A theory of committed action for nature: interdisciplinary explorations

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Luuk Knippenberg (ed.)

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PART I

An interdisciplinary perspective on commitment to act for nature

Luuk Knippenberg

Radboud University Nijmegen

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DRAFT
The Quest for Meaning

A quest is a special kind of journey – according to the original denotation – a journey in search of a specific good. The best-known example in Europe is the Quest for the Holy Grail, made famous by the Arthur Legend. In that tale the Holy Grail stands for a mysterious but very precious good, and the Quest for the ultimate dedication to find that good. What the Grail is or can offer is not unequivocal. But Arthur and his knights know that there is no higher purpose in life than the search for the Grail, and that the search is as important as the finding. They also know the Grail will only reveal its purpose after it is found, and that it can only be found by those who have the right motivation and demonstrate the right behaviour during their quest. Only a knight with a noble heart and noble behaviour can find it. It is all about excellence. A second important aspect of the Quest for the Holy Grail – in fact any quest – is that both the quest and purpose of that quest (the good) are embedded in a specific broader narrative. In the case of the Quest for the Holy Grail Christianity supplies that overarching story. The Holy Grail is (often but not always) equated with the vessel Christ used during the Last Supper. In other quests the ‘grail’ and the narrative differ. In for instance the Gilgamesh Epos, the ‘grail’ is an herb that bestows immortality, and the overarching story is the question what humanity and civilisation mean, whereby the City of Ur represents civilisation and everything outside its city walls represents wilderness. A third aspect of a quest is that it has to fit in an accepted, inherited set of examples, social norms, habits, routines, which give direction to the quest and a ground to the narrative. In the case of Holy Grail, only knights, and only those who are virgin and pure of heart, are allowed to engage in the Quest. They have to stick to certain norms and behave in prescribed ways.

We use the example of the quest as a motto, because it clearly articulates the central findings of BIOMOT, the fact that all motivated people, in fact all people, have the same urge for meaningful action, i.e. meaningful for themselves and for others and for the environment they live in, and the fact that this urge is rooted in a combination of supportive narratives, examples, experiences, and shared rules or norms. Change these conditions and the nature and orientation of the motivation will change. Destroy the conditions and motivation will fade away. Some conditions are better than other to motivate people. If conditions, for instance, offer no room for meaningful nature related stories, practices and norms, motivations to act for nature or support nature oriented actions will dwindle.
Introduction

The need to motivate people to act for biodiversity is widely acknowledged, and many efforts have been done to achieve this. The results however still are disappointing. People and society remain reluctant to come into action for biodiversity, even if they know that this is the rational thing to do. It looks as if the motivational power of rationality, reasoning, or utility, is rather thin when it comes to actually motivating people to act for biodiversity.

The goal of BIOMOT is to come up with solutions to break this stalemate, and provide answers that work to really motivate people to act for biodiversity.

We decided that the best method to understand the motivations of people and organisations (of and by people) to act for biodiversity was to study the motivations of people (and groups of people) who demonstrably had undertaken that kind of action. What kind of motivations triggered them, and what barred them? This was the first focus.

We also decided to focus our attention on the motivations of individuals, especially highly motivated individuals. This decision was based on the insight, derived from the literature and previous studies of some of the BIOMOT partners, that real transformation always originates from highly motivated individuals.

A third decision was to extend the research scope from motivations to act for biodiversity to motivations to act for nature. This decision was also based on literature and previous studies of Biomot partners. The motivational potential of biodiversity is limited, because of its abstract meaning, it mainly appeals to reason. However, this rational appeal will only motivate few people, mostly higher educated people or professional in the field of biodiversity. Nature is a much broader notion with a strong and historically proven motivational appeal. And we also know that people willing to act for nature, will also include biodiversity in that willingness, since diversity is next to authenticity and otherness a main appeal of nature, aesthetically and ethically.

So, we decided to look at the motivations of passionate individuals, active for nature, to find out what triggered them to act, i.e. to become engaged and translate that engagement into action, and to find out what kept them going over the years, and or what blocked them from doing so, and how they inspired others. We compared their motivations with those of other people, motivated for other causes, and with the motivations of people who were by profession or coincidence active for nature, without necessarily being motivated to do so. This last group was explicitly targeted by Biomot work package 2 (WP2), which investigated the motivations, policies, governance and social learning processes in 35 biodiversity projects in the seven countries involved in the Biomot project.

We started our investigation by studying the connection between values and interests. This choice was prompted by the fact that the most prevailing view on human motivation nowadays is that people are motivated by values or interests, and that they act on the basis of a more or less consciousness comparative appraisal of these interests or values. This offered a good argument to start there. We, however, enriched this view with the help of a more philosophical line of approach, which makes a distinction between the view that people act or are supposed to act because of (rationally grounded) reasons and the reverse view that people first and above all act
because of sentimental reasons, irrespective of the question whether those reasons are rational, and often fit to be rationalized.

We also decided that we wanted to confront this value oriented line of approach with a different, competing outlook on motivated action, derived from environmental ethics, i.e. the idea that motivated people are not driven by values /interests or sentiments, but by ‘contextually and narratively embedded’ meaning, by a search for meaning, an urge to understand – not to determine- what is true, so-called \textit{Wahrheitsverstehen} (see Gadamer, 1960). People act in a certain way because it is ‘natural for them’. They value what they do because it is depicted as meaningful by the stories, traditions, examples, norms, and practices that surround them.

We started the research into the motivational power of values and interests by investigating the role of economic values and valuation. We started there, because stressing the economic value has become the dominant approach to stimulate people to act, also in mainstream contemporary policies addressing environmental issues, including those regarding ecology and biodiversity. This approach reflects the widely shared view that putting the right prices on environmental issues will automatically trigger the right behaviour, and that getting the prices right for ‘goods’ is merely a question of creating a market for these ‘goods’. Once there is a market, optimal environmental outcomes will be generated by the interplay between supply and demand. No need to stimulate or change motivations or behaviour by means of argumentation, education or force, the market will do the job\textsuperscript{1}.

This discourse has indeed become so overriding that even the proposition that motivations or arguments are important to enhance or protect biodiversity or nature is sometimes shoved aside. At the same time however, it is clear that stressing economic valuation and marketization does not solve the issues they are supposed to solve, does not motivate the broader public to act, and in practice demotivates them, and even block the articulation of alternatives.

These and other economic valuation related questions Biomot took up, mainly in work package 1 (WP1).

\textsuperscript{1} The main remaining problems are: the double question of translating not-yet-economic values in marketable economic terms, i.e. use and exchange values, and dealing with issues that defy this type of translation; the problem of handling market failure; the problem of distributive justice, i.e. what to do with people with no or bad access to the market; and finally the problem of handling people who resist or revolt.
Findings

Motivation cannot be bought
WP1 investigated the different connotations of the notion of value, more in special the notions of economic values and valuation and their impact on motivations to act for biodiversity or nature. The results are remarkable and endorse the central idea of BIOMOT, i.e. the idea that significant action for nature and biodiversity ‘cannot be objectivised or bought’ but requires the dedicated action of motivated people (see D. 1.1).

The hope that economic environmental valuation can become so effective that it no longer is necessary to appeal to other arguments or non-economic motivations turns out to be vain, according to the findings in WP1. Economic environmental evaluation (EEV), and its little sister total economic valuation, (TEV) are not suited to measure, and as a result guide complex ecological behaviour. Current marginal changes in an ecosystem can be tracked, but future erratic behaviour cannot. Local extinctions and loss of ecosystem adaptability can occur unobserved, leading to unexpected state changes. Reactions to perturbations in the ecosystem can lag in time, depending on generation times and seasons. Therefore, relying on EEV or TEV information does not safeguard the maintaining of ecosystem services into the future. EEV and TEV give only a snapshot view and supply no information about the state of the ecosystem itself.

WP1 makes also clear that the notion of value, used in a dominantly economic context or discourse, will crowd out or monetize all other values. Putting services on the market, fundamentally changes the nature of these services, and overrules and push aside values and meanings that are not expressed or expressible in monetary terms. The implications of these findings are far reaching, certainly if we combine them with the above-made remarks on economic environmental evaluation (EEV and TEV). It implies that efforts to qualify ecosystem services in monetary terms changes the nature of these services, erodes the possibility to value these services in other than monetary terms, reduces the range of possible motivations to cost-benefits analyses; and –as if this is not yet far-reaching enough- does not prevent future ecosystem losses, or even complete ecosystem breakdowns (see also Knights, 2013).

The problem with values
The findings of WP1 are even more sweeping. The notion of value itself turns out to be problematic, when it comes to understanding or stimulating motivations to act for nature or biodiversity. This is problematic because the notion of value is the central building brick in all contemporary efforts to measure the value of ecosystems, biodiversity or nature, and in most efforts to motivate people, groups or firms into action. When we talk about motivating people we look at values, and try to use these as a lever to uplift their motivations.

A central problem with values is that we tend to define and use them in abstract, itemized ways. We see values as a kind of independent ‘objects’, detachable and detached from societal practices and norms. But the consequence of this approach is that values, because of their disconnected and abstract nature, have the tendency to proliferate and conflict with each other, and even become incommensurable, since they have no inbuilt criterion to check themselves or become comparable. That
requires the presence of an outside standard, beyond and above the value(s), with an undisputable authority i.e. higher value. To give an example: all metric measurement is based on the presence of The Meter. That Meter does indeed exists. It is a very unique, very concrete specimen, still conserved in Paris, not supposed to change in length. But precisely that kind of standard we lack to measure and compare (value) our contemporary detached, (possibly endless) lists of abstract, itemized values. This is already true for the values we cherish as a person, but even more so for the values different people or different groups foster. Solving this double-edged problem of value plurality and value commensurability is problematic, since every solution, every choice, and every comparison in itself is also based on a valuation, on values or a value.

**Rational deliberation and context**

One at first sight plausible way to overcome this problem, and in fact a very common way to do this, is to appeal to a cost-benefit analysis. But the problem with that type of analysis is that it again presupposes the presence of an overarching standard, an ultimate value, to measure, weigh, compare and aggregate the gains and losses of each option, in order to come to the optimal solution. If this standard is lacking, values become incommensurable and rational decision-making impossible. And there are very strong reasons to suppose that such a standard indeed is lacking in cost-benefit analyses. Most so-called ultimate values are, on closer consideration, just instrumental values in disguise, not ultimate at all, and in other words not suitable; or a so-called ultimate value turns out to be a composite of other values (a hybrid), in other words, again not to be an ultimate value.

