumer to prudent user.* The definition of the modern subject as *consumer* says a great

deal. The approach we need is a departure from this. We become *prudent users* of resources and products, objects and technologies. This prudent use is the careful, thoughtful way of dealing with things and materials. Consumption, on the other hand, accepts that to use resources is to use them up – they are expended to satisfy the particular need of the moment. The fact that our modern economy has a market basis does not necessarily prevent us from using it as part of an ecologically aware lifestyle. A functioning market economy will be able to adapt to conscious, prudent users.

6. If the lifestyle of individuals and society is governed, not by consumption but by conscious, prudent use, we naturally arrive at the concept of *cycles*, which consumption-driven thinking and behaviour have led us to ignore. '*Recycling*' is in many ways characteristic of an ecologically aware lifestyle. This involves more than the 'recycling' in which objects and materials are reused; it is a fresh awareness of the various cycles of life. Once we recognise the cyclic nature of materials and elements, and see that these cycles pass through humanity itself, we see ourselves as part of this cyclic process. *Gardening* offers us a perfect example. The garden reminds us that the cycles we see in nature apply just as surely to the individual: that little plot of earth represents the cycle of coming into existence and ceasing to be – in all probability the fate of humankind, over and beyond our finite existence.

7. Recycling contributes significantly to a lifestyle of *sustainability* – a term that constantly recurs in any discussion of ecology and the environment. A sustainable lifestyle involves seeing our individual action and restraint in a wider time context, and asking from that point of view, is this life-affirming? This wider time horizon counters our tendency merely to focus on the present, wanting our needs to be satisfied instantly as the promises of our modern economy have led us to expect. In that situation, there seems no sense in maintaining any awareness of the future. A lifestyle that focuses on maintaining ecological integrity, even in the smallest, apparently insignificant matters, seeks to release us from this neglect of the future. By doing so it preserves the foundations on which life depends.

8. A conscientious care for our own bodies is equally part of an ecologically aware lifestyle: the *ecology of the body*. The body is an ecosystem in its own right. The ecology of the biosphere as a whole and the risks that endanger it are also being played out inside the body. Human beings do not inhabit the planet as separate beings, but interact with it through their metabolism. They breathe it, eat and drink it and excrete it. Among the substances that pass though the body in their cycle of use are also the pollutants that humans have produced. As Rachel Carson wrote in her book *Silent Spring*, 'If we are going to live so intimately with these chemicals, eating and drinking them, taking them into the very marrow of our bones, we had better know something about their nature and their power.' This, back in 1962, was the book that gave the starting impetus to the environmental protection movement in America. Ecology of the body does not mean becoming a health fanatic; it means being aware

of what is harmful and what is good for the body, knowing which substances have what effect on it and in what quantities, so keeping the balance between the extremes of excess and deficiency, either of which can kill.

9. The ecological art of living is not characterised by hard-bitten restraint, but by *enjoyment of life*. This calls for the full unfolding of our senses. Enjoyment simply requires a few moments of leisure amid the self-imposed stress. To enjoy a meal, we have to take a little time. We don't need luxury goods to enjoy life. Having them often only gives us the impression that true enjoyment of life is somewhere else, that we are not really living, that we 'just don't feel it'. The ecological lifestyle by which we try to achieve a good, life-affirming existence becomes an *existential argument* in itself, better able to convince others to change their lives and live in an ecologically aware way than many a factual argument. Another benefit is the inner, overflowing enjoyment as we realise and reflect on the great wealth and variety of ecological interactions, on the macro and micro level. This further motivates our concern to maintain the source of this joy.

10. Finally, the ecologically thoughtful lifestyle is characterised by an attitude of *serenity* that is quite prepared – at least from time to time – to set aside will and action.[5] It helps us take a calm approach to the external ecology of the world around and the ecology within. With this approach, we allow these vital realities time and space to establish their own interactions, and we adapt to find our own place within that. We need serenity in our approach to the many 'crises' that confront us. It may seem like an endless onslaught, but it is with good reason that we have to face crises, because this is an essential element of life; to maintain consistency in life means change. Above all, serenity is the right approach to the ecological crisis. Even if it threatens the very existence of humankind, there is no other basis for ecological change than the free choice of individuals, and nothing can force them to choose their own good. Serenity ultimately teaches us this: *The existence of humankind is not an end in itself that justifies the use of absolutely any means*. Planet Earth can manage quite well without us, though it would be a pity to end the exciting evolutionary experiment that nature began, millions of years ago, any sooner than necessary.

Serenity is not necessarily the way to react to everything, but if we behave angrily, how convincing is that to other people? They will respond to anger with anger, and that kind of opposition does nothing to help the development of an ecologically and socially aware society. In the political context, serenity means incentivising the kind of behaviour that leads in an ecologically desirable direction. That means putting in place a democratically sanctioned framework and then letting the individual actors and social groups take over. It means making compromises instead of barging ahead. That principle applies on every level of politics, local, regional, national, continental and global. The point is to take the ecologically friendly route freely, instead of using compulsion, which would simply lead to ecological enslavement. An enslaved humanity that had only succeeded in rescuing its bare existence would fall far short of what it means to be human.

Choices made by individuals is the basis for politics

These ten points indicate how an ecologically aware lifestyle might look. When trying to make this a reality, once we look beyond the individual to the context of society, it becomes a question of *where power lies*, and not just one of well-meant proposals. Seen in that context, those who are concerned to change society to meet ecological needs are simply one interest group among many. That remains true despite the argument that environmentally prudent behaviour is of value to everyone, because its whole aim is to maintain the basis of life for everyone. Ecologically ignorant behaviour, on the other hand, can bring only short-term benefits; in the long term, it has to be paid for by everyone in a threat to their very existence. Being involved in this power game means sharing in the choice of political direction, and personal involvement in interest groups. What is needed to bring about ecological change is not so much a widespread majority as a minority that becomes a political factor.

The task looks to every individual. Some doubt this, believing that the role is one for politics in the form of state institutions, which must take paternalistic action to bring about the 'only right solution'. But surely the whole basis of politics – at least in a democracy – is the choice of many individuals? It is in democracies alone that we see ecological (and indeed social) awareness: there is no evidence so far that dictatorships have managed to grasp the range of issues posed by ecology, let alone solve them. In the lead-up to an election and during that process there is an exchange of arguments. Both sides can attack each other for threatening the good and healthy lifestyle offered by their own side, but that is more an exchange of blows than a means of convincing anyone. The existential argument is much more convincing, where individuals themselves achieve a lifestyle so attractive that it acts as a beacon to others, who are led to copy it.[6] Atomistic as it may be, this way is effective, whereas the opposite is totalitarian. It is individuals who create families, groups and movements and influence others instructively. Even so, they must take care to remain individual and not become totalitarian. And the route from ecologically aware thinking to action? Daily practice. Think of the Greek *askesis*, self-discipline for a purpose. Many try to drive forward the political solution because they shy away from this personal effort.

As regards *individual lifestyle*, we do in the first instance have the answer to the question of ecological transformation: it involves the many simple, everyday actions and longer-term strategies by which we can shape our everyday lives to meet ecological needs. The most immediate environment in which a person lives is the home: the Greek word *oikos*, home, gives us the word 'ecology', the teaching (*logos*) about the home – from the house in which we live to the planet that is also our home. Each house is the centre of a world and at the same time rooted in ecological structures as energy, materials and products flow into it and through it – all things that I can influence and manage in an ecologically prudent way. That is why it is important for us to reflect on our habitual actions, because they play a huge part in the home environment even if we are not always aware of it. In ecological terms, the main problem with regard to the

Building, designed and constructured out of fully reusable components.

infrastructure of the house is *energy supply*: the combined energy consumption of households is a major contributor to pollution emissions, yet energy is essential to provide heating and lighting, run household appliances, prepare food and heat water. The change from the unthinking *consumption* of energy to conscious thought over its *use* is a matter of my own individual choice. By taking thought I can considerably reduce the amount of energy I need, for example by turning off lights when not needed, or by using low-energy light bulbs and appliances. The use of energy for heating can be minimised by insulating external walls and installing energy-efficient windows. Measures that reduce energy bills also increase eco-friendliness.

The *choice of energy source* is equally important: where does the energy I use come from, and what are the consequences of using it? Nuclear energy brings incalculable risks lasting far into the future, because there is no completely safe long-term storage of nuclear waste, and the radiation risk will last for thousands of years. Where energy is generated by the burning of fossil fuels (coal and gas), this also produces a number of pollutants. The most polluting method is by burning coal and the least using natural gas. Within the home itself, natural gas is an efficient source of energy, and burning wood is carbon dioxide-neutral, because the carbon dioxide released by burning is removed from the atmosphere again by the growth of new trees. Renewable energy offers attractive alternatives that do not pollute: hydroelectricity, tidal power, ground energy, wind and solar. The political choice made by many individuals provides a democratic route to regulations that enable individuals to choose the type of energy they use.

Another aspect of domestic infrastructure is *water supply*. Again, the issue is importantly 'where from and where to?' Where does the water that is used for various purposes in the home come from? What problems might its extraction create in the place it is drawn from? What pollutants might it contain when it enters the house, and what pollutants and waste matter are added to it when it is used in the home? Where does the waste water go, and what consequences will it have when it gets there? It helps to imagine the water leaving the house on one side and re-entering it on the other, so that the pollution we add to the effluent somehow returns to the house via the water cycle. My choice, over my use of water, determines what happens, with all the ecological consequences.

In the *running of the household*, again, we must look at ecological considerations when acquiring the items we need for everyday life, so as to make appropriate choices. In the matter of food and *nutrition*, the inner ecology of the body and the external ecology of the world around are closely linked. It is not just that our bodies absorb the pollutants that have entered foodstuffs through polluted air, water and soil, but also that industrial food processing often causes a deficiency in nutrients, vitamins and minerals. It is advisable to seek out fresh produce that has not been processed in order to provide the body with the nutrients it needs, and also to eat a varied diet. Fresh local produce benefits not only our inner ecology but the environment as well, as this does not require the long-distance transport of food and so reduces the resulting energy consumption and pollution.

Waste has become another issue of household management. If waste materials are to be reused, we need the waste sorting system, much as it has been derided. Despite the criticism, the effort of recycling metals, plastics, paper, glass and organic material is both useful in the practical sense and helpful in strengthening our consciousness of ecological matters by fostering the recycling habit.

Individuals do not simply live in the narrow confines of a house; they also live in a city and a region. *City living* has attractive opportunities to offer: a fashionably urban lifestyle, variety, and the chance to play a part in that full and varied life. But the special nature of city life creates its own ecological problems: *life is so concentrated* into a narrow space, and the vast concentration of buildings and people produces problems of energy supply, water, food, the availability of products of all kind and the matter of their disposal. This poses the questions of 'where from?' and 'where to?' on a much larger scale.
The most obvious problem that every city has to deal with regard to its infrastructure is *traffic*. The constant to and fro of city life is closely linked with the urgent issue of traffic: which roads should be prioritised and which through-routes cleared? Which means of transport should be available, how should they be powered, and what will this mean for the air quality that everyone will breathe?

The *automobile industry* has a key role in environmental change, both in society and the world of industry. There are many reasons for this: cars will remain central to the problem of ecology as long as they are propelled by fossil fuels. They are also such an important determinant of many people's daily lives that ecologically driven change here would be a decisive step in changing everyday life. Lastly, the car industry is such an important component of the economy; if it is made environmentally friendly, this would be a major step in transforming the entire economy. The *ecological car* is on its way in the 21st century, thanks to a number of technological innovations.

A decisive development among these innovations is the move from natural gas and electrically driven cars to the *hydrogen car*. Prototypes have been tested in Germany since 1979, and introduced onto the market by the Japanese from 2014. As with electrical cars, the issue is how the secondary power source, hydrogen, is generated, since this requires

the use of a primary energy source in the first instance to separate the starting material, water, into its constituent elements, hydrogen and oxygen, by electrolysis. Solar power plants, wind power and hydroelectricity could be used to produce the hydrogen, and this could be transported in gaseous or liquid state to a destination where it can be stored in tanks. Combustion of hydrogen by mixing with oxygen simply produces water. No residue remains and no pollutants are released.

Associated with this is another innovation, that of *fuel cells*. These use hydrogen in a process called 'cold combustion' to produce electrical current and heating, with minimal noise and no vibration. In historical terms, this represents the *third generation* of motors, following on from *steam engines*, which relied on burning coal, and the *internal combustion engine*, which uses fossil fuel oil. By setting the process free of reliance on fossil fuels, this development offers a way to leave fossil fuel technology behind. As a technology, it signals a change to a *new and different modern age*. Great hopes for an ecologically friendly future now rest on hydrogen technology and fuel cells, not only with regard to the car industry but with the hope of an entire *hydrogen economy*. This transition offers enormous investment potential; it is certainly not one that can simply be allowed to come about in an ad hoc way. It depends on public acceptance; again, then, something that ultimately depends on individuals.

Cities may encourage ecological lifestyles

The role of the individual may seem insignificant compared with the magnitude of the problems. Yet it is individuals who can take an interest in the conditions and opportunities of city life. Simply by being there and by the way they act, they contribute to that life and influence the *ecological organisation* of the city. The city's traffic management policy can set the pattern for the way people are able to move about and can facilitate or discourage the use of particular routes and means of transport. But it is above all the individual who decides how to make each journey. The inspiration behind that conscious individual choice could well be insight into the potential problems resulting from what a person chooses to do: the realisation that individuals' behaviour itself contributes to the traffic congestion and air pollution about which everyone complains.

Our attention can now turn to *the street* as a public place; one that belongs to everyone and not just drivers. We can rediscover the street as more than a route to travel along, and understand it as a social context, for people. Town planning policy has potential to shape city life in the way it organises space, and assigns certain uses to certain streets: administrators can establish bus and cycle lanes and broaden pedestrian spaces. Room can be made for street vendors and cafés; roadside trees can be planted to create spaces where it is a pleasure to be, and a new concept of the street can emerge in which it is a place for people to linger instead of just hurrying by. This concept is also being developed in Asia: *Better City, Better Life* was the theme of the Expo 2010 in Shanghai.

The other problem of infrastructure facing cities is that of *energy supply*. The essential next step here is the supply of *solar power to cities* and the spread of its use to enable a 'solar city' to emerge in place of one dependent on fossil fuels. A possible development, alongside the decentralisation of power supply and self-generation of power by households, would be for power supply companies to rent out usable tracts of land and install solar arrays to generate electricity for the public grid. Architects can design houses with a view to controlling future emissions, in collaboration with climate experts, heating engineers, town planners and landscape architects. Even high-rise buildings can be designed in this way, to take account of wind conditions and their effect on ventilation and the release of air emissions, the effect of areas of water and green spaces on the microclimate, the creation of impervious surfaces, tree planting, the design and technical provisions to enable homes to use solar energy, and the use of environmentally friendly building materials: in effect, a kind of *high-tech Feng Shui*. Despite the higher investment costs, there would be a saving in long-term running costs. The decision here lies with individuals in the building trade.

Berlin provides an interesting example: the German capital has set out to be climate neutral by 2050. To meet this challenge, the city has established the Berlin Energy and Climate Protection Programme. It has set up a public forum for debate, the Stadtforum, to find out how ready its citizens are to embrace change and invite their suggestions to help Berlin become a climate-neutral city. The question 'Are you ready to behave in a climate-neutral way?' is posted for discussion on the Stadtforum, to explore how to make a common sense of responsibility for climate protection a reality, and identify the actors who can play a part in achieving climate neutrality, and in what way. Suggestions can also be contributed via the Internet: www.berlin.de/stadtforum.

City dwellers also have every reason to give greater attention to the *region*, because ecologically they depend on it: it is their source of fresh air, water and food, and a place for them to relax and escape the pressures of the city. At the same time, it is the place to which their pollutants and their waste are sent. The region has a highly significant role in the generation of *alternative energy*, not only for individual needs but as a potential factor in the regional economy. In addition to energy production from solar arrays and long-established hydroelectric schemes, wind farms to exploit the energy available from this source are transforming the landscape. Individuals, small interest groups or municipalities can take the initiative here. Changes towards an *ecologically based agriculture* importantly involve the production of organic food and also of biomass to be used for energy generation. Heating and electricity can be derived from the burning of wood, straw and reeds in block heat and power plants, and by utilising manure, organic waste and refuse in biogas plants. It is important to return to an environmentally considerate use of the soil, which has become depleted by monocultures and polluted by pesticides and the excessive use of fertilisers.

Restructuring of former airport Tempelhof contributes to climate neutral Berlin by providing an attractive green space, limiting the inclination of inhabitants to visit green spaces elsewhere. Photo: Hollandse Hoogte

Society as a whole may bring about ecologically sustainable prosperity

Looking beyond individual behaviour, there is a need for reorientation on the part of *society as a whole* on ecological matters. Only in this way can major change be achieved. Nevertheless, general rules, forms and norms aimed at the whole of society still depend on the acceptance of individuals and can only be effective with their active or passive participation. The key concept for these socially directed rules, forms and norms could be that of a *socially and ecologically oriented society* and aim to provide living conditions designed to be sufficiently viable in the long term that they will not undermine the vital foundations of society. There is bound to be regular conflict between *ecological and economic interests*. But here, too, individuals have a strong card in the fact that they are pursuing an environmentally aware lifestyle, because they decide what kind of lifestyle they want and what products they need to achieve it. This gives them an economic strength as well as an ecological one. The mechanism that can bring along the ecological reform of society is the economic behaviour of individuals. Their choices affect the demand for certain products, and in a functioning market, providers will respond to this development, in the interests of their market share and profits. Of course, providers try to influence demand, but whether these efforts meet with success is again in the hands of individuals.

On the political front, the part played by ecological considerations in setting *prices* can influence individual choice. The starting point here is the recognition that the prices of many products do not reflect ecological realities: the negative effects of production, transport and consumption and damage to the national economy that they may cause, costs that are borne by society and every individual. The political effect on the setting of prices could avert the need to impose heavy-handed regulation when applying ecological norms, and could prove more effective than setting thresholds for harmful substances.

One example of the effect of prices is that of an *energy tax*, which makes it more expensive to continue with energy sources that are environmentally problematic. The pre-announced, regular increase in the level of this tax over a fairly long period means that the increased cost can be calculated, causing producers and consumers to consider carefully how to reduce their energy consumption and whether to change to alternative energy sources (ecologically targeted behaviour change). The mechanisms of the market itself are prompted to bring about changes in society and the economy: labour, capital, technologies and innovation migrate from one side, that of ecologically ignorant behaviour and economic management, to the other, because it makes economic sense. State intervention then limits itself to establishing the context in which trade takes place, rather than vainly trying to determine what individual trade deals are done. The overall tax burden can be prevented from rising if other taxes are reduced.

This can provide a way to bring about *ecologically sustainable prosperity*. It is not a prosperity based on extravagant spending, the cost of which is passed on to future generations. This automatically changes our understanding of what 'the economy' is. It is no longer a monolithic system but a subsystem of ecosystems, because all the energy that drives it and all the materials it uses ultimately derive from the biosphere. The working capital of an *ecological economy* includes not only the resource generated by human activity, i.e. money, but also the ecological resources provided by nature. The requirement to 'keep the capital intact' then applies to both. This sustainable form of economy rests on the model of a *cyclical economy*, one that no longer wastes resources and that respects ecological cycles, which cannot be abused with impunity. On the level of *business management*, the reorientation of the *national economy* also has to take account of the internal and external ecological context, so that each individual enterprise sees itself not only as a part of the economic system but also of the ecosystems.

The ecologically aware lifestyle becomes something very real when all this is taken into account in the way we as individuals lead our lives; most powerfully so, of course, in our everyday lives. Then it ceases simply to be a fine name for an ineffective cause; it becomes a serious attempt to find a sustainable, lasting form of life, society and economy – one to be taken seriously; one that avoids any kind of ecological damage that could result in destroying the foundations on which our life is based.

Civic sense may be expanded by planetary awareness

Surely, though, we live in an age of globalisation? What role can the individual play in the face of global challenges? What does the art of living mean there? The ecological art of living is based on an expanded civic sense whose focus extends to the global, so that the individual consciously becomes a *citizen of a worldwide society* and not simply of a nationally organised one. *The planetary awareness* that underlies this widened civic sense is evident whenever we give attention to matters that go far beyond our own home, town, region or country.[7] By expanding our attention, we escape our fixation on the

internal problems of our own world, ecological, social and political, and see things through the eyes of people from other parts of the world. It is only an accident of birth that has placed us on one side or the other.

This planetary awareness can be seen in the conscious use of products from the world market. In this way, we exercise our market influence as individuals, however small that influence may be, on the social and ecological conditions of production in the country of origin. It is to the initiative of individuals that we owe the development of *Fairtrade* between European, Asian, African and Latin American countries into a market force to be taken seriously. Individuals, by conducting this trade, are practising a form of market economy that produces more effects than just development aid: trade is fostered in place of condescension and aid-giving. The slogan goes: 'trade not aid'. This brings lasting improvement in living conditions as well as better produce.

In this way, the planetary consequences can inform what we do and do not do. It is the sensitivity and initiative of individuals that lies at the heart of all such decisions and can make the effects on the planet our guide. Here lies the ultimate meaning of our quest for a new art of living: as we realise how vitally our individual existence depends on the greater context with its web of interconnections, and how existentially important these things are if we are to lead a good and life-affirming existence and enable others to do the same. For us as humans, the Earth itself has indeed become our garden, but it is a garden on the edge of a precipice. Each of us as individual humans can cultivate this garden, and that is our art of living.

Notes

1 Grober, U. (2016). *Der leise Atem der Zukunft. Vom Aufstieg nachhaltiger Werte in Zeiten der Krise.* München: Oekom Verlag.
2 Harari, Y.N. (2015). *Eine kurze Geschichte der Menschheit* München: DVA Verlag.
3 Wulf, A. (2016). *Alexander von Humboldt und die Erfindung der Natur.* München: Bertelsmann Verlag.
4 Schmid, W. (2008). Ökologische Lebenskunst. Was jeder Einzelne für das Leben auf dem Planeten tun kann. Frankfurt am Main: Suhrkamp Verlag.
5 See also: Schmid, W. (2014) *Gelassenheit. Was wir gewinnen wenn wir älter werden.* Berlin: Insel Verlag.
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‘Nature knows no waste’

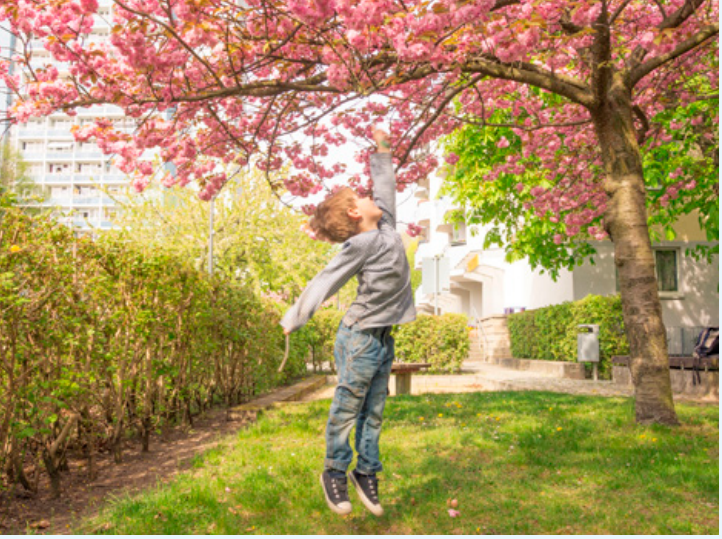
The Berlin-based association Cradle to Cradle e.V. in Germany aims to ground its philosophy in the midst of society.[1] Co-founder and director Nora Sophie Griefahn (24) derives her ideas from natural cycles, which plays an important role in the essay written by Annemarie Mol.

Sophie Griefahn says, ‘For me, nature is a role model. We might learn important principles by looking at nature. Take for example a cherry tree. In spring, a cherry tree produces an abundance of blossoms. Way too many, if you look at it solely from a viewpoint of efficiency. Yet cherry trees survive, so the blossoming is effective enough. And seen from a wider perspective, the tree is very productive; it provides shade for animals, produces oxygen, makes us happy because of its beauty, and so on. So perhaps our conception of productivity is too narrow. That is what I learn from nature.

I founded the organisation in 2012 together with Tim Janssen, whom I met at Luneburg University where I studied environmental science. Now, four years later, there are 6 people working at our office, we have more than 400 volunteers from all ages and social circles, and Germany counts more than 30 regional groups. As an NGO, we mainly facilitate educational projects. We try to raise awareness and connect people around the idea of cradle to cradle. During the year, Tim and I give many talks, and right now we are organising our third national congress where we expect about 600 attendants.

I am convinced it is our positive message that has made us grow so quickly. We don’t endorse the idea that people have to feel guilty for “exploiting” nature just because they live. Our way of thinking makes you feel you can enjoy and celebrate the fact that you are alive, and be beneficial for the ecosystem, as well. That is what people really want; to have a positive footprint, like the cherry tree. To be able to feel that it is nice and good that you exist on earth. So that is what we focus on; creating a new, positive mind-set, and designing practical ways to increase a positive footprint.