There are other rational approaches, which do not have this problem, at least at first sight, and can deal with this type of value incommensurability and with value plurality.

The first one is the procedural account, which holds that a rational decision can be made on the basis of deliberation that meets the norms of rational discussion (O’Neill 2007: 30; see also Simon 1979: 68). The second one is the expressive account of rationality, which holds that a rational decision is one that ‘adequately expresses one’s rational attitudes towards the people and things one cares about’ (Anderson 1993: 18). And a third, alternative approach, defended by O’Neill, Holland and Light (2008:85), argues that it is enough ‘to have a partial ordering whereby what we have is ‘a set of admissible solutions which themselves are not ordered. This judgment should be tutored and informed, and based upon developed capacities of perception and knowledge founded in education and experience (O’Neill 1993: 117).

However, The first two alternatives in fact run into the same obstacles as the cost-benefit analysis. They refer to an ultimate value, in this case respectively rational discussion and rational attitudes, themselves referring to a notion of care. What a rational discussion is or what makes a discussion rational depends on the arguments used, the perspectives on rationality of the participants (and their audience and social environment), and their willingness to behave in a certain way. The same can be said of rational attitudes, although the notion of care seems to offer a benchmark, but one that transcends rationality. There is no guarantee, in both cases that the problem of instrumentality and hybridity does not pop up. On the contrary, both problems seem
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The third alternative avoids this deadlock, but this comes at a price. It refers back to tradition and practices, i.e. education and experiences. In other words, it re-embeds values in a very specific gauge: social context, locality and a narrative. That ‘standard’ validates the values, and makes them tangible and related (de-itemized). They fit in a story and derive their meaning form a sharing meaning (shared narrative), shared practices and experiences, and a shared knowledge-tradition, handed over by education or otherwise.

In summary: free-floating values, i.e. values detached from their (social) context are a problem when it comes to motivation. They have to be grounded. But that can only be done by referring to a foundation outside the values, a transcendent underpinning, beyond and before; and that ground is lacking.

De re or de dicto

One other, not yet-mentioned solution to overcome the problem of valuing the value of values without the need to refer to a specific context, is the so-called de re /de dicto distinction, made by some philosophers. This is the idea that values referring directly to a concrete object, a so-called re, are stronger and have more motivating power than values referring to an idea, an abstraction. However, even if this is true the question raises (again) why that is the case, and whether context is not again the deeper reason, the real explanation, for instance for the fact that I love my child more than children in general, or the fact that I love a forest I know more than forests in general. Besides the distinction between de re and de dicto can become blurred, especially for higher educated people or in cases or ‘things’ with a degree of complexity, such as nature or biodiversity, or to take another example, money. Is money a re, or a dicto, even when I talk about my own money?

We dedicated a special chapter in this booklet at distinction between de re and de dicto motivations (see below Part II), because it showed that many of our interviewees, motivated to act for nature, are indeed motivated by de re motivations, even in cases where it seems as if their motivations are de dicto.

Money nor market

It is, because of the above-mentioned reasons, not that surprising that values and valuation methods more often do not motivate people into action or only inspire some of them, or worse: awaken resistance, reluctance, or passivity. We already discussed the tendency of economic monetary based valuation to suppress and even push aside all other types of valuation and values. We, however, did not discuss the fact that this insight is not all that new or unknown, but that this does not hold back decision makers -in the profit and non-profit sector alike- to massively embrace the monetary option, and introduce market approaches and norms all over the place, even there where they do no fit in, or do more harm than good. They even do this when they know that they are clearly crossing the line.

They probably do this out of pure pragmatic reasons. The market is indeed all overriding; you have to comply as decision maker; that is what pragmatism is about. They also do it because money has this inbuilt tendency to equalize everything and treat everything alike, even the incommensurable, i.e. all values, irrespectively of
their differences. It delivers the ultimate standard for (pragmatic) decision-making, better than even the most sophisticated rationality can forge. It is simply very handy to have this kind of standard at hand as a policy maker, the more so because it is a standard you do not have to reflect upon, or defend, at length. Its value seems self-evident, neutral and omnipresent. It fits neatly the dominant discourse of our time, like the idea that the Pope is the head of the Catholic Church for a Roman Catholic.

However, the costs are high, even higher than described above. The first obstacle is as clear as it is insurmountable within the logic that has erected this barricade. Everyone and everything with no currency, little currency, or less currency has no or less access to a value market. This is a very simple, indeed self-evident truth, but one with very far-reaching consequences. The market only serves those who have access to that market, and those with the best access are served the best. Installing a market and letting it do ‘its job’ is a political and moral choice: a market is not morally neutral or beyond moral categorisation. It is an imagined reality, a social construct.

It is indeed very advisable for every decision maker to take the time to let this self-evident truth and its consequences really sink in, and let it re-shape her or his choices. It implies that even the most perfect market is unjust in certain ways and produces injustice; it has an inbuilt tendency to do and reproduce injustice, which hits the less off hard, and the most less off the hardest. The opposite reasoning is also true: the richer you are, the more you profit. The victims are the poor, but above all the non-human species with no access to this market and in fact every market whatsoever. Humans decide for them, i.e. the humans who construct, order, rule the market; the ones with power and money. You do not even have to refer to intrinsic values of nature or non-human species to understand this, to see that translating values in market values or marketable functions or ‘services’ is exclusive and disadvantageous for many human poor and most of the non-human species. And it is a problem that cannot be solved by adapting or extending the market or the market mechanism.

**Discourses on monetary valuation**

This insight is again not that new, since we also found it back, when analysing the different discourses in seven EU countries about monetary valuation, amongst academic, governmental and private sector economists; representatives from NGOs and other groups critical of the economic valuation of nature; and other figures prominently involved in the economic valuation of nature debate (see Biomot D 1.2). We found four discourses, of which the dominant, the *economic valuation* discourse, indeed states that market failure is a major cause of environmental problems and bringing the environment into the market system the solution.

The other three discourses doubt or even reject this claim. The discourse on *value pluralism* sees money as an inappropriate metric, and as a tool that undermines feelings of obligation, fails to respect that people value the particular irreplaceable history of the places they know, and an approach that dangerously assumes that no natural place is valued as unique or irreplaceable. The discourse on *social justice* underlines the remarks already made that the expansion of market institutions into the environmental domain represents a further transfer of power to corporations and the very rich; and that the harms will fall most severely upon the current poor and future generations. The third discourse, labelled *eco-deliberation*, claims that a participatory approach for environmental decision making should be adopted, and that economic
valuations of ecosystems do not provide an indication of the ability of the ecosystem to provide ecosystem services into the future.

Three out of four discourses on economic valuation, popular amongst environmental professionals, question, doubt or bluntly reject the idea that monetary or even economic valuation will solve or is the way to improve environmental problems. However, the one in favour of market solutions is the dominant discourse, Al the economists in our sample supported it, and also rather insensitive for the assumptions and arguments of the other discourses. Discourses are noteworthy difficult to reconcile, but this even truer for some discourses. Above we already gave some reasons to why economic, and more in special monetary valuation, is so powerful and attractive, below we will give more. The first step to do so is based on some insights provided by (social) psychology.

**Crowding out**

We have already discussed in BIOMOT D.2 the values-model of Schwartz. But what we have not discussed in depth yet is the idea that values always come in clusters, and always stand in opposition to other vales and clusters of values. Some values are closely related and have the tendency to link up, such as for instance the values of benevolence, universalism and self-direction, or their antipodes: achievement, power and security. To use the words of Schwartz himself “the closer any two values in either direction around the circle, the more similar their underlying motivations. The more distant any two values, the more antagonistic their underlying motivations” (Schwartz, 2006, p. 2).

The implications of these findings are huge. It implies that the tendency to link up with related values and crowd out opposing values is not restricted to monetary values: all values have this tendency.

It also becomes clear that values such as hedonism (defined as personal pleasure),
achievement (defined as personal success), and power (social status, prestige, control or dominance over people and resources) exactly oppose the values that esteem and promote the wellbeing of others, people and nature. Moreover, it puts a new light on the hope or belief that you can combine or even merge those two clusters of opposite values into one tool or toolbox to motivate people into action. That hope becomes rather naive, to put it mildly, because the values we need to appreciate nature and biodiversity stand opposite to the values we need to live a life of pleasure or become socially and economically successful.

If we combine this insight with the conclusions drawn by WP1 that monetary and economic valuations have the tendency to proliferate at the cost of other valuations, and the knowledge that we live in a society that above anything else values personal luck, social-economic achievement, and prestige, expressible in competitive and monetary terms, it becomes clear that we have not quite generated the proper starting conditions to motivate people into action for nature and biodiversity, as well on an individual as collective level.

**Goals and the common good**

One could argue that all the above-made remarks only refer to values, and that motivations are about more than values, in fact more about goal setting. However, the findings of Schwartz are confirmed by the findings of Grouzet (2005), who investigated goal setting. Grouzet researched and classified the goals of 1800 students in 15 countries, also non-western countries, according to a division based on a distinction between on the one hand intrinsic and extrinsic goals, and on the other hand self-oriented and self-transcendent goals. A distinction he derived from the very influential studies of Deci and Ryan. Grouzet looked at the strivings, i.e. the motivations, of these students, not their values. Grouzet also represented his findings in the shape of a wheel, because he also found that related goals cluster, that they stand in opposition to other goals, and try to push aside their antipodes. Here, I will use the slightly reworked version, made by Tim Crompton (2010), who complies several of the ‘Grouzet-wheels’, into one figure.

![Grouzet diagram](image-url)
Some similarities between the ‘wheels’ of Schwartz and Grouzet are striking, although we also saw some remarkable differences, such as the places of hedonism and self-acceptance, and the place of conformity. However, in overall both models show the same tendency and – what is even more important – the same pairs of clusters and opposites, certainly when it comes to values or goals required to act for nature or biodiversity.

Grouzet in fact confirms the findings of Schwartz. The search for status, prestige and financial success (extrinsic and self-oriented goals) stands sharply opposed to the striving to do something for the other (community or nature), i.e. intrinsic and self-transcendent goals. Grouzet also provides an important additional insight. A person will start to do things that transcend her/his self-interest only if it is willed or required to ‘fit in’ socially.

**Demotivation**

This implies that people in theory can act for nature out of selfish reasons, but also that the options to motivate people into action for nature –or any common good– become slim, if the striving for self-acceptance is best served by gaining status and personal (financial) success, and going for pleasure, health, safety and affiliation; in other words, if these types of intrinsic and extrinsic goals overlap. That is precisely what is happening nowadays, almost all over the world.

In her book Eco-Republic (2012) the philosopher Melissa Lane also draws this conclusion. In this book she discusses the best way to reorganize the commitment of individuals, and how to enable them to act for the common good and nature. She also underlines that values can be mutually reinforcing, but also stand in opposition to other –clusters of related- values. Adherence to specific values excludes the support of other values, and the strengthening of certain specific (clusters of) values weakens opposite (clusters of) values. Money, economic output and fame belong to a cluster that stands opposite to a cluster encompassing benevolence, community sense and care. Even there where a cluster of values, which according to the model of Grouzet (see above) supports as well intrinsic or extrinsic strivings, are adjacent, the cluster of financial values and personal achievement and pleasure still remains the complete opposite of benevolence and community- and care-oriented values. I.e. the values needed to motivate people into sustainable action for nature or any other common good.

According to Melissa Lane our society stimulated precisely the wrong values to motivate people into action for nature, if only by motivating exactly those values that

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2 These differences have partly to do with differences qua definition (for instance with regard to the notion of conformity, restraint to harm others, or conventions for Schwartz, and an effort to fit in for Grouzet), and partly with differences in the overall classification system. The distinction between extrinsic and intrinsic, and between self-oriented and self-transcendent goals makes it very difficult for Grouzet not to classify self-acceptance in the self-oriented and intrinsic quadrant. The same reasoning is true for Schwartz, but pointing into another direction. His division between the one hand openness to change and self-transcendence and on the other hand conservation and self-enhancement, makes it almost obligatory to rank self-direction in the category of openness to change. One could say that the typologies for the self of Schwartz offer better opportunities to discriminate between the different roles of that self.

3 Intrinsic goals are defined as those pursuits that are generally congruent with the psychological needs for relatedness, autonomy, and competence proposed by self-determination theory (Ryan & Deci, 2000) and thus are inherently satisfying to pursue, in and of themselves. Intrinsic goals include those for self-acceptance, affiliation, community feeling, and physical health. In contrast, extrinsic goals are primarily concerned with obtaining some reward or social praise; because they are typically a means to some other end or compensate for problems in need satisfaction; they are less likely to be inherently satisfying (see Deci & Ryan, 2000). (Grouzet, 2005, p. 801)
oppose the values required for nature action oriented action. Contemporary society drums in the wrong values and striving, or in her words: “it stimulates the wrong virtues”. Our societies seem to be organized to demotivate individuals to act for nature or biodiversity, in fact any common good. “The environmental movement must beware of appealing to materialistic motivations, as these are inherently hostile to the very notion of intrinsic goods, intrinsic motivation, and identities based on anything other than the rewards of consumerism” (Lane, 2012, p. 121)

Our contemporary western society goes even further according to Lane. The overall and permanently repeated message is that any individual is too trivial a player to make socially any difference. Therefore, the permanently repeated message is that individual people do not have to care for the common good, nor should they feel guilty about not doing so. Taking care for the collective good is the task of other players or platforms, institutional players, such as the state, expert-groups or the market. We in fact live in a society that on the one hand promotes the freedom of choice and action of the individual and on the other hand belittles the capacity of that same individual to make a difference, with the exception of so-called super-heroes or geniuses, comparable with antique semi-gods.

**Meaning and story**

Lane also makes clear that this deadlock cannot be broken by means of arguments, certainly not by arguments that run counter to the values people consider essential for their identity, or arguments intended to undermine values people cherish by stressing the irrationality of those values. Do this and aiming at that will in fact have the opposite effect, it will only strengthen the will to stick to these values.

Lane wants to overcome this stalemate by means of new stories and images that stress self-transcendent goals and values. In this sense her recommendation links up with the ideas discussed before, the idea that values have to be embedded in a context and supported by narratives. She adds however two extra dimensions, i.e. the idea that its best can be done via the notion of virtue, and the idea that the kick-off to generate this change has to come from individuals, not institutions.

Those values and motivations that stimulate and support care (for people or nature) need longstanding and enduring nourishment and support, in words and deeds. This will strengthen these values and motivations, and weaken their antipodes. In other words, the strategy is not to downplay so-called negative values and strivings, but to promote their opposites. And the suitable way to do this is not via debate and argumentation, but via meaningful narratives and sustained practices, intended to embed these values and strivings in personal and societal habits, routines and norms; i.e. by educating and training the right virtues.

These processes have to be initiated by precursors, individuals who set the ‘trend’, and break the above-mentioned demotivational dead lock, which disheartens people to act for the common good. Their stories and practices should be studied, adopted and adapted, scaled up, and translated in social learning processes.

**Virtue and meaning**

The qualities required to promote the common good resemble, not surprisingly, according to Lane, the so-called classical virtues. They need practice and training to realize their potential, like the classical virtues did. A potential that is partly
incorporated in the practices aimed at bringing them about and partly exceeds and directs those practices, like muscles need training and make that training possible and gain in strength the more they get trained (see also Sandel, 2010, p 4). Excellence (virtue) is to be found and realized in the combination of goal, potential, and exercise; in short the goal of the undertaking, and the undertaking itself, i.e. in the quest.

The qualities needed for the promotion of the common good also have, qua constitution, much in common with the classical virtues, according to Lane. The cluster of qualities needed to promote that common good are more or less those of the four classical cardinal virtues, i.e. justice, or the capacity to do the good and correct wrong-doing; temperance, in order, to use the words of Durkheim “to pursue conduct towards enduring goals”; fortitude or courage, to overcome fear and resistance, and stick to the right choices and practices; and prudence or wisdom, the capacity to see what will promote and what will hinder the realization of the good. She adds one (cardinal) Christian virtue, the virtue of charity or care. She in fact swaps the classical virtue of friendship for charity.

This view on the virtues relies deeply on the ideas of Plato, but even more Aristotle and Thomas Aquinas. What is essential in this type of virtue ethics is the way the relationship between means, ends and actions is defined. Virtues are simultaneously means, goals and practices, or otherwise formulated as well ends as means, or to use the words of Alasdair Macintyre who revived the idea of virtue ethics: “For what constitutes the good for man is a complete human life lived at its best, and the exercise of the virtues is a necessary and central part of such a life, not a mere preparatory exercise to secure such a life. We thus cannot characterize the good for man adequately without already having made reference to the virtue. The immediate outcome of the exercise of a virtue is a choice, which issues in right action: ‘It is the correctness of the end of the purposive choice of which virtue is the cause’ (1228a1, Kenny's translation, Kenny 1978), wrote Aristotle in the *Eudemian Ethics*… Virtues are dispositions not only to act in particular ways, but also to feel in particular ways. To act virtuously is not, as Kant was later to think, to act against inclination; it is to act from inclination formed by the cultivation of the virtues. Moral education is an 'education sentimentale’.” (After Virtue, 1984, p. 149)

In other words a virtue should not be confused with an inborn disposition or a natural talent. “A happy gift of fortune is not to be confused with the possession of the corresponding virtue; for just because it is not informed by systematic training and by principle even such fortunate individuals will be the prey of their own emotions and desires” (Macintyre, 1984, p. 149).

**Self-determination**

These ideas are in line with the central findings of BIOMOT. But before we go into that, we have to discuss the relationship between motivation and self-determination as worked out by Deci and Riyan (1985, 2000). Their motivational theory, called self-determination theory, forms the backbone of part of the analyses in BIOMOT, certainly in work package 2 (WP2).

Ryan and Deci define motivation as to being moved to do something (Ryan and Deci, 2000, p. 54), and make a distinction between different types of motivations, based on the underlying reasons or goals (1985, 2000). The most important distinction they make is between intrinsic and extrinsic motivations. They define intrinsic
motivations as the doing of an activity for its inherent satisfactions, rather than for some separable consequence (2000, p. 56). They define extrinsic motivations as a construct that pertains whenever an activity is done in order to attain some separable outcome (p. 60). Intrinsic values will occur only for activities that hold intrinsic interest for an individual, -those “that have the appeal of choice, opportunity, novelty, challenge, or aesthetic value for that individual” (p. 59). Furthermore they state that events and structures that stimulate feelings of competence can enhance intrinsic motivation, but only if these feelings of competence are accompanied by a sense of autonomy, the idea of self-determination. “Intrinsic motivations can be strengthened by positive feedbacks, and undermined by negative feedbacks” (p. 58). Moreover extrinsic, i.e. control based motivational drivers, such as rewards, threats, deadlines, directives or competition pressure, diminish intrinsic motivation (p. 59).

**Integrating extrinsic motivations**
Extrinsic motivations are important to get people into action, certainly if internal motivations are frail or absent. It will however be difficult to do so, and certainly to uphold those motivations and the accompanying action, if the intrinsic interest of people to be involved is feeble, provisional or casual, certainly if the external incentives become weakened or start to fade away. This is a very well known motivational problem. The way to solve it, according to Deci and Ryan, is to foster the internalization of supporting extrinsic motivations, i.e. the underlying values of these motivations. Their internalization will enhance personal commitment and identification, and the quality of engagement.

The highest form of internalization, according to Ryan and Deci, the ultimate, most autonomous form of extrinsic motivation, entails that all the required “regulations have been fully assimilated to the self” (Ryan and Dec, 2000, p. 62; see also Deci and Ryan, 1985). Initially this internalization has to be ‘externally prompted’, and people will be do this if they know “that they are valued by significant others to whom they feel or want to feel connected”. But this is not all that is required. Another crucial step is to internalize extrinsic goals is “perceived competence… the idea that one understands the goals and has the skill to succeed”. However, the most crucial step towards real integration and not just introjection is autonomy, according to the authors: “only autonomy will yield integrated self-regulation… People must inwardly grasp its meaning and worth” (p. 64).