When I talk to politicians, I sometimes notice that they don’t really get it. “I have been familiar with the idea of a circular economy for more than twenty years“, they may say, “so what’s new?“ But the term circular economy is often just a fancy name for recycling industry, for painstakingly reclaiming some valuable materials from the waste one ends up with from traditional production processes. It is about turning waste into profit, given the fact that there is waste. If you talk about reusing waste, you are in fact talking about feeding back materials in a production process that is not healthy or beneficial to begin with. So, in a way, the circular economy is about repeating a harmful way of operating, with reused waste products ever-decreasing in value. Whereas this whole idea of waste is alien to nature. In nature, there is no such thing as waste. The challenge is to design production cycles more “naturally”, in such a way that there is no need to



Cherry tree embodying beauty, providing shade and inviting to play. Photo: Image Select

talk of waste because any product, at any stage, is nourishment for the next step in a process.

This does not mean we should abolish technology. There are biological metabolisms and technical metabolisms. Technical metabolisms take elements of nature and use those in the technical cycle. This is fine, as long as the technical cycle is closed.
The question one has to ask is: what is the scenario of this cycle? Copper can be a very toxic element for micro-organisms in a biological cycle, but in a technical cycle it is a wonderful element because of its conductive qualities and because it can be reused almost endlessly without any loss of function. So, the challenge is to develop a scenario in which copper stays within the technical cycle.

My mission is not to preach about things like "if you want to save nature, start at home by taking a shorter shower". This goes without saying. Nor do I want – or need – any compliments for doing so. I want to lift things to a larger scale. This is a political subject, so I talk with politicians and companies about how to adjust our ways of organising production cycles. I discuss with companies how they can conceive of themselves as material banks. Many companies are open to these ideas. They want to make a good product, they want to be proud of what they are doing. They want to be benevolent as well.'

Note

1 More information about Cradle to Cradle e.V. is available on the website: http://c2c-ev.de.

Natures in Tension

Annemarie Mol[1]

In medieval England, only kings and noblemen were allowed to hunt in *nature.* Commoners had to restrict themselves to plants harvested from cultivated fields and milk, eggs and meat from domesticated animals. In the English romantic tradition, *nature* still contrasted with *culture*: it indexed a landscape that a walker may admiringly roam through and be moved by. The French term *la nature* gives rise to other imaginations; it includes such lively edibles as trout that one may hope to catch and fry and blueberries to pick for pies or jam. *Grandes randonées* are marked in with lively red-and-white stripes painted on trees and stiles alike. In German (to make yet another all too big claim) the words *Natur* and *naturlich* evoke a specific way of living, *naturliches leben.* This involves gymnastics, soaking in spa waters, and eating sturdy brown, sourdough bread. And what stands out most in the Netherlands is a proud tradition of engineering that allows people to live in polders below sea level. Dutch dikes and pumping systems suggest that *natuur* is something for humans to technologically tame and negotiate with.[2]

This is not a thorough analysis, but just a hint at the differences that hide behind an ostensibly single world with a shared Latin ancestry. And these words *nature, la nature*, *die Natur* and *natuur* only represent a very small sample of the languages spoken in the European Union. I would love to work with a group of multilingual colleagues to more seriously explore the different versions of 'nature' offered by our various linguistic traditions. But, for now, my point is made: in thinking about *nature,* we would do well to avoid getting trapped in any single language.[3] There are different versions of 'nature' – and these do not simply imply different perspectives on, or different opinions about, a shared 'thing'. Different 'things' are involved and they are embedded in different practices: different ways of walking, building, dreaming, trading, producing, cultivating, eating.[4] This means that quick translations hide gaps, slippages and frictions between ways of living behind an appearance of equivalence. My argument will be that this is a bad idea: it is better to *live with* gaps, slippages and frictions; learn from them; keep them alive. Conceptual diversity is not something we should try to eliminate because it is messy. It makes our thinking richer, more versatile and better able to face new problems

and adapt to new situations. And outside Europe, yet more languages are spoken and there is even more to learn.[5]

Western philosophy has mostly celebrated coherence. By analogy with the way in which mathematics projects its numbers onto the X and Y axes of a single Euclidean space, concepts, too, were made to fit within firm and singular grids. They had to be distinctly defined. The propositions they led to might be either true or false; and if A was true, then, by definition, not-A was not. Multivalence and equivocation were squeezed out of these unifying modes of thinking. The internal homogenisation of philosophical schemes was tied to a disregard for what other ways of speaking, intertwined with other ways of living, might yield. When nation-states rose in Europe, philosophers could hope to speak to their particular kings or governments in a nationally normalised tongue. Dialects and the many languages spoken in the colonies were arrogantly overruled along with other particularities of the locals. Now, however, these old models of national univocality are starting to crack. In organisations like the EU, politics is staged as a multilingual conversation between equals. In such contexts, the ability to juggle between different languages is crucial.[6] Philosophy might want to develop this juggling ability, too. Rather than dreaming of coherence, consensus and other unifying causes, we would be better exploring good ways of grappling with divergent ways of speaking, thinking, living.[7] The question is no longer how to overcome differences, but how to live with them and learn from them. Just as biodiversity serves the cause of ecological sustainability, intellectual diversity adds to our resilience as a socio-material collective.

Creatures or processes?

At stake in the present volume are intellectual repertoires for understanding European nature. Which *nature* might this be? Here, I will not presuppose a coherent 'Western' tradition, nor divide 'Europe' into a region where different languages are spoken. Doing *that* was only meant to sensitise you to the kinds of differences that may be at play. The particular differences that I want to address play out between different intellectual tradition that share (among other languages) English. The first one is the tension between a nature composed of *creatures* and a nature in which *processes* unfold. A nature of creatures is inhabited by living organisms, like trees, fish, birds, worms, and bees, though it is possible to widen the definition and also include rivers and hills. Creatures may be demarcated in collective mode, where 'the bird' differs from 'the tree'; or 'the blackbird' from 'the sparrow'. Singularly demarcated, one by one, creatures may be taken to deserve a voice and legal rights. In analogy to the way the Western philosophical tradition has topicalized humans as individuals, non-human creatures may be individualised, too.[8] In a nature of *processes*, by contrast, creatures do not stand out as separate; instead, it is made prominent that their lives depend on the relations between them.[9] Thus, when addressed as a part of processes birds are not situated in botanical tables, but in trees. They are related to the worms that they thrive on, and those, in turn, are not just fodder for birds, but also, by eating, digesting and excreting,

provide trees with nutrients. The trees, thriving on the excrement of worms and providing a habitat for the birds, catch the energy of the sun and incorporate this in lively material. Crucial to a nature of processes is eating. Processes involve metabolic exchange, which is to say that everyone and everything, rocks and rivers included, substantively and substantially relates to everyone and everything else.

In political theories, transformative processes are hard to think with. Deliberative democracy has a better fit with an understanding of nature as a collection of creatures. For staged first as a gathering of free men, politics then accorded former slaves and even women the right to speak. With some imagination, the company may now be enlarged and further creatures may be allowed in. It is a serious shift, the idea that trees, birds and worms may represent themselves in a widely enlarged parliament is evocative.[10] However, asking *who* gets to speak is not the only and most likely not the best way to tackle the question of *what* to make of our shared lives and the deaths that follow.[11] Here, the politico-juridical repertoire of deliberative democracy hits upon its limits; and the intellectual repertoire of ecologists in which nature is topicalized in terms of transformative processes might have more to offer. Processes are historical. They consist of unfolding connections and detachments, of variously patterned but never quite predictable occurrences in time. If all is well, the very transformations of the creatures involved means that processes go on and on. The sustainability of processes rests on a finely tuned accordance between the various transformations of everyone and everything caught up in them. Classic ecology hardly wondered about the humans involved in the processes of *nature* and it had even more trouble with humans equipped with agriculture, airplanes and computers. How might these be fitted in, how might, crucially, their stuff once thrown away be recuperated as food for a next generation of products?[12]

This, then, is how I propose to articulate the concerns at hand. In thinking about European nature, we face the question of how the transformative processes of nature may include high modern humans and yet be sustainable.[13] Each creature may well have its own particular salience, but as living involves eating and being eaten, it is something that is done together. If processes go awry, at some point they collapse. And this much is obvious: current European ways of producing and consuming, whatever their goods and bads on other terms, don't fit with the requirements of a sustainably transforming nature.

Versions of efficiency

But getting to talk about the processes of eating and being eaten is no end point, if only because analysing the processes of nature may be done in different ways. To illustrate this, I will work through a simplified example. Let's talk about chickens. There are more chickens on earth than any other kind of bird. Chickens owe their success to their association with humans: they have been domesticated early, probably first in China, and, in the present day, they live in cages and sheds built by humans almost everywhere

Eating in a former indoor market Mercado da Ribeira, Lisbon. Photo: Image Select

on earth. They provide humans with eggs and lean meat. Against this background the question may be asked: is raising chicken for human consumption an *efficient* thing to do? Even within the European tradition, there are different answers to this question and they depend on the intellectual repertoire that is mobilised. One of the candidates for the job is economics.[14] In economic parlance, it makes sense to compare the total cost of the feed, housing and further care for chickens with the price that selling them yields. If the amount of money invested is smaller than the income gained and coming back as a return, then raising chickens is efficient, cost-efficient. Now for a contrasting intellectual repertoire, that of nutrition science. Nutrition science is quite close to economics; they share their intellectual roots and make similar kinds of calculation. However, nutrition science doesn't count money, it counts nutrients. In the accounts of nutrition science, the nutrients that chickens feed on get balanced against the nutrients that human chicken eaters consume. As they lead their lives, chickens do not just grow edible muscles, but also do other things, like moving about and keeping themselves warm. This means that comparing the nutrients chickens eat and the nutrients they make available for human consumption, reveals a net loss. The implication is that however *cost-efficient* raising chickens may be, *nutrient-efficient* it is not.

Rather than leading on to a straightforward answer – yes, raising chicken for humans to eat is efficient; or no, it isn't – using different repertoires to think with complicates life. And there is yet more complexity to grapple with, for when it comes to answering the question of whether or not raising chickens is a good idea, 'efficiency' is not the only pertinent consideration. For instance, there is the issue of chicken *feed*. If chickens are fed grains and pulses that are edible for humans, nutrition science suggests that humans have more food if the detour through the chickens is skipped. However, if chickens mainly feed on stuff that humans won't eat (household waste, worms, or biota picked out of the manure of cows or sheep) they make nutrients available for human consumption that otherwise would elude us. For those concerned with *feeding humanity*, this counts as a good thing (as long as, that is, the feed is non-toxic). Among the issues to reckon with is also *pollution* (what happens with the excrements of the chickens?); the local effects of global *trade* (when Europeans prefer breast meat, the chicken legs get dumped on the West African market which pushes out local farmers); the risks of spreading *viruses*, notably avian flu (a result of people living close to their birds; or rather an effect of mega-scaled industrial farming – depending on whom you ask); and

questions to do with the *welfare* of chickens (do they have a good life?); and (actual or possible) alternative ways of raising chickens; while, finally, there is the *hubris* implied in breeding and raising other animals in order to eat them (a turn to vegetarianism may or may not facilitate feeding humanity, it is certainly more modest).[15]

Attending to many repertoires at the same time helps to foreground the complexity of the issues concerned. Most issues are complex.[16] However, in any single site it is not possible to both raise chicken for human consumption *and* to not do so at the same time. In as far as the question of 'shall we raise chicken?' is orchestrated as a decision in some location or other, a decisive answer is needed then and there.[17] So in flagging up the complexities involved in decisions, I do not suggest that decisions should be endlessly postponed. What I am proposing is that decisions are best made by drawing on a variety of intellectual repertoires. To raise chickens *just* because this is cost-efficient is too restricted; just like refraining from raising chickens *only* because doing so on grains and pulses is not nutrient-efficient. Instead, it is wiser to include many varied concerns and deal upfront with the tensions this implies. At present, this is all too often not done. In particular, the prominence of economic repertoires is disconcerting. In relation to nature, economics' masterful modelling unduly risks to gobble up the originality of biology. In many political meetings and policy reports, biological issues are only attended to if they have been translated into economic parlance.[18] In such translations, everything that, say, forests *do*, is likely to be cast as a *service* for humans. Transformed into *services*, the activities of forests may be priced and become comparable to other economically calculable services. The biological specificities of forests are lost in this translation. For what *do* forests do? It is possible to stress that forests provide a habitat for varied species; or that they absorb CO_2 (carbon dioxide) while emitting O_2 (oxygen), or that they protect the topsoil against erosion; or that they encourage humans to take healthy and pleasurable walks; and so on. I am arguing that we should not bracket but attend to such specificities and think *with* the tensions between the intellectual repertoires that allow us to articulate them.[19] After all, even the detection of win–win situations depends on clearly distinguishing between the different *prizes* that one may hope to simultaneously win.