Ryan and Deci specifically do not equate intrinsic motivations with (strongly) internalized extrinsic motivations. They in fact warn against doing so. But they show that the main factors that promote intrinsic motivation, i.e. competence and autonomy, also enhance the internalisation of extrinsic motivations. They also show that there is an extra, a third important factor, when it comes to the internalization of extrinsic motivations, i.e. endorsement of that motivation by an esteemed person, group or community, or society as a whole. They call this factor the ‘sense of belongingness’, or ‘relatedness’.

These findings of Ryan and Deci seem to imply that these three factors can be used to strengthen, deepen, bridge and link extrinsic motivations. That is good news. However, the next task is to apply this insight wisely. We have to make sure that we select and enhance the right motivations, i.e. only those that increase and improve action for nature and biodiversity. That is not an easy task, because we know, thanks
to the findings of BIOMOT WP1, Schwartz, Grouzet, and Lane, that not all motivations -intrinsic or extrinsic- will do this, to say the least. We also know, thanks to them, that enhancing specific (clusters of) motivations or values will weaken specific other, opposite (clusters of) motivations or values. And we also know that extrinsic motivations, based on external control, undermine intrinsic motivations, even closely related ones.

What does all this imply for the analyses of BIOMOT, at this stage especially those in work package 2 (WP2), which investigated 35 biodiversity project in seven EU countries, to trace the motivations and values of biodiversity that initiated and drove these projects and the individual and collective actor involved?

**Inclusive decision-making**

WP2 explicitly zoomed in on extrinsic motivations and the possibility to internalise them and link them up with intrinsic motivations. The reason to do so is that: “Sometimes policy tools supportive of intrinsic motivations are not available or the most appropriate tool. [And] policies based on extrinsic motivations act faster and on a broader scale. A mix of tools based on intrinsically motivated and extrinsically motivated behaviour will often be required” (Dedeurwaerdere, 2015. p. 3).

The assumption was that participatory approaches perhaps offered the best entrance to realise that symbiosis. Participatory approaches offer room for (perceived) self-determination, and as a result of this perhaps also promise higher results than approaches based on purely extrinsic incentives. This last supposition, however, had to be handled with care, since participatory approaches turned out to be not always more effective. This perhaps could be partly attributed to their dependency on factors that negatively influenced the perceived fairness of the procedure and the perceived self-determination of the participants.

The first step was to select, at random, a large sample of successful, multi-actor (government, business, society) biodiversity initiatives in seven EU countries. Out of this sample in total 35 initiatives were selected, five in each country. The initiator of each initiative and four key stakeholders were interviewed, by means of a meticulously organised questionnaire with closed and some open questions. Apart from the form, the initiator was also asked to participate in a qualitative life story interview, and a motivational card game.

The interview-findings were submitted to two probit-models, one (P1) to analyse the governance arrangement model of actors who joined in for other than economic reasons; and another (P2) to do the same for actors who mainly joined for reasons of economic benefit to them. Both models were tested to find out the importance of the intrinsically motivated behaviour versus internalised extrinsically motivated behaviour, and to find contextual factors that favour or inhibit the expression of intrinsically motivated behaviour and the internalisation of extrinsically motivated behaviour.

The results show that it indeed is possible to design successful governance initiatives combining intrinsic and extrinsic motivations. They also show that governance mechanism based on autonomy and competence- supporting context played a significant role for actors who joined in for other than economic reasons (P1). These findings are in line with those of Ryan and Deci.

Another interesting finding is that the role of social recognition or esteem was not
significant. This matches the findings of both Schwartz and Grouzet, who made clear that the search for recognition and self-esteem belong to different sometimes even opposite (clusters of) motivations or goals oriented at the promotion of the common good.

A next finding was that non-economic motivations to become and remain involved were slightly more widespread than economic motivations, but that the difference was not as high as perhaps expected.

More thought-provoking but not completely unexpected either, was the finding that motivations, based on autonomy or a feeling of competence, are difficult to implement in “initiatives whose survival strongly depends on the exploitation of resources”, and that, “when economic benefits to participants strongly depend on government incentives or the selling of products, the combination of autonomous governance, support for autonomous competence and duty/collective aim is less likely to occur”.

Overall, the most important motivation that came out of the large-scale comparative analysis is the role of the self-determination of the actors. Inclusive decision-making is crucial. That is especially true for projects where non-economic motivations are key (more centralized decision-making seems more appropriate for economically oriented projects). Bottom-up processes that take into account the motivations of the societal actors and stakeholders, by means of authentic dialogue, that are supporting the initiatives always stand central; it is all about interdependence. Successful initiatives amongst the 35 analysed cases became successful, due to the existence of effective bridging organisations -generating social learning- between these two above-mentioned actor groups, with organised social learning and knowledge exchange in an inclusive and non-coercive manner.

**Duty as a dilemma**

What we did not (yet) measure is the question whether and how specific types of motivations cluster and in doing so, reinforce each other and/or crowd out or weaken specific other (clusters of motivations). Although one result, the finding that duty as (an internalized) motivation can link up with an intrinsic motivation, such as enjoyment, is a step in that direction. However, the main conclusion to be drawn thus far is that internal and external motivations can link up and become mutually reinforcing, not that duty as such is the most suitable motivation to internalize, certainly if the goal is to promote widespread motivated action for biodiversity or nature.

Duty in fact seems a rather unlikely candidate to realize that, at least at first sight. Duty is commonly defined as a claim or demand to *conform*, out of social, legal, rational or moral reasons, and as such, at least according to the model of Grouzet, the antipode of feelings of autonomy and competence (self-acceptance). The same reasoning is true for Schwartz. His value-model offers only space for duty in the spheres of power, achievement or conformity, which are antipodes of self-direction (autonomy). Duty can be internalized, according to both models, via the desire to comply with friends or family, fit in socially, or gain respect; in short, via the notion of *belongingness*. This is also in line with the ideas of Ryan and Deci.

But taking that road comes with a price. The combination of autonomy and competence, buoyed by a feeling of belonging, is the strongest possible motivational
setting to move an individual into action. To translate duty into willingly and joyful personal motivation, specific personality traits have to be addressed which stimulate conformity, but thwart self-transcendence, the central quality needed to be motivated to act for the common good in general and more in special biodiversity and nature. Belongingness, the desire to fit in, can in this case act as a bridge, but only if the requirement to act for nature is already a central, widely established social norm, with which everyone has to comply who wants to fit in socially. In most if not all other cases duty and conformity, combined with self-orientation (Grouzet) or self-enhancing (Schwartz) will not promote the common good, but most probably undermine it and by doing so weaken the possibilities to motivate people to act for biodiversity or nature. Not all duties are good, and many duties, even very good ones, are not suited to stimulate action for nature or biodiversity. They work perhaps better if they are not internalized, or cannot be internalized, if only because society tends to drum in the wrong duties or values, as discussed before in this paper. The view that duty does probably not offer the best approach towards motivation to act for nature is confirmed by our own analyses, based on a ‘motivational card game’ we developed and applied to find out what are the most important and what are the least important motivations of people acting for nature. See below for a more extended description of that ‘card game’. Here we just want to use to show that duty was mostly mentioned in the category ‘least important’.

We, in short, need more insight in values, goals, and meanings of concrete actors who acted for nature and/or started up projects to stimulate others to do so. We have to know what triggered and stimulated them and what worked to trigger, stimulate and organize others. That is precisely what is done in Biomot work package 3 (WP3).

**The value of life stories**

The aim of WP 3 was to dig into the personal motivations of individuals, who act or did act for biodiversity/nature, or for other more directly at society oriented activities. About 30 in depth life story interviews were undertaken in each, 15 with representatives from the first category in each country, and 15 with representatives from the other category. 5 of the representatives of the first group were the persons who initiated one of the WP2 cases mentioned-above. In total we realised a bit more than 200 interviews.

Each interview contained three parts (1) a qualitative life story narrative interview, based on a interview guide, taking about 1,5 hour; (2) a card game, taking about 15 minutes, to be ‘played’ at the end of the life story, asking the interviewee to classify and value 20 pre-given motivations; (3) and an online survey, to be filled in later, lasting about half an hour.

The purpose of the life story narrative was to find the main drive of the interviewee, and find out when and how they were formed, in what period (of their live), and by what influences (by people or environment) or experiences. The assumption was that the habitus -the ideas, motivations and routines- of (most) people were formed in their younger years, and that this formation has a decisive impact on their motivation to act or not to act for nature/biodiversity. We distinguished, based on the literature, f.i. Piaget, three life-shaping periods: 0-15, 15-25 and 25 and later; and asked the interviewees to tell us about the life they lived in those period and their social and physical environments they lived in.
We also searched in the life story interviews and the survey for a special motivational drive, seen as crucial in the psychological literature: the quest of significance (see for more formation the Common Concept document and below). That quest does not necessarily have to be experienced as positive or work out positively. Another assumption was a particular kind of peak experiences, so-called environmental epiphanies, could have funnelled the interviewees into a certain direction, during one or more of these periods. Both ideas were especially tested in the survey, which also served as a control on the findings of the narratives.

Next to the life story interview and the survey, we developed a card game, to test and deepen out some of the answers given by the interviewees during the life story interviews. The main purpose of the card game, put before the interviewee at the end of the interview, was to select important and less important motivations to act for nature, or for another case considered to be important, another so-called ‘main thing’. The card game contained twenty cards, with on each card one important motivation for people to act. The choice and formulation of these twenty motivations was based on the literature and our own research. Each card contained the title and a very short description of that motivation. The interviewee was asked to rank the cards. They had six possibilities, ranking from most important to least important. Those motivations that played no role whatsoever could be discarded.

**Formation and childhood**
WP3 delivered a huge amount of data and findings. The first, and perhaps most important finding, when it comes to long term policies, is that early, childhood contact with nature, i.e. early nature experiences, have played a crucial role in moulding and directing the motivations to act for nature of the majority of the interviewed actors for nature, in all countries. Most interviewees mention this impact, but it is also confirmed by the analyses of more indirect statements. These results are already telling, but not that surprising, since other research has already confirmed the important role of childhood experiences on motivations and actions later in life. The obvious conclusion to be drawn is that a major way to improve the motivations of people to act for nature later in life is to make sure that they have (frequent) contact with nature during childhood.

Our interviews showed, however, that sheer contact is not enough. It became very clear that the character of the contact and nature count, even more than the frequency of contact. Some types of experience are more important than others, and some natural settings are better suited for these experiences. Finding this was in fact one of the main reason to do life story-interviews.

**Curiosity, competence and autonomy**
We found out that the majority of people who have become active for nature or biodiversity shared specific types of childhood nature experiences. Autonomy, competence and curiosity and learning played a crucial role, and the same was to a somewhat smaller degree true for connectivity, or in short the quest for self-determination. This result is in line with other findings in Biomot (see above). But we also discovered something else. We found out that the quality and make-up of the quest itself (the search, or the action) were as important as the result, and, for that reason, also the natural setting of that quest. We will start with the last aspect.
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The interviews make it possible to indicate what kind of nature is most suited for experiences that stick and engender the motivation for nature-oriented actions later in life. Suitable nature (= natural places) offers a platform for exploration (curiosity and learning); practicing autonomy (freedom), training and developing competences, alone or with friends (adventure); inventing and attributing new meaning (stories); escaping ‘beaten tracks’; and moulding new forms of connectivity with humans or nature. That nature has to be a place, where a child can escape, explore and transcend, i.e. find and test, autonomously or with peers, her or his competences (virtues) to engage the world, the self, and social conditioning. Good examples are brownfields, wastelands at the edge of cities or on deserted industrial sites. They figure prominently in our interviews with people who grew up in cities. Other examples are forests or seashores. They obviously play an important role in the stories of people who grew up on the country site, but also often come back in the life stories of other interviewees.

Beauty and otherness
The experiences of our motivated interviewees have even more in common. Here nature experiences really start to diverge from other types of experiences. Before we go into that, we want to stress again, that the perceived otherness of nature, the fact that nature is not (completely) human-made, is crucial to understand and place the findings we discuss below.

A remarkable amount of the BIOMOT interviewees reported to have been inspired, struck or even overwhelmed, at some stage of their life, by sensation of beauty, connectedness, and/or otherness, transcendence, mysticism or spirituality when they encountered or dwelled in nature. They often clearly stated that these feelings of awe had stimulated or even prompted their motivation to become active for nature. It is clear that nature (= natural settings) has the capacity to stir feelings that transcend, stop or even and break up daily routines, habits, worries, and thoughts, and sometimes even re-direct someone path of life.

The diversity of these experiences and their importance for those who have undergone them yield already very good reasons to ensure that as many people as possible have the opportunity to experience nature, from early childhood onwards. There is, however, also another compelling reason for doing this.

The power of stories
Humans are storytelling animals4. We not only exchange information about what is, but also tell stories about what is not, about imagined things, or entities. This capacity to tell stories, to create imagined worlds and meaning, is unique for humans and far-reaching in its consequences. This can be illustrated by the following example given by Harari (2014): “No chimpanzee could ever be convinced to hand over a banana on the promise that this would guarantee access to the chimpanzee heaven”. Human beings, on the contrary, are very strongly motivated by stories about imagined things, creatures, places or more abstract ‘goods’ or ‘bads’. We highly appreciate motivations that transcend time, place, biological conditioning and other ‘curbing’ reality. Stories offer ideas, ideals, examples, and idols. They hold beliefs that inspire and unite

4 See Harari, Sapiens: a brief history of mankind 2011, 2014, for a recent and very instructive expounding of this idea.
people, even people who will never meet, and have never met. A good example is the widely shared belief in Jupiter in Ancient Greek and Rome. A more recent example is the belief in the existence of nations. Without stories people cannot function and our societies would break down. Stories build, stimulate and spread motivations, and shape shared desires.

However, stories also have a tendency to become stiff and inflexible, and by doing so prevent the emergence of new stories. They have an inclination to reify, to become ‘carved out in stone’. Especially this last aspect is important when it comes to stimulate motivations to act for nature.

To give an example: suppose a dominant story is that individual happiness is the highest good to strive for, and that a living in a big city offers the best conditions to actualize that happiness, certainly if that city has a high variety of shops, catering, art galleries and the like; and suppose also that all these conditions are realised (literally carved out in stone). In that case, it becomes very difficult to motivate a broader public by means of stories that praise the values of rural living. This will be even more problematic if earlier experience of rural living is lacking, and even more so, if the possibility to experience rural living is limited or absent. It becomes impossible if the supposed audience has been immersed in the above-mentioned city discourse since their childhood, and has grown up in complete city-environments.

That is the reason why compelling stories about nature are very important, and moreover, why we need natural environments that offer opportunities to experience and ‘practice’ these stories, from childhood on. We found that people who are motivated to act for nature have stories that stem from their earlier experiences with nature. We also found that nature experiences generate stories that differ in crucial aspects from stories that stem from non-natural environments, and that those stories appeal to other sensations and thoughts, often very strong epiphany-like feelings. See for a more in depth explanation Part III.

Motivations to act for nature need (contact and connection with) nature to arise, and nature is the only platform that enables stories that transcend complete man-made realities and reifications, i.e. circularity. That is what all those by our interviewees mentioned, epiphany-like experiences tell: humans need nature to test meaning.

Mentors

This links up with a second crucial finding based on the analyses of the life stories: the role of mentors, i.e. significant others. The majority of our interviewees mentioned to be influenced by a mentor in their life, mostly during childhood or adolescence. They found and needed an example or someone who could guide them or show the way. Mentors, as stories, stimulate, articulate and combine intrinsic and extrinsic meaning. They, however, also made clear that a mentor is a special type of person; someone who inspires but does not imposes her or his opinion. According to the interviewees, their mentors had an impact on them, because they stood apart, took them ‘seriously, stimulated their curiosity and competence, respected or addressed their autonomy, showed new meanings, explained otherness, or just pointed out the way to new horizons, beauty, or awe. Most mentors were typically not direct parents or teachers, at least not teachers who’s task it was to formally teach the ‘capacity to respect or study nature’. This implies that implementing care for nature in the formal school curriculum is probably good, but not the way to promote mentorship.
Mentors were mainly important during childhood or adolescence. In later years acting for nature to benefit other people and society became more important.

**Meaning of life**

Motivations to act for nature are about meaning: giving meaning to your actions, and articulate meaning by acting. It is indeed a quest, as assumed before. The meaning, i.e. the purpose and enjoyment, is as well in, before, after and beyond the action. It is about more than goals or results or action in itself. It is, as several of our interviewees mentioned, a form of homecoming, in the sense of ‘building your home where your heart is’. That home can be a physical place -a very de re thing- or a feeling that ‘things start to converge’, that life starts to make sense. The importance of feelings of meaning, convergence and connectedness that surpass the level of direct utility or happiness oriented drives, is further underlined by the findings in WP3 on epiphanies5.

We found four different types of epiphanies, i.e. intellectual, realization, connectedness and awakening. People who are highly motivated to act for nature had more epiphanies than others. These epiphanies occurred during childhood or, and even more, in the period between 15-25 years. The group of highly motivated actors for nature is characterized by having more awakening and connectedness epiphanies than the group of others. The group of others experienced more aesthetic epiphanies, and these experiences happened often earlier in their life, during childhood (see more information our WP3 reports).

This perspective on motivations to act for nature is not even remotely connected to the dominant economic and political discourse, and still a long shot from the more at deliberation, social justice, or value plurality oriented policy discourses discussed earlier. Even in those last three discourses the focus is more on efforts to reconcile different opinions and protect non-monetary values than on motivations that, according to our interview findings, demonstrably trigger people or groups into action.

There is a big rift between what policy-makers belief and do and what people who act for nature or biodiversity mention as their main drive to act. This split is understandable since politics, economics and policy are always about more than motivations to act for nature and biodiversity alone, even in the cases where this topic is their main object. Even then, they have to reckon (sic) with all kind of related or unrelated issues, interests, arguments and actors.

However, this answer, although understandable, falls short, if motivation is the issue, and we accept the idea that motivation is the key to successfully addressing and reversing the trend of biodiversity decline, in the EU and elsewhere, as the EU did when it commissioned BIOMOT to find out what really could motivate people to act for biodiversity. If we accept the by now proven insight that continuing to do ‘business as usual’ or ‘removing market failures’ will not bring about the required motivations to act, and certainly not on a large scale.

When it comes to creating the right conditions and environments for motivations to act for nature, the goal and the rules of the game, and in fact the game itself

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5 Environmental epiphanies have to do with the natural environment and with Nature, and they impact on a person's relationship with it. They are “experiences in which one’s perception of essential meaning of her/his relationship with nature shifts in a meaningful manner and it is usually followed by behavioral changes” (Vining and Merrik, 2012, p. 407).
changes. We are no longer talking about policy, economics and politics in general, or about the undefeatable supremacy of existing political and economic powers, players and scales. In that case we are talking about policies and politics that can and will create and promote conditions and environments to foster, diffuse and scale up these indispensable motivations to act for nature. Doing this, is, as we have seen, about offering space to initiators; about creating proper educational, formational and natural environments from childhood onwards, that stimulate experiences and stories; about mentors; and about autonomy, curiosity and learning, relatedness and care; in short, about meaning and the quest for meaning.

There is however more to it. We also have to answer the question why so many good initiatives remain local or confined to niches, or restricted in scale and time. Why do so many people decline to act or join in, even if they acknowledge the urgency of the problem? Why do so many people even claim that not acting, or denying is the best form of ‘action’?

Answering that question requires a more systemic approach than the one that has followed thus far; not an answer that addresses alleged systemic causes of biodiversity or environmental decline, but an answer that looks at the causes and consequences of systemic demotivation.

Systemic demotivation

“There is nothing I can do, so the best thing is for me to do nothing”

Demotivation is not simply non-motivation or the absence of a specific motivation, but an indication that the whole mechanism that links motivation to action is jammed. Or formulated otherwise: demotivation is a motivation, a special type, a kind of blockade or paralysis, caused by a split between the awareness that action is necessary and the conviction that all actions are fruitless; i.e. the feeling to be “stuck between a rock and a hard place”, as the expression runs.