Where is European nature?

Economics and nutrition science answer the question of whether or not raising chickens for human consumption is efficient in different ways. But their shared intellectual roots are discernible in the striking similarities between the accounts they make. These compare input with output. Money in one account, nutrients in the other, but either way book keeping is the name of the game.[20] One of the things that does not get into the books is *where* the processes to which the input–output calculations refer are located. Out there – in forests, fields and cities – such things are highly relevant. Chickens raised in industrial-sized farms are quite unlike those that scratch in back yards: they relate to the humans who feed and/or eat them in different ways. Geographies matter to ecologies.

Carbon dioxide travels far. Photo: Image Select

Muskrats, to take another example, may help to sustain natural processes in North America, but in the Netherlands they are dangerous. They interfere in the Dutch negotiations with water as their digging threatens the solidity of dikes and, if humans do not diligently kill a serious amount of them, they do so in ever larger numbers because locally they have no predators. They are not eaten. Hence, in the Netherlands killing muskrats does not devastate the processes of nature, but protects the local ecology against a rampant unbalance – while easing human negotiations with high water.[21] Ecologically speaking, a *place* is marked by the metabolic relations that it makes space for. This implies that transporting stuff is potentially perilous. Take phosphorus. Almost all creatures need phosphorus to grow; but when it is shipped by humans from mines to agricultural fields and spread in large quantities, things go wrong. The excess of phosphorus washed from fields allows some creatures to thrive all too well, hence hampering the lives of others.[22]

This, then, is important. However skilfully some sciences may abstract from particular sites and situations in the hope of crafting universal knowledge, the processes of nature always happen somewhere. They are situated. Calling for attention to the situated character of nature adds to my earlier insistence on the specificities of what different intellectual repertoires do and do not allow us to articulate. But saying that *where* questions matter, is not an argument for dividing the world into bounded regions. It is difficult, once again, to handle *where* questions well. First: there may be *nature* everywhere. That is to say, ferns in city walls, bats in deserted factories and voles on waste lands may well deserve ecological appreciation and care.[23] But second: this is not to say that freely building more city walls and factories (or more roads and hotels), in regions so far sparingly inhabited would form no threat to 'nature'. The sustainability of ecological processes depends on the existence of complex enough, large enough, ecosystems, where diverse organisms have enough diverse others to go on eating and being eaten. Hence, sometimes regional borders around 'nature areas' need to be made and maintained.[24] Hence, boundaries are needed. But, and this is a third complexity, it would be naive to trust that such boundaries won't leak. Even if they don't leak roads and hotels, they will still leak phosphorus and other ingredients of the excess fertilizer used on adjacent industrialised agricultural lands. Polluted air blows over long distances from the combustion engines that produce it; and there are ample worrisome pictures around of islands of discarded plastic floating in oceans far from all human

inhabitation.[25] Hence, asking *where* questions is not the same as allocating 'nature' a place of its own, while elsewhere allowing 'culture' to continue its polluting practices. As soon as we address nature in terms of its processes, such simplifying ways of handling *where* questions make little sense.

Where questions, then, are fraught with complexity. And even more so if we add a geopolitical dimension and ask: where is 'European nature', where on earth? In a first instance, this might seem obvious: the European nature that we are talking about in a European Union context (such as the present volume) is located within the territory of the EU. But it is not so easy. For, when fossil fuels are being burned in Antwerp, Gdansk or Lisbon, the CO_2 emitted and the dust produced travel far from these places.[26] The global warming that ensues from such burning is equally far-reaching. It is indeed *global*, as the term suggests. Hence, not caring properly *here* – within the boundaries of the European Union – creates problems *there* – that is to say everywhere. And air and dust are not the only substances that travel long distances. The fertilisers I mentioned a moment ago that allow for a particular kind of intensified agriculture within European territories are mostly imported from elsewhere. To pick up the phosphorus example again: mining for phosphorus has turned most of the landscapes involved into a horrible mess.[27] And, as you know, a lot of the feed for pigs fattened in Europe is imported from South America. Immense areas of the Amazonian forests are turned into large scale slash-and-burn soy plantations in order to supply the rest of the world with meat. (Demand rises, economists say; but marketing people are hard at work to astutely promote consumers to buy meat.[28]) It is easy to go on. Scarce water from dry regions is packed into fruits and vegetables which travel from, say, deserts in Peru or Kenya, to the rainy countries of Northern Europe. Other goods sold in Europe are likewise entangled with natures far away. The cotton for our clothes is grown in Ukraine or India with the aid of seeds and pesticides produced and sold by Monsanto. And this happens at the expense of the farmers, who succumb to the debts that ensue, and at the expense of their soils, which get depleted.[29] The production of these clothes doesn't simply imply harsh working conditions. It also leads to the pollution of rivers in Bangladesh or Sri Lanka. These rivers, then, are just as much part of *European nature* as the Danube or the Rhine.

Respecting the relevance of geography and the *where* questions that come with it has a serious impact on the *mode of knowing* most pertinent to the issues at hand. For while the 'laws of nature' are presented as universal, ecological realities are situated. The ecological knowledge able to make sense of them, then, has to be specific, too. Rather than aiming for abstraction, it would do well to stay grounded. Instead of the format of the law, the format of the case seems more opportune. Interestingly, no longer dreaming of knowledge that is universal, makes it easier to address the global effects of local pursuits.[30] But what might this mean in policy practices? For showing that *European nature* spreads across long distances, should not be yet one more excuse to seek to rule the world.[31] Rather, it presents another intractable friction. Global imperialism is not on, but neither does it do to be negligent about the spill overs and side-effects *elsewhere* of

the luxuries enjoyed *here*, that is to say within the EU. If commodities emerge from chains, then what is needed is attention to what happens everywhere along those chains. Companies may well be in a better position to provide chain-long care than national governments or even the EU – but they do definitely need some encouragement.[32] And rather than just being held responsible as a consumer, as a citizen I would hope that governments and EU organs support the further development of chain care and, if need be, take a prompting task upon themselves.[33] Overall, the point should not just be to protect European consumers/citizens against viruses and poisons from elsewhere, but also to protect people and ecosystems the world over from the so-called externalities of global production and trade.[34]

Collaboration across differences

Different intellectual repertoires make it possible to articulate contrasting concerns. My argument is that such differences do not deserve to be smothered or hidden behind some consensual screen. That makes it impossible to learn from them. But erratically moving in different directions risks fuelling chaos; hence, coordination is called for. In policy practice, this means that, at some point, 'stake holders' – who often foster their own intellectual repertoires each – would do well to collaborate. At which point? While the *where* question leads us to address issues of place, here we hit upon a *when* question, a question of time. And I have a quite particular concern in relation to *when* questions. This is that the presently widespread insistence on coherence and consensus risks imposing premature collaborations. Premature collaborations stifle or silence the intellectual repertoires of at least some of those involved. Such forced univocality is a pity, it unduly smothers lessons that might be learned. Learning from tensions depends on everyone having a chance to develop their own repertoires on their own terms. Then at least it is clear what the stakes are and what those gathering together should seek to compromise between.

Allow me to give you a tiny but telling example. The European Union offers subsidies to university-based nutrition scientists if they go into partnership with food industries. The hope is that, in this way, two ideals may be served with one form of funding. Research should help the food industry develop new products so as to strengthen the economy. At the same time, nutrition science research is called upon to serve public health. Under some conditions, these different goals may go together: earlier collaborations between industry and nutrition scientists have helped to keep infectious microbes at bay and reduce the risks of food poisoning. However, in relation to non-communicable diseases there are fundamental clashes. For instance, collectively financed and independently executed nutrition science suggests that public health improves if people turn to non-processed food and eat less processed food. This is a problem for any enforced collaboration between nutrition scientists and industry, for food industries have specialised in the art of processing food. Or, yet more striking in its simplicity, currently the health of populations in Europe deteriorates due to all too many

people becoming overweight. In that context, nutrition scientists wonder what (to go short) might help people to eat *less*. In one way or another, however, the profits of food industries depend on people eating *more*. This doesn't make for easy collaboration. The primary goals of both participants clash head on. And industry doesn't need research money as badly as researchers. Here, then, an enforced premature collaboration privileges the goals of strengthening 'the economy' (or the food industry) over the goals of public health.[35]

A thriving food industry and a healthy population are both laudable ideals. How to best craft compromises between them? Not by enforcing premature collaborations nor by expecting industries and scientists to agree. Stages for handling differences may be set up in more interesting ways. The best model here is not the court room, where conflicts between citizens are resolved by a judge who gives an external verdict from the sideline. Far more promising is the model of the mediator. Mediators gather people together and ask them to articulate their most vital concerns. Shared concerns are noted down, while enduring disagreements are accepted as important to attend to as well. Subsequently, the most pressing practical problems at hand are laid out on the table with the aim of crafting a solution that everyone can live with. In the Netherlands, we harbour a network, *Innovation Agro & Nature*, that works in a mode resembling mediation on fostering innovations in the areas that the English version of its website calls green spatial planning, agriculture/agribusiness and food.[36] In a series of focussed projects, the professionals of the institute invite stake holders to jointly work on out-of-the-box innovations. Hence, they gather together farmers, tourism developers and nature activists to jointly reorganise a polder in which all of them are invested. Or they support the design of a greener accommodation for cows, a 'cow garden', with a working group consisting of farmers, provincial authorities, techno-developers, ethologists and animal activists. Improvements are not measured against abstract ideals, but against present conditions. And while obviously not every compromise lives up to everyone's highest ideals, all parties are granted the space they need to hold on to their own terms.[37] While just one shared practice comes into being, at least the integrity of everyone's intellectual repertoires is not compromised.

Tinkering care

The Innovation Agro & Nature network just mentioned has an experimental way of working; its various projects shape one innovation at a time, adapting it along the way as problems present themselves. Most likely this step-by-step way of working contributes more to developing sustainable sites and situations than making large, univocal, overall plans. All in all, the multi-vocal fostering of *nature* that I defend here does not fit with a governance style where futures are tamed through general rules and regulations. At this point, there is a resonance between governing and farming.[37] Industrial agriculture holds on to monocultures and eradicates competing weeds and bugs. But in many agricultural settings, it makes more sense to allow different species to

Green accommodation for cows – cow garden in Groenlo, the Netherlands. Photo: Hollandse Hoogte

thrive together. Pulses and maize may help each other out: sturdy maize supports fragile pulses and the rhizobia on the roots of the pulses offers nitrogen to the maize. Fish and ducks may thrive in the water of rice paddies, while their excrement fertilises the rice. And chickens don't need fresh grain and pulsed, but may as well feast in the fields where cows and sheep have left their dung. I call up these well-rehearsed agricultural images of co-existence-in-difference to show, once again, that consistency and homogeneity are not necessarily ideal. But both politics and policy change if complexity is embraced. For if diverse intellectual repertoires are allowed to co-exist and jointly inform policy practices, time can no longer be projected into the future in a linear mode. After all, in the interferences between diverse logics, unexpected things are bound to happen. The implication is that making firm, long term plans or designing scenarios for potential futures, risks to create a parallel policy fantasy world. The governance model that is more fitting finds its inspiration in the tinkering care of gardeners, small scale farmers, improvising cooks and others who work in the mundane here-and-now responding to what the moment affords or asks from them. The crucial act in this context is not making the right decision, but rather engaging in a fruitful practical attempt.[39]

In tinkering care, the situation at hand forms the starting point for action. If the situation has changed, then this is noted and the action changes too. The aim is to improve, but what 'improving' entails is not set in stone, and often diverse goals are simultaneously kept in the air. If, that is to say, this is at all possible. Sometimes, the clashes are just too fierce. For instance, for those working in control mode, fracking may seem to be a relatively cheap way of bringing oil to the earth's surface, a totally fine technique as long as some sensible rules are followed. By contrast, those working in care mode are intensely concerned about the disasters that most likely will ensue. For rules are not always complied with; and hence, however well-designed they may be, they cannot be trusted. And if technologies are to be appreciated, so, too, are their erratic characters. Given the material details of the technologies involved in fracking, only a tiny human or mechanical error may lead to a serious accident.[40] And the problem is that *if* fracking goes wrong, this causes irreversible damage to the safety of water supplies, the fertility of top soils and the vitality of local creatures. Caring ways of working always reckon with the consequences of potential failures. And because it comes with such nasty side-effects, those who foster a care mode consider fracking to be – certainly in most regions of the world – a bad idea. Exercising control fits with classical mechanics in which

machines either work or not; and if not, may be repaired again and again; to finally be discarded 'elsewhere'. Tinkering care is better attuned to unbounded natural processes that involve creatures which combine a remarkable obduracy and adaptability with the fatal fragility of disease and death.

To end with

What to hope for European nature? A gamut of ideals may figure as relevant points of orientation, such as *sustainability, biodiversity* and *resilience*. These are all ecological ideals, but they are not the same. By now, it will not surprise you that I propose they should not be fused, but allowed to co-exist, each backed by their own intellectual guardians. Having many repertoires to think with helps to assure that the inevitable weaknesses of any single one of them may be compensated for by another. Contradictions and non-coherencies keep reflection vibrant. Allowing different practices to develop together makes it possible to later compare their strong and weak points; in this way, they may learn from each other. Consultants insist that top managers of large companies do well to invite their own opposition rather than just work with cronies. The same goes for successful repertoires. Hence, whatever the strengths of the repertoires of economics, they have by now dominated public discussions for way too long. The attention that this repertoire gives to such relevant things as numbers, accounts, efficiency, price and services has gradually turned into an obsession. It is about time to attend with equal vigilance, but in other terms, to other relevant things – life and death; food and waste; air and water; birds and trees; forests and ferns in city walls; phosphorus and plastics of all kinds. The academia holds other repertoires than economics: biochemistry, ecology, physiology, ethology, geography, sociology, anthropology – and so on. And in addition to academic logics, there are the repertoires that people express in their many practices as farmers, walkers, parents, engineers, nurses, teachers, citizens, transporters, poets, singers, buyers, cooks, eaters. And so on.

It will not be easy to dream up – better still: to organise – forms of politics and policy that allow for multi-vocal ways of working inspired by mediation. But it is not necessary to start from scratch: as it is, there are many complexly coordinated initiatives around – from practicing mediators to networks such as Innovation Agro & Nature, corporate social responsibility support groups, cradle-to-cradle networks, eco-activists in many guises – and beyond. The market has long since taught us that coordination does not necessarily depend on central control. So far, market modes of organising don't have a particularly good record when it comes to salvaging nature; but who knows what they may contribute with some regulatory encouragement and practical help. Models of dispersed coordination may also seek inspiration from professional groups like doctors and lawyers, who jointly contribute to fostering such ideals as *health* and *justice*. However, when it comes to caring for *nature/s* in times of globalised economies, resource greedy technologies and large human populations hungry for foods, original formats are needed. The human collective would do well to experiment with inventive organisational

models; coordination platforms; governance structures and so on. Which modes of knowing to draw upon; how to deal with *where* questions, that is to say with drawing boundaries while at the same time addressing long distance effects of local activities; and how in all this to avoid both undue meddling and detrimental neglect? These are all open questions. One thing is clear though. Most damage is more easily done than reversed. Dead creatures may be eaten and thus feed others; processes gone awry, however, are hard to revitalise. If *nature* calls for anything it is caution. *Handle with care*.

Notes

1 Like all texts this one is a result of collective work. It is more particularly informed by my formation as a *philosopher*, long years of immersion in the discipline of *science and technology studies*, and lessons from *social anthropology*, my current intellectual home. The footnotes inserted here cannot begin to do justice to my intellectual debts. For more direct collaboration and comments I would like to thank Mieke Aerts, Hassan Ashraf, Filippo Bertoni, Cristobal Bonelli, Carolina Dominguez, Oliver Human, John Law, Mattijs van de Port, Else Vogel, Steve Woolgar and Emily Yates-Doerr.

2 For a few of the relevant texts that might feed further analysis about variants of 'nature', see Tsing, A. L. (2005). *Friction. An Ethnography of Global Connection*. Princeton University Press; Harrington, A. (1999). *Reenchanted Science. Holism in German Culture from Wilhelm II to Hitler.* Princeton University Press; Bijker, W. E. (2007). "Dikes and Dams. Thick with Politics". *Isis*, *98*(1), 109-123.

3 See for the impossibility of smooth translations in philosophy: Cassin, B., E. Apter, J. Lezra and M. Wood (eds.). (2014). *Dictionary of Untranslatables. A Philosophical Lexicon.* Princeton University Press.

4 The persistent insistence on practice is one of the crucial contributions of Bruno Latour; see e.g. Latour, B. (1993). *The Pasteurization of France.* Harvard University Press and Latour, B. (1999). *Pandora's Hope. Essays on the Reality of Science Studies*. Harvard University Press. For analyses that differentiate between contrasting versions of nature within 'the West', see e.g.: Szerszynski, B., W. Heim and C. Waterton (2003). *Nature Performed. Environment, Culture and Performance.* Blackwell; Yates-Doerr, E. and Mol, A. (2012). "Cuts of Meat. Disentangling Western Natures-Cultures". *Cambridge Anthropology*, 30(2), 48-64 and Bertoni, F. (2012). "Charming Worms. Crawling between Natures". *Cambridge Anthropology*, 30(2), 65-81; Law, J. and M. Lien (2013). "Slippery. Field Notes on Empirical Ontology". *Social Studies of Science,* 43 no. 3 363-378 and Blok, A. (2013). "Pragmatic Sociology as Political Ecology. On the Many Worths of Nature(s)". *European Journal of Social Theory*, 16(4), 492-510.

5 In anthropology libraries have been written that demonstrate this. Just a few recent examples of the many texts relevant in the present context: Viveiros de Castro, E. (2011). Zeno and the Art of Anthropology of Lies, Beliefs, Paradoxes, and Other Truths. *Common Knowledge*, 17, 1, pp. 128-145; Blaser, M. (2010). *Storytelling globalization from the Chaco and beyond*. Duke University Press; De la Cadena, M. (2010). "Indigenous Cosmopolitics in the Andes. Conceptual Reflections beyond 'Politics'". Cultural anthropology, 25, 2, pp. 334-370; Bonelli, C. (2012). "Ontological Disorders. Nightmares, Psychotropic Drugs and Evil Spirits in Southern

Chile". Anthropological Theory, 12(4), 407-426; Lin, W. Y. and J. Law (2014). "A Correlative STS. Lessons from a Chinese Medical Practice". Social studies of science, 44, 6, pp. 801-824.

6 In practices such juggling is ongoing. For an analysis of how this may work out in the case of 'nature' in a EU context, see: Waterton, C. (2002). "From Field to Fantasy. Classifying Nature, Constructing Europe". *Social Studies of Science, 32*, 2, pp. 177-204.

7 A wonderful example of a philosopher who seeks to learn from the difference between linguistic traditions within and beyond Europe (notably China) is François Julien. See e.g. Julien, F. (2004) *Treatise on Efficacy. Between Western and Chinese Thinking,* University of Hawai Press. Some philosophers have started an online journal with the aim of foster a global philosophical dialogue: *Confluence. Online Journal of World Philosophy.*

8 For an articulate version of the rights repertoire, see Singer, P. (1995). *Animal Liberation*. Random House. For an analysis of a clash between individualising and ecological repertoires, see Thompson, C. (2002). When Elephants Stand for Competing Philosophies of Nature: Amboseli National Parc, Kenya. J. Law and A. Mol (eds.) *Complexities*, pp. 166-190.

9 For a philosophical articulation of biological processes, see: Dupré, J. (2014). "A Process Ontology for Biology". *The Philosophers' Magazine*, 67, pp. 81-88. For an analysis of eating as relating: Abrahamsson, S. and F. Bertoni (2014). "Compost Politics. Experimenting with Togetherness in Vermicomposting". *Environmental Humanities, 4,* pp. 125-148.

10 This idea is most creatively proposed in Latour, B. (2009). *Politics of Nature*. Harvard University Press.

11 For the contrast between a *politics of who and a politics of what* see Mol, A. (1999). "Ontological Politics. A Word and Some Questions". *The Sociological Review*, 47(S1), 74-89; as well as: Mol, A. (2002). *The Body Multiple. Ontology in Medical Practice*. Duke University Press. These texts also demonstrate that the co-existence of different versions of reality is not the same as 'pluralism' as the knowledge practices involved are variously interdependent.

12 The fields of social ecology and political ecology have addressed this question with their respective research techniques. See e.g. Goldman, M. J., P. Nadasdy and M.D. Turner (2011). *Knowing Nature. Conversations at the Intersection of Political Ecology and Science Studies.* University of Chicago Press. At the same time a conceptualising of technological processes on ecological terms has inspired the cradle-to-cradle movement. See http://www.c2ccertified.org/; and for a presentation of ways in which waste may be used as resource, see the documentary 'waste = food': https://www.youtube.com/watch?v=2xhgsKenR5w.

13 For an analysis that shows that ways of analysing are not just more or less *true*, but impact on, and are mobilised by actors in conservation practices, see: Cortes-Vazquez, J. A. (2014). "Protected Areas, Conservation Stakeholders and the 'Naturalisation' of Southern Europe". In *Forum for Development Studies;* 41, 2, pp. 183-205.

14 In the background of my analysis sits the argument that 'economics' is an intellectual repertoire that help to order the reality of the 'economy' rather than reflecting this, see Callon, M. (2010). "Performativity, Misfires and Politics". *Journal of Cultural Economy, 3*, 2, pp. 163-169.

15 For these concerns see: e.g. Dieye et al. (2007) "Livestock, Liberalization and Trade Negotiations in West Africa". *Outlook on Agriculture 36*, 2, pp. 93-99; Keck, F. (2015) "Feeding Sentinels. Logics of Care and Biosecurity in Farms and Labs" *BioSocieties* 10, pp. 162–176; Mather, C., and A. Marshall (2011). "Living with Disease? Biosecurity and Avian Influenza in Ostriches". *Agriculture and Human Values*, 28, 2, pp. 153-165 and Evans, A. B., and M. Miele (2012).

"Between Food and Flesh. How Animals are Made to Matter (or not to Matter) within Food Consumption Practices". *Environment and Planning D: Society and Space*, 30, 2, pp. 298-314.

16 For relevant understandings of the complexity at stake here, see Kwa, C. (2002). "Romantic and Baroque Conceptions of Complex Wholes in the Sciences". *Complexities: Social Studies of Knowledge Practices,* 23-52 and Preiser, R., P. Cilliers and O. Human (2013). "Deconstruction and Complexity. A Critical Economy". *South African Journal of Philosophy, 32,* 3, pp. 261-273.

17 The 'in some location' is a crucial specification in this sentence. In other locations other answers to similar questions sometimes make more sense. This is not a matter of 'anything goes'; but of 'what works where'. See also below; a point to further develop.

18 Hence a lot of effort has been put into the translation of ecological issues in economic parlance. See for a classic: Costanza, R. (1992). *Ecological Economics. The Science and Management of Sustainability.* Columbia University Press. This move has been variously criticised. See e.g. Sullivan, S. (2009) "Green Capitalism, and the Cultural Poverty of Constructing Nature as Service-provider". *Radical Anthropology* 3, pp. 18-27; while alternatives have been proposed, see: Turnhout, E., C. Waterton, K. Neves and M. Buizer (2013). "Rethinking Biodiversity. From Goods and Services to 'living with'". *Conservation Letters*,6, 3, pp. 154-161.

19 The argument for specificity deserves to be further extended. After all, scientific repertoires are not just languages which make it possible to *say* things; they are tied to meticulously detailed technological apparatus and ways of working *practically*: materials and methods. The rich literatures of *science and technology studies* help to analyse this. See for a classic Latour, B. (1987). *Science in Action. How to Follow Scientists and Engineers through Society.* Harvard University Press; and for a recent reiteration in the context of the rising 'new materialism', see: Abrahamsson, S., F. Bertoni, A. Mol and R.I. Martín (2015). "Living with Omega-3. New Materialism and Enduring Concerns". *Environment and Planning D: Society & Space,* 33, 1, pp. 4-19.

20 For this shared history see e.g. Gallagher, C. (2006) *The Body Economic. Life, Death and Sensation in Political Economy and the Victorian Novel,* Princeton University Press.

21 Here a nature of creatures (where killing is always offensive) clashes head on with a nature of processes (that prioritises collective viability over the lives of individuals). For a more in depth analyses of the question of 'invasive species', see: Keulartz, J., and C. van der Weele (2008). "Framing and Reframing in Invasion Biology". *Configurations*, 16, 1, pp. 93-115 and Nyquist, J. R. (2014). "Care and Choice in Dealing with the Invasive Cane Toad in Western Australia". *The Australian Journal of Anthropology*, 25, 1, pp. 22-36.