The notion systemic refers to the fact that demotivation is not a question of personality, personal preferences or personal circumstances. Motivations and demotivations are formed and refined over a lifetime. That is what, in BIOMOT, we call *formation* – the idea that collective and individual motivational processes are always socially and politically grounded and organised. Systemic demotivation is caused by inadequate but permanently reproduced and reified notions of the relation between nature and culture, ignorance of the fact that human actions are essentially included in natural processes, and finally the persistent illusion that nature and culture represent two distinct and autonomous spheres (the classic nature/culture dichotomy).

The very core of the systemic motivational obstruction can be observed on the level of individuals and collectives, as well as in policymakers. This obstruction is in many cases intimately linked to a real dilemma: an implicit awareness that the old recipes and ways of environmental action are simply no longer adequate for the type and global scale of the ecological problems that we are facing at this point in history. Nevertheless, it seems that we mostly remain half way: we know that we cannot act in the old manner, and we know that “business as usual” is no longer possible – even in the conception of environmental critique. Still, at the point when we would have to redefine the entire relation between the human system and the natural system, we
instead relapse into dichotomous thinking, which (if nothing else) liberates us from our responsibility to act. It is precisely this combination of the right intuition and the disavowal of its inevitable conclusions that forms the underlying structure of the complex mechanism that we have described by the notion systemic demotivation.

The various forms of systemic demotivation are in depth analysed below, in Part IV of this booklet. Here, however, we want to throw light on some of the principal conclusions.

Systemic demotivation is above all a form of resistance, a reactive formation, to shield societies and individuals from the difficult task of transforming the given social system. It is crucial to understand that this systemic demotivation is not an anomaly and the absence of motivation for an environmental action, but a specific reaction and response to a real antagonism. Only a few decades ago, the field of ecological critique was dominated by the view according to which the negative human influence could be reduced to individual cases and types of interventions, and consequently, that acting for nature could be brought down to positive counter-acting, to the effort of preventing these individual interventions. Yet the systemic processes confronting us today pose an entirely new situation: global systemic change is a consequence of the “normal” functioning of the system, and adapting by only changing some conditions or intensify and upscale earlier approaches no longer is sufficient. In the epoch of the Anthropocene, where the “terrestrial biosphere made the transition from being shaped primarily by natural biophysical processes to an anthropogenic biosphere (…), shaped primarily by human systems,” (Ellis 2011: 1029) the revision of the nature/culture dichotomy is more than a matter of pure theory. This revision needs to take place both in the scientific sphere and in the social context, which means that the theoretical revision of the human relation to nature has become a matter of practical necessity, as far as the persistence of the dichotomy works as an obstacle to the formation of efficient strategies of environmental action.

Motivational paralysis
Precisely this insight causes the motivational paralysis. The more the destructive consequences of human interventions in natural environments become manifest, the more this manifest character feeds resistance to action and the more it legitimises the absence of motivation, placing humans in a position of helplessness, impotence, and even denial. The question is not whether the insufficiency or the absence of environmental motivation follows from the fact that environmental goals are not the only goals pursued by individuals. True demotivation becomes manifest when a contradiction emerges between two different goals that we want to pursue. In such a situation the most acceptable strategy for individuals is to assume the split itself. Rather than being directed to environmental action, people direct their mental energy into sustaining this split. With regard to the information they possess, “normal life” can no longer be lived as it was till now, and a mental investment is needed in order to continue to sustain the status quo in a reality that has altered its “normality”: either direct denial of negative information or the adoption of the illusion that, despite

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6 The multiplicity of different goals and interests in itself does not prevent motivation or action for nature, something that many cases of contemporary ecological movements, in which environmental action without any difficulty accompanies other social, political, economic, and finally personal goals, clearly testify to.
practical ignorance, the people in question do useful work already by thinking of environmental problems and by being concerned about the environment, even if they are practically doing precisely what they should not be doing.

Of course, as far as these people are convinced that they are too powerless, as individuals, to take action, they become demotivated subjects, who transform their lack of action into virtue: *There is nothing I can do, therefore the best thing is for me to do nothing.*

**Breaking away from organised demotivation**

In order to address the question of motivation on its most fundamental level, we need to move from the *multiplicity of motivation* to the *formal structure of action*. The analysis of the BIOMOT interviews namely confronts us with the problem that was identified as the “contextuality” or “particularity” of motivation. However, insisting solely on the level of particular cases does not answer the most crucial question: What is the structure of motivated action, and how can this action ground a more general strategy to counteract the systemic demotivation?

In the theoretical framework, this problem demands a theory of judgment in which a specific type of articulation between the particularity of actions and their inherent universal validity is at work. One of the basic insights provided by the analysis of the BIOMOT interviews is that the actions of the interviewees, which seem to be contextually determined throughout, manifest the *structure of anticipated certainty*. In the usual, instrumental type of action, the latter is structured as means X for achieving the desired goal Y, whereby the choice of means logically results from the rational analysis of the given situation: this analysis leads to certainty that in order to achieve Y we need to do X. In this type of univocal and consciously intentional action the reality of the situation precedes the action and its certainty. We can say that *this type of action is grounded on an already pre-established cognition*.

However, in many cases the situation is entirely different and the action creates the conditions and the reality, which retroactively legitimises and grounds the actions undertaken (for this reason we speak of action as anticipated certainty). Action here produces the features of the situation for reason of which a person acts at all. We can call this the *performative model of action*. The same logic applies for the motivational structure of action. Action, so to speak, precedes its own motivation and only retrospectively produces its cognitive rationalisation. Motivation as the driving force and guidance of action results only from the process in which action produces consequences in reality and through them retroactively articulates and verifies the reasons and motivates itself. We are dealing with a singularity, for which we presuppose that it nevertheless possesses some universal validity and value. This universality, however, needs to be constructed. Let us add that the notion of biodiversity is a concrete case of such universality that it needs to be invented, grounded, and justified based on concrete and contextual cases. But to repeat again, this invention is the work of the reflecting power of judgment, which needs to be understood both as a way of thinking and a way of action. Because thinking and action here come together, we can recognise in this structure a specific break from organised demotivation. The importance of this model of action also consists in the fact that it overcomes the multiplicity of motivations by highlighting the structure that drives concrete cases of environmental engagement.
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Policy recommendations (NB: regarding the motivations of people and people’s organisations, not firms, who in fact only have interests)

- Create the conditions for nature oriented formation, from childhood onwards (education, experiences, mentorship, attachments, meaning, rituals)
- Give space and create space for meaningful stories, examples, and practices
- Take away the (re)production settings for systemic demotivation, and the accompanying discourses.
  - Do not emphasize economic values, certainly at the start-up phase of projects.

\[ M = F \times S / D \]

M = motivation to act (for nature)  
F = Formation  
S = stories in context  
D = systemic demotivation

NB: personality and personal dispositions are subordinated when it comes to policy recommendations
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Part II

Values, motivation and biodiversity

Michael Scott

University of Manchester

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DRAFT
Introduction

One of the central objectives of BIOMOT project is to reach a better understanding of the motivations that lead individuals to act positively or negatively towards nature and specifically biodiversity. Despite the importance of decisions and actions with implications for biodiversity – be they the collective decisions made by individuals, or the policy decisions of corporations, charities and governments – the motivations that lead to these decisions and actions are poorly understood. The approach of BIOMOT is highly cross-disciplinary and involves both practical and theoretical components. The practical research includes hundreds of interviews with individuals with varied professions and backgrounds: farmers, volunteers, policy-makers, administrators and many others. The theoretical research aims to give a more structured account, informed by the interviews, of the motivational mechanisms that lead to actions that promote biodiversity.

At the University of Manchester the philosophy department is contributing to this theoretical research by employing a range of conceptual tools from analytical philosophy. Our central interest is in what motivates people to act in ways that are favourable towards biodiversity and the conditions under which more environmentally favourable behaviour may be encouraged. One of the challenges in answering this question is that individuals may express positive (an apparently sincere) attitudes towards biodiversity, or more generally towards the environment, and yet be differently motivated. Valuing biodiversity, it seems, does not reliably motivate people to change their behaviour. Two ways in which analytic philosophy can contribute to this task are, first, to provide an analysis of what people mean when they express positive attitudes towards biodiversity and the kinds of attitude that they are communicating; second, to provide an account of the mechanisms of motivation that makes clearer the relationship between the attitudes that people have towards biodiversity and their motivations to act on them.

Accordingly, the theoretical background to this research has two components: (a) the tools for interpreting the meaning of what is said when a speaker expresses an evaluation; (b) the motivational mechanisms that link our evaluations and our motivations.

The key results and recommendations of this paper are:

- There are two distinct types of attitude that humans have towards the environment (these are de re and de dicto attitudes, which will be explained below).
- Both types of attitude (but in particular de re attitudes) contribute towards pro-environmental motivations.
- Policy thinking about biodiversity and the environment (in particular total economic value approaches to thinking about the environment as ecosystem services) inadequately captures these distinct attitudes. In particular, it fails to take account of de re attitudes that inform our environmental thinking and motivations.
- Particular policies – notably offsetting – relies on narrow and seriously incomplete (and exclusively de dicto) assumptions about environmental attitudes and as such should be regarded as insufficiently justified.
The promotion of environmentally friendly behaviour can be achieved through education that encourages both types of attitude.

**Arguments and Distinctions**

This part will proceed as follows. In section one, we will explain the distinction between *de re* and *de dicto* attitudes. This is one of the key analytical tools that we will use to assist in the interpretation of the project’s interview data to achieve a better understanding of the attitudes and motivations of people’s attitudes towards biodiversity. Sections two and three will set out some background material on theories of motivation and explore the role relationship between *de re* and *de dicto* attitudes and motivations to act. Section four will incorporate data from the project.

1. **How do we value biodiversity? Interpreting evaluative claims.**

A long standing and well-established distinction that can be traced back at least as far as Aristotle is between two different types of attitude: *de dicto* and *de re* attitudes. An *attitude* is any mental state that represents the world as being some way or others, such as a belief, evaluation, emotion, intention, doubt, and so on. Our particular interest in this project are *evaluations*, and specifically values that we attribute to biodiversity. The *de re/de dicto* distinction, however, applies to all types of attitudes. The distinction is as follows:

*De re* attitudes are directed towards particular things. Consider the following selection:

- Regarding Stonehenge as a beautiful and valuable monument;
- Thinking that Paris is beautiful in spring;
- Believing that the Aletsch Glacier in the Alps has retreated as a result of global warming;
- Wanting to preserve mountain gorillas from extinction.

In each of these cases there is a particular object that is the focus of the attitude (a particular monument, place, glacier and species). Often, but not always, the object of a *de re* attitude is something with which one is directly acquainted through perception. However, *de re* attitudes may also be about things with which one is indirectly acquainted; through, say, reading about them or being told about them. One might think that Paris is beautiful spring, for instance, having read about it in a book, or being told about it by a friend.

*De dicto* attitudes, in contrast, are directed towards concepts or descriptions. Consider the following selection of attitudes:

- Thinking that brownfield sites are important for the support of diverse wildlife;
- Believing that swans are either black or white;
- Valuing biodiversity in and of itself;
- Fearing that habitat destruction will escalate the rate of species extinction.
These attitudes do not appear to be about particular objects. For instance, the belief that all swans are either black or white is a belief about the *description* of swans: that anything that is correctly described as a swan is either black or white. The fear that habitat destruction will escalate the rate of species extinction is not a belief about any particular habitat destruction or about any particular species but that, in general, the things that we classify as habitat destruction will have this effect. Unlike de re attitudes, the objects referred to by a de dicto attitude are things which we need have neither direct nor indirect acquaintance. One does not need to know about any habitat destruction to fear that it is related to species extinction; one can value biodiversity *in principle* without being concerned with any particular example of biodiversity. For this reason, de dicto attitudes tend to be more general and theoretical than de re attitudes.

It is not always clear from the description of an attitude whether it should be considered de re or de dicto. For example, if you value the New Forest National Park (a unenclosed area of pasture land, heathland and forest in the South East of England), then your attitude is de re: you are valuing a particular thing. As is generally the case with de re attitudes, this is a place that you would be acquainted with by, say, having visited there or read about it. In contrast, if you think that all national parks are valuable, then your judgment is probably de dicto: your attitude isn’t about a specific national park but rather your concept of national parks is as of something that is valuable. While these are the most plausible interpretations of these two examples, under certain conditions the attitudes could be differently interpreted. For example, the belief that all national parks are valuable can be de re if one were acquainted with a large number of them; in this case, one de re values national parks by valuing each park as an individual. Similarly, valuing the New Forest National Park *could* be de dicto. For example, suppose that a policy maker is involved in the Environment Agency in the UK and regards the New Forest as an ecosystem service with an economically calculable value (determinable, say, by a cost benefit analysis). The policy maker values the New Forest as an example of an ecosystem service, but not as a distinct individual. This is a de dicto valuing. So while these two examples are most plausibly interpreted as de re and de dicto attitudes respectively, they *could* be de dicto and de re in certain circumstances. We will return to the relationship between de re/de dicto valuing and economic evaluations later.

Corresponding to the distinction between de re and de dicto attitudes, we can distinguish between de re and de dicto attitude *reports*. That is to say, verbal expressions of attitude – what we *say* when we, for instance, express our attitudes towards biodiversity – or reports of the attitudes of others can be de re or de dicto. For example,

- Clare thinks that brownfield sites are important for the support of diverse wildlife;
- I believe that the Aletsch Glacier in the Alps has retreated as a result of global warming

are de dicto and de re attitude reports respectively. Also, just as some attitudes can be understood as de re or as de dicto, as we noted above, attitudes reports can sometimes be plausibly interpreted de re or de dicto. Here is an example:
Ralph values a site of high biodiversity.

Does Ralph *de re* value a particular site (ones, perhaps, that he is personally acquainted with), or does he *de dicto* value just a site that happens to satisfy the description ‘high biodiversity’ (rather than any particular one)? The sentence doesn’t provide enough information to determine whether the de re or de dicto reading is appropriate.

The difficulty in de re/de dicto interpretation of some attitude reports is nicely illustrated in this imaginary interview with Zsa Zsa Gabor:

- **Zsa Zsa:** “Ah! People misunderstand me! They think that I am just a creature of leisure, that I do nothing useful, but they are wrong. I am constantly finding new ways to do good for people.”
- **Interviewer:** “Like what?”
- **Zsa Zsa:** “I have found a way of keeping my husband young and healthy, almost forever.”
- **Interviewer:** “Eternal youth… that is quite a discovery! How do you do it?”
- **Zsa Zsa:** “I get a new one every five years!”

(Caspar Hare ‘Voices From Another World’ *Ethics* 117, no. 3, 2007)

We expect that Zsa Zsa Gabor would have a de re attitude towards her husband, that is, that she cares about a particular person. But, in this imaginary interview, her expressed concern for her husband is de dicto. None of her actual past or present husbands stay forever young and healthy, rather, the person that satisfies the description ‘Zsa Zsa’s husband’ is always someone young and healthy.

It is sometimes difficult to know whether someone is expressing a de re or de dicto attitude. Consider the following claim:

John believes that the chief executive of News Corporation is rich.

This could express either a de re or a de dicto attitude. On a de re reading, John believes of a particular person (Rupert Murdoch) that he is rich. On a de dicto reading, what he believes is that whoever is the chief executive of News Corporation is rich. These beliefs are quite different. The de re belief is about a particular person while the de dicto belief is about a description (whoever satisfies the description ‘the chief executive of News Corporation’). John might have acquired the de re belief from knowing facts about Rupert Murdoch, reading about him, seeing him on television, etc.; he might have acquired the de dicto belief from just knowing facts about chief executives and News Corporation, without knowing anything about Rupert Murdoch in particular.

One upshot of this discussion, which has been a topic of considerable interest in philosophy, is that attitude reports are *ambiguous* between de re and de dicto.
interpretations. A similar ambiguity can be seen in the earlier example. Suppose Ralph says:

I value a site of high biodiversity.

As we noted above, it is not clear whether Ralph *de re* values a particular site (ones, perhaps, that he is personally acquainted with), or *de dicto* values just a site that happens to satisfy the description ‘high biodiversity’ (rather than any particular ones). The verbal report doesn’t provide enough information to determine whether the de re or de dicto reading is appropriate. One theory about the difference between these readings is that they emerge from a scope ambiguity in the sentence. This theory can be expressed in predicate logic. On the de dicto reading, we should analyse ‘Ralph values a site of high biodiversity’ as:

Ralph values $\exists x$ (x is a site of high biodiversity).

(This can be read informally as: Ralph values something that is a site of high biodiversity.)

On the de re reading we should analyse it as:

$\exists x$ (Ralph values $x$ as a site of high biodiversity).

(This can be read informally as: There is something that Ralph values as a site of high biodiversity.)

According to the first of these, the existential quantifier is taken as having narrow scope, within the scope of ‘values’. On the de dicto interpretation, the quantifier has wide scope, binding a variable that occurs within the scope of ‘values’. Since W. Quine (1956 ‘Quantifiers and propositional attitudes’ *Journal of Philosophy* 53, 117-187) this account has been seen as problematic for cases in which we think of the object of the attitude under different guises. However, these circumstances do not commonly arise for the cases to which we are giving consideration. For our purposes, therefore, this syntactic account of the de re/de dicto distinction provides a useful (if not infallible) guide to the linguistic difference between attitude reports.

Determining whether a person’s attitudes towards biodiversity are de re is, in part, to find that person’s pro-biodiversity behaviour is motivated potentially by things with which they are either directly or indirectly acquainted – the places in which they grew up, forests they have walked in, rich and varied features of nature that they have experience, places that they have read about, etc. Determining that a person’s attitudes towards biodiversity are de dicto is, in effect, to find that that person is motivated by more general and unspecific concerns and with things with which they are not directly or indirectly acquainted. However, as the examples above indicate, one cannot ascertain from just one sentence whether a person’s attitude is de re or de dicto. A simple verbal report is not sufficient to determine the kind of belief
that Ralph has about biodiversity. It could express either a de dicto attitude or a de re attitude. To establish what kind of attitude is being expressed, we need more detailed interviews to find whether their concerns are directed more to things or to theories. For example, if we know that Ralph says that he values biodiversity against the background of his direct acquaintance with examples of biodiversity that he values, then we have reason to think that he is expressing a de re attitude. In contrast, if Ralph states that he values biodiversity without acquaintance with any particular site of biodiversity that he values, then we have reason to suppose that he is expressing a de dicto attitude. However, to extract this background information we require more detailed information about what Ralph is thinking. To this end, the extended interviews that form part of the BIOMOT procedure are essential to establishing the types of attitude that individuals have towards biodiversity and the environment more generally.

Let us summarise the argument so far and where it takes us. We have seen that attitudes can be distinguished into two types: de re or de dicto. De re attitudes are directed towards particular things with which one is acquainted (either directly or indirectly); de dicto attitudes are directed towards concepts of descriptions and tend to be more general and theoretical. This distinction can be applied to our beliefs, values and judgements about biodiversity: all of these mental states can be either de re or de dicto. We have also seen that superficially similar verbal expressions of attitude can often be used to express either de re or de dicto attitudes and what we say about our thoughts, beliefs and values have therefore seemed to some philosophers to exhibit an ambiguity. We cannot, therefore, straightforwardly read off from what someone says about valuing the environment whether they are expressing a de re or de dicto valuing. To find this out, we need to interview them further.

The reason that the de dicto/de re distinction is potentially so important for considering matter of motivation is that these different types of attitude appear to be differently related to our motivations. The following two sections will introduce some background material on motivational theory and explain the relationship between de re/de dicto attitudes and motivation. We will then turn, in section four, to some of the empirical data extracted from the interviews before returning to question of motivation.

2. Theories of motivation and action.

The background to classic *humean* theory of motivation is a distinction between two types of mental state: beliefs and desires.7 Beliefs are mental states that represent the

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7 The distinction and the theory of motivation that follows, while not precisely in the form that it is proposed by David Hume, is prompted by his own discussion of this topic (1978, Book III, Part I, Section I, p. 457-8; 1978, Book II, Part III, Section III pp. 415-6). Hume distinguished between belief-like states, which include cognitive states such as thoughts, suppositions, imaginings, etc., from desire-like states, sometimes called *pro-attitudes* or *conative* states, that include such attitudes as hopes, wishes, intentions, etc. For convenience, we will just discuss ‘beliefs’ and ‘desires’.
world as being a certain way. Desires are mental states that represent the way we would like the world to be. For example, if I desire to travel to Milan in autumn, my attitude represents what I would like to be the case (i.e. travelling to Milan in autumn). If I believe that I will travel to Milan in autumn, then my mental state represents something about the way I take the world to be (i.e. that I will be travelling to Milan in autumn). The same point appears to apply for all beliefs and desires.