22 About attempts to address phosphorus-problems collaboratively between nature lovers and farmers, Tsouvalis, J. and C. Waterton (2012). "Building 'Participation' upon Critique. The Loweswater Care Project, Cumbria, UK". *Environmental Modelling & Software*,36, pp. 111-121 and Waterton, C., and J. Tsouvalis (2015). "On the Political Nature of Cyanobacteria. Intra-active Collective Politics in Loweswater", the English Lake District. *Environment and Planning D: Society and Space, 33,* 3, pp. 477-493.

23 See for 'nature' in the city: Hinchliffe, S., M.B. Kearnes, M. Degen and S. Whatmore (2005). "Urban Wild Things. A Cosmopolitical Experiment". *Environment and planning D*, 23, 5: p. 643 and for further issues to do with ecology and geography: Hinchliffe, S. (2007). *Geographies of Nature. Societies, Environments,* Ecologies. London: SAGE.

24 This is the well justified concern of the authors assembled in *Keeping the Wild:* that the theoretical insistence that nature and culture are always mixed, gets translated into the policy argument

that 'cultural things' may freely be added to so far still wild or otherwise ecologically robust regions. See: Wuerthner, G., E. Crist and T. Butler (2014). *Keeping the Wild. Against the domestication of earth.* Island Press.

25 Here for a recent version: https://www.youtube.com/watch?v=4wH878t78bw.

26 People in Singapore complain about woods burning in Indonesia; people in Hong Kong breath air from further away in China. About the latter issue, see: Choy, T (2011). *Ecologies of Comparison*. Durham: Duke University Press.

27 See e.g. for phosphate mining in the pacific: Teaiwa, K. M. (2014). *Consuming Ocean Island. Stories of People and Phosphate from Banaba*. Bloomington: Indiana University Press.

28 See for analysis of the rising 'demand' for meat while the question if humans 'need' meat is in doubt: Yates Doerr, E. (2012). "Meeting the demand for meat?" *Anthropology today,28*. 1, pp. 11-15.

29 See for the farmers and soils of India: Vandana Shiva (2004) The future of food. Countering globalisation and recolonisation of Indian agriculture. *Futures* 36, 6-7, pp. 715-32.

30 Abandoning pretentions of universality does not just help in recognising problems, but also in trying to solve them. See for an analysis of the work of insect researchers aiming to contribute to solving global hunger from their Wageningen research site: Yates-Doerr, E. (2015). "The world in a box? Food security, edible insects, and 'One World, One Health' collaboration". *Social Science & Medicine*, 129, pp. 106-112.

31 It is variously argued that there is a risk that ecological programs may reiterate the earlier ecological imperialism, that of carrying European crops around the world. For a classic demonstration of the latter see Crosy, A. (1986). *Ecological Imperialism. The biological expansion of Europe, 900-1900*, Cambridge: Cambridge University Press; for present day nature protection cases in 'the South', see the contributions to: Green, L. ed. (2013). *Contested Ecologies. Dialogues in the South on Nature and Knowledge*, Pretoria: HSRC Press.

32 They may also need practical support. In the Netherlands such support is organised by the association of Dutch companies striving after social responsibility, see: http://mvonederland.nl/csr-netherlands.

33 In the context of health care I have argued that neither 'the consumer' nor 'the citizen' are good stands-in for 'the patient' – as the latter has a physical fragility that the first two do not reckon with. An analogous argument could be made for 'the eater', 'the walker' or 'the breather' – or for other versions of the human as a physico-social being dependent on 'nature'. See for the case of the patient: Mol, A. (2008). *The logic of care. Health and the problem of patient choice.* London: Routledge.

34 For an analysis of the intriguing (and disconcerting) concept of 'externalities', see Callon, M. (1998). "An essay on framing and overflowing. Economic externalities revisited by sociology". *The Sociological Review, 46*(S1), pp. 244-269.

35 There is also health research directly funded by industry. Surely 'industry' is as non-coherent as everything else and depending on the companies involved such research may go in different directions. But for a warning of where it might go, see e.g.: http://well.blogs.nytimes.com/2015/08/09/coca-cola-funds-scientists-who-shift-blame-for-obesity-away-from-bad-diets/.

36 The English website is not a complete translation; it holds less information than the Dutch version, but see: http://www.innovatienetwerk.org/en. Elsewhere, there are analogous innovation organisations; some even thriving on the market, notably Gunter Pauli's *Blue economy.* See: http://www.blueeconomy.eu/.

37 Even when they start out with the same terms, good collaborations in different sites are bound to lead on to the use of such terms in different ways. See for this: Mauz, I. et al. (2012). "How scientific visions matter. Insights from three long-term socio-ecological research (LTSER) platforms under construction in Europe". *Environmental Science & Policy*, 19, pp. 90-99.

38 This resonance has been noted and used in: Scott, J. C. (1998). *Seeing like a state. How certain schemes to improve the human condition have failed*. London: Yale University Press.

39 Governance doesn't just deal with 'nature', but also with the sciences and technologies that conceptualise, know and interfere with 'nature/s'. See for these intertwinements: Barry, A. (2001). *Political machines. Governing a technological society.* London: A&C Black. And interesting further case is also presented in: Verran, H. (2011). "Imagining nature politics in the era of Australia's emerging market in environmental services interventions". *The Sociological Review*, 59, 3, pp. 411-431. For case studies into tinkering care, see the various contributions to Mol, A., I. Moser and J. Pols (eds.). (2015). *Care in practice. On tinkering in clinics, homes and farms*, Transcript.

40 Analysts call accidents that are bound to happen normal accidents. See Perrow, C. (1984). *Normal accidents. Living with high risk systems.* Princeton University Press.

‘Helping nature by designing landscapes’

Landscape architect Martí Franch (45) from Girona, Catalonia, designs public spaces, internationally.[1] For him, landscape projects are fusions of culture and nature. Such projects may contribute significantly to the local and regional qualities mentioned in the final chapter.

‘Nature does not figure in the narrative of my projects, very often. Nonetheless, it remains an important bottom line in my journey. As a small boy, I spent a lot of time in nature just having fun, playing with water and mud, constructing huts, walking, … I collected rocks and butterflies and later became an enthusiastic birdwatcher. All these early experiences have trained my eye in grasping the minor peculiarities between species and habitats. I did not have to discover nature; it was in my body and ultimately the body is our interface with the world.

Furthermore, we can only appreciate nature through the eyes of man. Perhaps that is why I do not talk of nature that often; I see no contraposition between nature and us, or nature and culture. My look on territory is rather holistic. Any given space makes me think about its ecological processes, but also its infrastructural dimension, its labour and appropriation, et cetera.

In the 1990s, the discourse was about “nature for people” and “nature for nature”. I don’t think we can uphold such a clear distinction any longer. By now, we have realised we are living in the Anthropocene; there is no pristine nature anymore, all nature in Europe has been branded by the presence of humankind. And there is no way back from that. That gives us a special responsibility. In one sense, nature will always survive. But if *we* want to survive in nature, and if we want certain ecosystems to survive, we should manage and design our environment in ways that sustain these aims. That is another reason why I prefer to talk about landscape instead of nature. In this era, it is inevitable to understand our surroundings as a mix of nature and culture, and the term “landscape” captures this for me.

I think it is possible to come up with solutions that are better for nature as well as people. That is my challenge, to support nature by designing and managing landscapes from which people will benefit, too. As a landscape architect, one is always designing for a client. People, of course – but my client can be a flamingo or a weasel, as well. We design habitats, and therefore we take decisions with certain target species, habitats and cultures in mind. The challenge is to make the cohabitation of “interests” possible. Only then landscapes can be sustainable.

Bird's-eye view and cross-section of redesigned former fish farm, which is now an important area for biodiversity and leisure – La Tancada, Spain. Photo: Catalunya Caixa Foundation

Recently, I redesigned La Tancada salt fields at the delta of the Ebre river. This delta is the habitat of the Spanish tooth carp, a small and very rare fish which is close to being ousted by an exotic American fish species. The area also harbours the largest colony of flamingos in Catalonia. So, from a biodiversity perspective, this is a special place. But it is not at all a natural area in the usual sense; it is a former salt field turned into a fish farm, a perturbed ecosystem. My point is, you might find rare species in a cultured landscape. And, often, some designing needs to be done to reach a new, ecological viable equilibrium which serves both biodiversity and humankind.

Currently, I am working on a project to gradually implement a green infrastructure at the edge of Girona, my hometown. When the people of Girona talk about nature, they think of the far-away iconic mountains and rivers, which they love. The outskirts of town, on the other hand, are often considered as their backyard. This is the place where rubbish is being dumped, a place you just don't go. So, it is quite challenging to redesign such an area. We started by inducing a richer mosaic of habitats. Using selective cuttings, we opened up certain areas and made them accessible for citizens while others are left to grow wild. By doing so, we hope to make available the biggest public service of the city.

Perhaps the most important thing to see is that nature, science, human lifestyle, the economy, all interact in a dynamic way. These interactions result in different uses of public space. The effect can be quite surprising. Right now, we see a real explosion of people cycling, walking and training for all sort of races everywhere, and they need large connected spaces. It is crazy! This phenomenon is a combination of trends. A healthy, beautiful body is becoming ever more important. And because southern European people have less money to spend, they tend to exercise out in the open, where they want to cover serious distances. These are new demands on the everyday landscape, in which people live together with animals, plants, the mineral world. I see it as my task to design a productive compromise between all these different interests.'

Note

1 More information about Estudi Marti Franch can be found on the website: http://www.emf.cat/new/index.php?idioma=eng.

Nature Policy in the Anthropocene

Hans Mommaas, Ed Dammers and Marjan Slob

Introduction

The previous chapters are intended to inspire people who are, or may become, involved in policies and actions which are beneficial for nature in Europe. With this purpose in mind, they present the views of the speakers who participated in the dialogue *Nature in Modern Society – Now and in the Future*, which was held in Amsterdam on 11 November 2015. The chapters describe the changing relationships between nature and modern society, people's various notions of nature, the fundamental values underlying these notions, how societal engagement in nature actions may be fostered, and which roles could be played by environmental policies, including those on nature. This final chapter presents the speakers' responses to each other as well as to the audience, and gives some indication of what these responses may imply for nature policies and nature-related policies in Europe, also taking into account certain information from the literature.[1]

First, the chapter provides a brief overview of the different views of the speakers on human–nature relationships. Subsequently, the concerns are presented that were articulated by the speakers when reflecting on those relations and the solutions they put forward. These concerns and their solutions relate to the conflicts between economic and other interests in society, the focus of policies on individual sites and separate sectors, the prevalence of regulation and protection in nature policy and the domination of scientific knowledge. The chapter concludes with an indication of how the solutions suggested by the speakers may be put into practice.

Nature should be understood in a loose way

Although their argumentations differ, all speakers propagate a view in which 'nature' is understood rather loosely, as a name for the intricate connections between people, other living things, soil, and the environment. In the era of the Anthropocene, in which

human interference with nature is omnipresent and profound, nature can no longer be regarded as a place somewhere 'out there', where we merely try to 'preserve' it by designing policies to that end. We humans live our lives in the midst of nature, and are part of it: the human part. We control our surroundings in order to live well.
We necessarily act in nature and because of our special nature as humans, we can also act upon nature: we transform nature to meet our needs or wants, the result of which we call welfare or well-being.

The speakers all acknowledge these broad facts. They also agree that we should not take nature for granted and should think hard about what the implications may be for human–nature relationships. This does not mean that they agree on every aspect.
For instance, their views differ on the entities that are the most important and on the roles that government should play.

Wilhelm Schmid believes that the individual is the core unit of any nature policy. As soon as individuals truly realise that their actions have serious impact on the planet, they will adopt an ecological lifestyle. These enlightened individuals will exhibit sustainable behaviour in an everyday, practical way, and by doing so, they can influence policies and the economy. Government policies may stimulate sustainable behaviour; for instance, by imposing environmental taxes. However, if individual people are not willing to embrace an ecological lifestyle, policymakers should accept this fact.

Roger Scruton emphasises the importance of local communities that are grounded in the landscape that surrounds them. People are not only attached to each other but also to 'their places'. This attachment makes us want to be accountable for the impact of our actions on other people and on our landscape. Oikophilia, the simultaneous experience of the beauty of the landscape and the attachment one feels to it, makes communities want to protect their local landscape. European nature policy should provide more room for oikophilia and actively stimulate it.

According to Matthijs Schouten, people's views of nature are not only rooted in their personal history, connected to where they live or have grown up. Those views are also part of social representation, socially elaborated systems of understandings, values and experiences used by social groups. Acknowledging the diversity of the views of nature and their cognitive, normative and expressive dimensions may help to prevent unnecessary confusion in the public debate on nature.

Annemarie Mol notes that there are two major ways to frame nature: primarily as an assembly of creatures or of processes. Scruton, Schmid and Schouten adhere to the first frame, whereas Mol and Bruno Latour adhere to the second, which allows the emphasis to be on flows and networks, demonstrating that nature knows no boundaries.
The food people eat, for instance, is often the product of global production chains.
Mol emphasises that European policies should take the environmental effects into account of the food that is consumed in Europe but is produced on other continents.

For Latour and Mol, it is not only humans that act, but also things and ideas. Opinions and decisions are reflected in products and artefacts, as well as in policies and in the ways things are done. There is no universally agreed concept of nature; instead, specific ideas, values, and histories are always helping to construct what is considered 'nature' in a particular culture. Latour prefers the term 'Gaia' to indicate that people and things are connected in various ways, but that they do not form a whole that everyone agrees on. He raises the question of the difference between bad and good governance of people and of things. This way of thinking makes the question of responsibility for the impact of actions on nature even more elusive, though not less important.

We need to revise our idea of economic interests

Apart from their obvious differences, all speakers worry about the effects of mainstream economic behaviour on ecological systems. Latour emphasises that 'The Economy' has extended everywhere and has submitted every individual human being, animal, plant and relationship to the format of the homo economicus. An economy that does not acknowledge its interwovenness with ecological systems, and does not adapt its practices to this given, is positively dangerous. Such an economy makes it particularly difficult to handle the ecological crisis, which Latour – more neutrally – calls 'ecological mutation'.

Scruton criticises footloose companies and remote economic policies that do not have an emotional connection with the places in which they act or on which they have an impact. Since the ensuing economic activities will not be permeated by the benevolent implications of oikophilia, they are likely to destroy landscapes; for instance, by uncontrolled real estate development. Scruton emphasises the roles of civil initiatives. In England, for instance, associations of publicly spirited people, such as the National Trust, are largely taking the initiative to preserve the landscapes they love and to protect them from uncontrolled development, as they have also done in the past.

Schmid stresses, too, that there are conflicts between economic and other interests. In his view, the economy should not be understood as a monolithic system but as part of the ecosystems. According to him, individuals have a strong card to play, in their pursuit of an ecological lifestyle. Because of this, it will make economic sense to develop innovative ideas and technologies that are, for example, based on recycling waste and using hydrogen energy. In addition, governments may set prices that reflect the ecological costs.

Mol, however, warns against too much emphasis on pricing, since this implies that values are being reframed in an economical repertoire. In her view, pricing suggests that everything is allowed if you pay for it. She stresses that the economic repertoire is dominating the discussions far too much and has done for far too long. The attention given to efficiency, prices and services has become an obsession and has created a huge

blind spot when it comes to ecology. Therefore, the economic repertoire should be complemented by those sensitive to other values and needs.

Furthermore, Mol emphasises that it is important to focus on production chains. Since commodities emerge from these chains, attention is needed for what happens everywhere along them. Companies might well be in a better position to provide 'chain-long' care than national governments or even the EU, but they need some encouragement. Rather than just being held responsible as a consumer, as a citizen she hopes that public authorities support the further development of chain care and, if needed, take on the task of prompting, themselves.

Policy-making needs to establish connections and nature must be politicised

When it comes to nature policy and nature-related policies in the Anthropocene, the speakers emphasise a) the importance of focusing on connectedness instead of individual locations and separate sectors, b) bottom-up initiatives and multinaturalism instead of top-down regulation and a homogeneous conception of nature, c) politicising instead of 'policing' nature, and d) doing justice to local, practical knowledge instead of relying on generalised scientific knowledge only.

Focusing on connectedness instead of locations or sectors
During the dialogue, it was emphasised that it is time to rethink the idea of 'site'. What does it mean to live in a certain place, how is 'territory' to be understood, what is a human habitat? In our era of globalisation, the answers to these questions will obviously differ from those given in former eras. But even 'citizens of the world' will always find themselves in one specific place at any given time – a place, moreover, one has the need to feel attached to, as Scruton points out. Home, the tiny site on which our lives are lived, forms the starting point for the ever-expanding realisation that our influence stretches much further than meets the eye, Schmid may say.

Mol and Latour are more reluctant to talk about the 'local' as a starting point; their arguments shed light on the difficulty of pinpointing what 'local' *means*. According to Mol, a concept such as 'oikos' is a locally situated dream. Such a concept may suit the experience of the walker, who takes a stroll and meanwhile enjoys the landscape. But it does not work for the eater. 'During my lunch, here in Amsterdam, I ate a banana which had been flown in from Ecuador. As an eater, it is almost impossible to live *in the local*'. Mol and Latour do however underline that we should never forget the very materiality of our existence on earth; our lives take place *somewhere*, and have material consequences *somewhere*, though not necessarily both at the same location.

In their view, 'connectedness' is the crucial word. Everyone and everything, including nature, is connected to many other beings and things, in various and varying constellations. 'Things and beings are connected, but this does not make them a whole', Latour warns. Connectedness does not necessarily imply going up to the global level where everything is organised under one common denominator such as 'Nature'. All too soon, global connections tend to be presented in a generalised, disembodied, abstract manner. Latour calls for a 'non-global connectedness', for the acknowledgement of connections and alliances while preserving their specificity and situatedness. 'Let us think terrestrial', he argues.

Notably, Latour and Mol also expressed their concern over the sectoral character of policy. For obvious managerial reasons, policy is organised in different sectors, which has resulted in separate policies for nature, agriculture, energy, the economy, the environment and so on. But sectors put up artificial boundaries between networks that are highly interconnected. Sectoral policies have consequences for natural systems, but their ecological impacts are not self-evidently considered.

Thus, policies often conflict with each other; for instance, economic policies conflict with nature policies, or plans for urbanisation with protecting surrounding rural areas. Nature policy cannot be compartmentalised in one or several distinct policy sectors but is a cross-cutting notion that all policymakers and stakeholders should take into consideration. The challenge is to develop policies that have an eye for the myriad of connections between people, places and ecosystems; policies that make use of site-specific knowledge, repertoires and history. The acknowledgement that this diversity is important and harbours values that are worth protecting, might well be the true 'universal' of EU policies.

Acknowledging this 'universal' will demand that policymakers and stakeholders take the effects of each policy on other policies into account. Taking ecology seriously will call for another way of organising and assessing policies. Thinking in terms of policy networks and organising policies around flows and cycles (e.g. those of food, housing, mobility, and resources) will result in an approach that encompasses economic, social and environmental goals and sensibilities. This will do more justice to the interdependencies between different policies. It will also make policies more inclusive.

Fostering bottom-up initiatives and multinaturalism instead of relying on top-down regulation based on a homogeneous conception of nature

Schmid is worried about policies that promote a particular lifestyle and are forced on people in an authoritarian way, even if these policies are reasonable and ecologically sound. He stresses that a policy can only prove sustainable if its underlying reasoning is adopted by individuals and digested in their lifestyles. So, it is the 'ecological intelligence' of individuals one should hope for (and rely on) when developing and implementing nature policy. Policymakers can set the framework for ecologically sound behaviour, but they cannot force a certain lifestyle on individuals.

Scruton remarks that human beings should not be subjected too much to a top-down regime of regulation, not even to protect shared resources against individual greed. By thinking in this way, we transfer to governments the problems that beset us, while neutralising the motives that would lead us to solve those problems for ourselves. Moreover, top-down regulation disturbs beneficial communal practices by blindly overruling them. For Scruton, the most important policy challenge is to identify the 'oikophiles' throughout Europe and to support them where possible. He sees them as 'little platoons' who take up arms against all sorts of practices that destroy beloved landscapes. The EU should side with the oikophiles by, for instance, removing regulations that stand in the way of civil initiatives or putting pressure on governments to give voice to local communities in the decisions that affect them.

Mol, however, argues that regulation by the EU or other governments can play an important role. For instance, to protect consumers/citizens against viruses and toxic substances. In the end, governments should carefully decide which technologies with impacts on nature (Mol mentions fracking) should be allowed and which should not. Furthermore, governments should protect people and ecosystems the world over from the externalities of global production and trade.

Scruton and Schmid consider aesthetic values (beauty, the good life) as the key to nature policy and nature-related policies. For Scruton, the search for beauty stems from our acknowledgement that there are things with intrinsic value that are not to be traded. Schmid has more pragmatic reasons. In his view, playing on aesthetical motives such as pleasure, love and beauty, is a far better way of reaching others than imposing regulations or spelling out duties.

Latour, Mol and Schouten take a meta position in this respect. According to them, there is not one way of being related to nature. Latour stresses that we must allow not only for multiculturalism, but also for multinaturalism, for different repertoires on nature as Mol would say, or various views of nature as Schouten would describe it. There are many different natures, perhaps as many as there are different cultures.[2]

Politicising instead of 'policing' nature

During the dialogue, Latour remarked: 'Ecology is a nice word, but it does not think politically'. Ecology puts nature out there, as a context, or even as a neutral given, while in fact nature is always already arranged and staged. He wants us to ask questions like: 'Who gets to speak for nature?' and 'Who's nature are we talking about?'.
Such questions make the inherent and inevitable politics of nature manifest. If we refrain from asking such questions, we will end up with the supervision and protection of nature as it is commonly interpreted. And this will be the end of nature, since this dominant idea of nature forbids us to talk about trade; it puts nature in a sanctuary outside economics, which is the same as slowly suffocating it.

Instead of 'policing' nature – protecting it as if it is clear what nature *is* and *should be* – we must politicise nature. In doing so, we will encounter all sorts of 'cross-cutting issues'. During the dialogue, Latour referred to the 2015 climate conference in Paris, which was to be held two weeks after the Philosopher's Dialogue. Climate change is a pressing example of nature becoming an inevitable political issue. For him, it is obvious that state-based organisations, such as the United Nations, are not able to tackle this issue. At the climate summit in Paris, countries would be asked the following question: 'In thirty years, how do you see yourself living?'. Of course, the resulting answers will not at all be coherent, predicted Latour, which will show that we are dealing with a political issue. To politicise nature, we must create a polity (political community) out of the resulting 'chaos of repertoires'. How can we arrange this polity? That, to Latour, is an important political question.

Schouten argues to pause for a moment in the public debate on nature and carefully listen to the diversity of narratives, images and views pertaining to nature, and investigate which of these may be helpful to positively engage citizens. Not all Europeans conceive nature primarily as an object to be used and colonised. Many of them see nature as something to be used but not abused, as a collective of subjects with certain rights or as a relationship of participation.

'My strategy', Mol remarks, 'is to stretch the margins, so that even more repertoires can come into play.' Reflection is to be found exactly in this experience of contrast. The art, according to Mol, is to make decisions based on a variety of repertoires. She offers a few rules of thumb in doing this. Address problems one at a time. Analyse them close to their actual practices and at their own terms, instead of generalising too swiftly. Consider practitioners' repertoires to be as important as academic ones. Make decisions along the way and stress their provisional character. The ensuing mentality of policymakers should be: 'Let us see if this might work'. A public debate is often staged as a fight, but other debate models are feasible, models in which we create, or tinker with, solutions while making use of different repertoires. Mediation is a model for appeasing repertoires.

Doing justice to local, practical knowledge instead of relying on generalised scientific knowledge only

Finally, Latour and Mol indicate that they are concerned about the dominant role of unified scientific knowledge in policy-making. They emphasise that this role is not justified and does no justice to local, practical knowledge. Latour remarks that 'nature' should not be considered as a universally agreed concept, and that the appeal to follow or save nature no longer suffices to obtain agreement. Such a view depoliticises nature instead of politicising it. The world can be known, but it is not made of knowledge and even less of unified knowledge. Scientists should, therefore, literally come back to earth. Mol stresses that, since ecological realities are situated, ecological knowledge can only make sense of them when it is specific. The format of individual cases seems, therefore, more opportune than the format of universal laws.

Generalised, scientific knowledge is relevant for developing and implementing policies, since it gives reliable answers to many sorts of questions about nature we would not be able to ask on the basis of a purely practical engagement in our natural environment alone. But it is important to also recognise the relevance of localised, practical knowledge; for instance, to better take regional or local circumstances into consideration. Both types of knowledge need to acknowledge the situation-related character of the other, together with its underlying values and truth claims. This may help to open up more inclusive strategies of nature policy to which policymakers and stakeholders will feel more committed.

Putting the suggestions into practice

Concrete policy recommendations may not be the forte of philosophers. Nevertheless, our speakers offered various suggestions for nature policy and nature-related policies. This final section indicates how these suggestions may be put into practice, such as by organising dialogues, strengthening regional qualities, and finding new ways of policy-making, using knowledge and including design.

Organising informal dialogues
Informal dialogues may be organised preceding or parallel to formal decision-making processes nature policies and nature-related policies. During such a dialogue, participants from a variety of domains could frequently meet in an informal setting to discuss and challenge different notions of nature and related matters. In addition, they could exchange and reflect on various types of knowledge on nature and, by doing so, develop a shared knowledge base. Furthermore, they could create a common vision, for instance, on the future of nature in a region.[3]

A study such as the *Nature Outlook* may help such a dialogue.[4] The presentation of alternative perspectives on the future of nature may stimulate the discussion on the different notions of nature. The perspectives, embodying different kinds of knowledge, may provide an example of a shared knowledge base. And all kinds of ideas provided in the perspectives may be combined to form the common vision. For instance, the idea to reintroduce the European bison in a nature area, promoted under one perspective, may be combined with the idea to upgrade the tourism infrastructure of the area, as suggested in another.

Dialogues support mediation rather than conflict. The participants would be people who are used to thinking on a strategic level. They would be encouraged to speak without being bound by mandates or instructions from their organisations. And a safe environment could be created in which they can discuss unconventional ideas. These conditions may help them to make the various notions of nature explicit, to identify conflicts between them and to find solutions to overcome these conflicts.[5] In this way, a dialogue may create a political community out of a variety of individuals

and the notions of nature they represent. The participants may not only represent human beings but also non-humans, by speaking on their behalf.[6]

A dialogue does not primarily provide a context for taking decisions, but it may prepare decision-making. Participants holding strategic positions in their organisations can be considered as ambassadors between dialogues and the decision-making process. They would be especially able to communicate the results of a dialogue to their organisations and to inform other participants about decisions to be made in their organisations.

Strengthening regional qualities

A dialogue can be organised on any scale, but a regional or sub-national scale may be the most effective. Many people identify themselves with the region in which they live, motivated by for instance oikophilia or an ecological lifestyle. Well-known examples are Tuscans, Catalans, and Transylvanians. Moreover, European nature policy and nature-related policies are largely implemented regionally and, therefore, particularly require synchronisation at this level.[7]

A common denominator that may help the discussions is the strengthening of regional qualities. These qualities are the cultural and natural characteristics that are important for a region's ecological, social, and economic vitality.[8] Regional qualities may be enhanced by explicitly relating nature to other realms of human activity, such as farming, living, working, and leisure. It is often the connection of various domains with one another and the synergies between these domains that create regional qualities, such as attractiveness of the landscape, diversity in plant and animal species, and regional gastronomy.

Regional qualities are highly related to the landscape. A landscape is a complex of interconnected networks such as ecological and socio-economic networks. It functions as an interface between nature and culture. A landscape has canonical aspects as well as apocryphal aspects.[9] Canonical aspects are official characteristics, such as the type of landscape and its cultural history; apocryphal aspects refer to unofficial uses such as free walking and guerrilla gardening. These last aspects form the contexts for the first and give meaning to them. Scientific knowledge primarily provides insights into the canonical aspects of a landscape; practical knowledge helps to gain insights into its apocryphal aspects.

Examples of regional quality: design for a Kruger Park in Oostvaardersplassen, the Netherlands; renovated rural estate housing a health centre in Gauja National Park, Latvia; spontaneous nature in a former industrial area, Landschaftspark Duisburg Nord, Germany; and Alamillo bridge in Sevilla, Spain. All photos: Image Select

Regional qualities are not only static or only related to natural and cultural history. New qualities can also be developed, for example through the renovation of rural estates, the greening of abandoned industrial sites, and the development of 'new nature'.[10] Nature conservation and development may thus benefit from developments in other domains, such as construction, health care, and leisure - and vice versa.

Finding new ways for policy-making, using knowledge and including design

Organising a dialogue in order to strengthen certain regional qualities may increase people's engagement in caring for nature, and could broaden the repertoires of possible policy actions. However, in order to be successful, new ways are needed not only for policy-making and the use of knowledge, but also – as suggested by the speakers – for including 'design' (landscape architecture, spatial planning), for instance, of parks, neighbourhoods, business locations and nature areas.

Acknowledging the complexity and dynamics on a regional level requires policy-making that is characterised by *governance* instead of *government*. As those involved in nature policy and nature-related policies may know, top-down planning by a central actor on the basis of scientific knowledge and relying on regulations, does not do justice to regional diversity or to the variety of actors and their motives. What is needed is the involvement of a great variety of actors, and to transcend the level of individual sectors and administrations.[11] Including a great variety of actors involved in nature policy or nature-related policies may invite a great diversity in notions of nature, and one in which a large range of people and things are represented. Including various domains, such as agriculture, tourism, water management and urbanisation, may help to synchronise nature policies with nature-related policies and to strengthen connections between horizontal networks. And including different levels may help to synchronise local, regional, national and European policies, as well as strengthen connections between vertical networks.

The complex and dynamic regional character implies that policy-making at this level requires the generation and use of a large amount and great diversity of *knowledge*. Knowledge generated by ecology, hydrology, economics, political science and other disciplines needs to be integrated. At the same time, these different types of scientific knowledge also need to be integrated with practical knowledge. This may be achieved through the exchange of these various types of knowledge, making their assumptions explicit, discussing the supporting evidence, and exploring where they are complementary or conflicting. In this way, science may be brought 'back to the earth'.

During a dialogue, communication is not restricted to rational, verbal language. Using creative, visual language is also acknowledged and stimulated.[12] *Designing* helps to visualise various notions and valuations of nature, to articulate where these notions and values are either complimentary or conflicting, and to create new solutions to integrate them. In a dialogue, it is important that designers actively communicate with other participants and that they practice co-designing. An approach in which a

visualisation is designed beforehand and subsequently communicated with others will not work in this context.[13]

Although some experience with dialogues has been gained, it is not a well-established practice yet.[14] Therefore, it is important that policymakers and stakeholders adopt an experimental attitude, and that regions throughout Europe exchange experiences with organising dialogues. This may help to implement nature policies and stimulate their integration with other policies. It may also help to increase the responsiveness, legitimacy and effectiveness of these policies. And this may, in turn, contribute to the diversity and vitality of nature throughout Europe and to the various ways in which people feel connected to nature.

Notes

1 The lectures the speakers delivered during the philosophers' dialogue were short versions of the essays they wrote for this book, with the exception of Bruno Latour's lecture, which differed considerably from the essay in his chapter.

2 Zimmerman, M. (2012). *Multinaturalism and the End of Old Time Environmentalism.* Integral Life+: https://www.integrallife.com/integral-post/multinaturalism-and-end-old-time-environmentalism.

3 Dammers, E. et al. (2015). "Urbanized Deltas as Complex Adaptive Systems". In H. Meyer et al. (eds.) *New Perspectives for Urbanizing Deltas.* Amsterdam: MUST Publishers.

4 Zeijts, H. van et al. (2017). *My Nature, Your Nature: Perspectives on the Future of Nature in Europe.* The Hague: PBL Netherlands Environmental Assessment Agency.

5 Dammers, E. et al. (2017). *Four perspectives on the Future of Nature in Europe. Storylines and Visualisations.* The Hague: PBL Netherlands Environmental Assessment Agency.

6 Dryzek, J.S. (2014). *The Politics of the Earth.* Oxford: Oxford University Press.

7 Dammers, E. et al. (2004). *Ontwikkelingsplanologie.* Rotterdam/The Hague: NAi Publishers / Ruimtelijk Planbureau.

8 VROM-raad (2006). *Groeten uit Holland.* The Hague: VROM-raad.

9 Herngreen, R. (2002). *De 8e Transformatie.* Wageningen: Blauwe Kamer.

10 RLI (2016). *Verbindend landschap.* The Hague: Raad voor de Leefomgeving en Infrastructuur.

11 Edelenbosch, J., N. Bressers and P. Scholten (eds.) (2013). *Water Governance and Connective Capacity.* London: Ashgate Publishers.

12 Jonge, J. de (2008) *Landscape Architecture between Politics and Science.* Wageningen: Uitgeverij Blauwdruk.

13 The *Nature Outlook* conducted by PBL (2016) presents a set of normative scenarios.

14 Meyer, H. et al. (eds.) (2015). *New Perspectives on Urbanizing Deltas*. Amsterdam: MUST Publishers.

About the authors

Annemarie Mol is a Dutch ethnographer and philosopher. She is Professor of Anthropology of the Body at Amsterdam University, focusing her work on 'the eating body' and diseases. Mol has also been a member of the Royal Netherlands Academy of Arts and Sciences. She has helped to develop post-actor-network theory / feminist understandings of science, technology and medicine. In her earlier work, she explored the performativity of health-care practices, arguing that realities are generated within those practices, and noting that, since practices differ, so too do realities. Mol has published *The Logic of Care* (2008), *The Body Multiple* (2002), *Differences in Medicine* (with Marc Berg, 1998) and other books.

Bruno Latour is a French philosopher, anthropologist and sociologist of science. He is especially known for his work in the field of Science and Technology Studies. Along with Michel Callon and John Law, Latour is one of the primary developers of the actor-network theory. Although his studies of scientific practice were at one time associated with social constructionist approaches to the philosophy of science, he has diverged significantly from such approaches. Latour is a professor at Sciences Po Paris, where he holds the position of scientific director of the Sciences Po Medialab. He is also a professor at the London School of Economics. Among other books, Latour authored: *An Inquiry into the Modes of Existence* (2013), *Politics of Nature* (2004), *We Have Never Been Modern* (1993), and Science in Action (1987).

Ed Dammers works at PBL Netherlands Environmental Assessment Agency in The Hague as senior researcher on spatial planning. He is also a methodological expert on foresight studies. As co-author, Dammers published *New Perspectives on Urbanising Deltas* (2015) and *De Ruimtelijke Metamorfose van Nederland 1988 – 2015* (2015). He is also co-author of the Delta Scenarios (2013), the *Nature Outlook 2010–2040* (2012) and other foresight studies.

Hanneke Muilwijk is as a researcher at PBL Netherlands Environmental Assessment Agency in The Hague. Her work is focused on environmental issues related to water governance and food production. Muilwijk has been trained in the Philosophy of the Natural Sciences. In addition to other reports, she co-authored *Grenzen Voorbij* (together with Albert Faber (WRR, 2015)) on action perspectives in the era of the Anthropocene.

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Marjan Slob is an essayist and philosopher. She is also a columnist for Dutch newspaper *de Volkskrant*, and works for the Rathenau Institute in The Hague, a Dutch research institute on science and technology. Her interests range from technology to design, from democracy to food, and from brain science to the influence of imagination on human behaviour. Slob has authored *Hersenbeest* (2016), *Angstaanjagend en groots* (2013), *Mensenrechten in beweging* (2008) and other books.

Matthijs Schouten works as an ecologist and philosopher at Staatsbosbeheer, the Dutch institute for nature reserve management in Amersfoort. He is also Professor of Ecology and Nature Restoration at Wageningen University and Professor of Nature and Landscape Protection at Cork University. Schouten is interested in different worldviews, particularly in the great variety of people's perceptions of nature that have evolved throughout human history. He uses religious thinking, philosophical reflection, fine arts and literature as angles. Schouten has published various books, such as *De positie van de zwijgende natuur* (2008), *Spiegel van de natuur* (2005), and *Peatlands, Economy and Conservation* (1990).

Roger Scruton is an English philosopher specialised in aesthetics. Scruton holds positions as a professor at Boston University, the American Enterprise Institute in Washington D.C., and the University of St Andrews. He is also a member of the editorial board of *the British Journal of Aesthetics* and a senior fellow of the Ethics and Public Policy Centre. Scruton argues that aesthetic interest is demarcated from other interests by that it involves the appreciation of something for its own sake. Scruton has published over thirty books, among which *Green Philosophy* (2012), *Beauty* (2009), and the *Aesthetics of Architecture* (1979). Furthermore, he has written a number of general text books on philosophy and culture, and several novels. And he has composed two operas.

Wilhelm Schmid is a German philosopher specialised in the Philosophy of the Art of Living. Schmid lives as a free philosopher in Berlin and is also a professor at Erfurt University. 'Reflexive art of living' consists of observing, orienting and developing oneself without becoming disconnected or otherwise limiting oneself. His work highlights many aspects of the art of living, such as the meaning of life, happiness, friendship, and environmental awareness. Schmid has published a large number of books, among which *Gelassenheit* (2014), *Unglücklich sein* (2012), *Ökologische Lebenskunst* (2008), *Glück* (2007), and *Philosophy der Lebenskunst* (1998). His books have been translated into English, French, Spanish as well as many other languages.

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