There are two further points to make about this distinction. The first is that it is possible to have a belief about something without any associated desire, or a desire about something without any associated belief. Hume characterised this thought by saying that beliefs and desires are ‘distinct existences’. That is, beliefs and desires are independent from each other: the existence of one does not imply the existence of the other. The second is that beliefs and desires have different causal roles. Beliefs are information-providing states that may guide and inform our actions but do not by themselves motivate us to act. Desires, because they express our aims and goals that we seek to satisfy, are taken to be intrinsically motivational. For example, if I desire to reduce carbon emissions, then I have an objective that I want to bring about that should (in me and any psychologically normal agent) tend towards acting to bring about that objective. Of course, there may be circumstances that prevent my achieving this result. I may have other incompatible objectives that I desire to bring about even more (such as reaching long distance destinations quickly, where this can only be achieved by flying rather than using more carbon efficient forms of transport). Or I may be thwarted in my attempts to reduce carbon emissions by personal or financial circumstances. In general, however, the point is that desires are mental states that we are inclined to satisfy in our actions. As such, they are essentially tied to our motivations. In contrast, beliefs are not motivationally efficacious states. There is nothing about a belief, according to the Humean, that causes one to act upon it.

Equipped with this distinction between beliefs and desires, the central idea of the Humean theory of motivation can be easily stated. It is that the explanation of any rational action involves a belief and a desire. The theory is stated more formally by Donald Davidson:

‘R is a primary reason why an agent performed the action A under the description d only if R consists of a pro-attitude of the agent towards actions with a certain property, and a belief of the agent that A under the description d has that property.’

(Davidson 1963, 5)

Note that by a ‘primary’ reason Davidson should be understood to be referring to a motivating reason, i.e. a psychological state that might provide an explanation for why an agent does something. This is different to having a normative reason to act, that is, a justification to act. For example, if the ground is dangerously slippery then there is a good reason for me not to walk across it. However, if I did not know this, then the reason would be normative rather than motivational. If I became aware of the fact that the ground is dangerously slippery (and assuming that I wanted to avoid dangerous surfaces) this would additionally become a motivating reason. Motivating reasons,
The Humean theory of action has been enormously influential. It forms the background to most economic theories of human action, including rational choice theory (which takes our actions to be prompted by the combination of a desire to maximise certain outcomes with various beliefs on how this can be achieved). Part of the theory’s success is due to the fact that it is intuitively plausible. Take the earlier example of wanting to reduce carbon emissions. If I desire to do this without any beliefs on how it can be achieved then I may be motivated to reduce carbon emissions but I have no information on how to act in a way that will satisfy the desire. However, if I also believed that donating to the World Land Trust is the most effective way of reducing carbon emissions, then we can see why this belief – combined with the desire to reduce carbon emissions – would prompt me to donate to the World Land Trust. In contrast, if I only believed that donating to the World Land Trust was the most effective way of reducing carbon emissions without the associated desire to reduce carbon emissions, then I would not make a donation. It needs to be the case that I want to reduce carbon emissions to be motivated to act on my belief that donating to the World Land Trust would achieve this goal. It seems, therefore, that beliefs and desires are both needed to produce action: without beliefs desires are undirected, and without desires beliefs are motivationally inert. Moreover, the Humean theory of action fits with an account of practical reasoning that seems to accord both with normal practice but also standards for the rationality of such reasoning. In its simplest form, practical reasoning will have the following form:

I want to do X.

In order to do X, I have to do Y.

So I will do Y.

Where I desire to do X and believe that Y is the means by which X is achieved, I therefore go on to do Y.

The Humean theory of action is a widely held view and the dominant current theory of motivation in analytic philosophy. Perhaps the leading line of objection to the theory is that it is possible that agents can possess belief states without accompanying desire states that are nevertheless motivationally efficacious. A proponent of this theory is John McDowell, who rejects the belief/desire distinction. He proposes that there can be hybrid state having the representational properties of beliefs and the motivational properties of desires (McDowell 1978, 19; 1979, 346). These are sometimes called ‘besires’, because they exhibit characteristics of both beliefs and desires (Shafer-Landau, 2003). However, there are good reasons to be suspicious about the existence of besires; the most persuasive of which have been developed by Michael Smith (1994). Beliefs and desires, Smith notes, have a different ‘direction of fit’. Beliefs have a mind-to-world direction of fit in that our beliefs aim to represent
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The world; evidence that a belief does not accurately represent the world counts against holding that belief. In contrast, our desires represent states that we want to bring about and evidence that a desire misrepresents the world does not count against the desire. To the contrary, we desire things that we do not believe have already been achieved. As such, desires have a world-to-mind direction of fit: we want to bring the world into accord with what we desire. This distinction corresponds to the plausible idea that beliefs aim at the truth (to represent the world) whereas desires aim to be satisfied (to bring the world into accordance with them). Understood in this way, we can see why there cannot be besires, or mental states that both represent the way the world is and also motivate us. For this would be a mental state with incompatible directions of fit. It would at once aim to represent the way the world is and motivate one to change the world to be in accordance with what it represents.8

Particularly notable in this context are moral judgements, that is, judgements about what we are – individually or collectively – obliged to do or what is good. Moral judgements, unlike judgements about other matters, appear to have a particularly close relationship with motivation. For example, we generally take it that if someone believes that eating meat is morally wrong then they will refuse to eat meat should the option be presented to them. Moreover, if someone changes their views on meat-eating, from thinking it morally harmless to believing it to be morally objectionable, we expect a corresponding change in their culinary habits. In general, changes in moral beliefs will usually correspond to a change in a person’s motivations. Moreover, if someone affirms that eating meat is wrong but subsequently fails to act accordingly, we regard that as grounds for doubting the sincerity of their assertion. Similarly, someone who fails to act on moral considerations that they would explicitly affirm is being practically irrational. Of course, there could be circumstances that explain the failure to act appropriately. For example, if the person were faced with a choice whereby not eating meat would bring about a result that seemed even more morally undesirable than eating meat, such as death from starvation, we would not take that as evidence that they did not believe in the moral rightness of vegetarianism. This does not undermine close connection between moral judgment and motivation, however, because in the absence of such circumstances we take it that people are motivated to act in accordance their moral judgements. It seems, more generally, that moral judgement and reasoning is tracked by our motivations. Moral agents are motivated and act, often in an automatic and unreflective way, in accordance with moral judgements. Moral judgements often seem to be ‘internalised’ and habituated in a moral agent’s behaviour.

The distinctively motivational characteristic of moral judgements have led some philosophers to propose that moral judgement is essentially connected to motivation. This theory is called internalism. Internalist theories are popular in contemporary metaethics (Korsgaard, 1986; Blackburn, 1984, p. 188; Gibbard, 1990; Smith, 1994,

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The internalist has a clear explanation for the apparent connection between an agent’s moral beliefs and their motivations. There are, of course, cases in which moral judgements do not yield motivational results. For example, where an agent is suffering from depression their judgements on what they ought to do might not result in their being motivated to do them; there are also cases of agents experiencing weakness of the will, or psychologically disturbed individuals who intentionally act with disinterest or even defiance with respect to what they think ought to be done. These, however, are taken to be unusual cases. Internalists defend the position that moral judgement is essentially normally related to the motivational natures of individuals or the communities of which they are a part (Blackburn 1998; Dreier, 1990; Horgan & Timmons, 1992; Lenman, 1999). This can be more formally stated as follows

Internalism. It is necessary that if a person P has a moral belief that x is good, then either P has a motivational nature disposed favourably towards x, or P is part of a community where moral belief x is normally accompanied by believers having motivational natures disposed favourably towards x. (Scott, 2013)

This theory explains the distinctiveness of moral judgements while allowing that there can be exceptions either in an individual’s own motivational profile or at the level of individuals in a community of agents.

We have seen that the Human theory provides an account of motivation that presents it as the combination of a belief and desire, typically, the desire to do p along with the belief that one needs to do q in order to bring about p. We have also seen how this fits with a model for practical reasoning about how to act. Additionally, evaluative judgements seem to have a particularly notable role in this context: they appear to be intrinsically motivational. With these two theories in place – the Humean theory of action and the internalist account of moral judgement – we are in a position to see the importance of the de re/de dicto distinction in thinking about evaluative judgments.

3. The de re/de dicto distinction and motivation

To see the relevance of the de re/de dicto distinction to motivation, let us briefly suppose that internalists are mistaken and that moral judgements are not essentially (normally) motivational. In other words, a normal agent may form a moral judgement without thereby being motivated to act on that judgement. This is the externalist position. For example, suppose someone thinks

(a) It is right that I should help in the reduction of carbon emissions, and

(b) the best way I can help to reduce carbon emission is to make a donation to World Earth Fund.

According to the externalist, this person is not thereby motivated to donate to the World Earth Fund; according to the internalist, this person is motivated. Now, the externalist needs to explain why it is the case that the formation of moral judgements
appears to go along with changes in the motivations of agents. For we would expect someone who accepts (a) and (b) to be motivated to make a donation. To explain this connection the externalist will have to posit some additional judgement:

(c) I should do the right thing.

This additional judgement, according to externalists, will be one that morally good agents make. That is, if a moral agent changes their beliefs about what is right then we would expect an according change in their motivations. Note, however, that (c) is a *de dicto* judgement. That is, someone who believes (c) is not considering some specific good thing, but thinks that they should do the right thing whatever that may happen to be. On the externalist view, therefore, moral agents are motivated to bring about what they take to be right by a *de dicto* concern about doing what is right. The complementary form of externalist practical reasoning might be as follows:

I judge X to be right.

In order to achieve X, I need to do Y.

I want to do what is right (*de dicto*).

So I will do Y.

The problem with this proposal is that a *de dicto* judgement that one should do the right thing looks inappropriate in many cases of practical reasoning about moral matters. Our moral concerns are not, it seems, invariably driven by *de dicto* considerations about what is good, honest or dutiful, but rather by *de re* concerns about the specific people and things which one values. This point is made by Michael Smith:

common sense tells us that if good people judge it to be right and honest, or right to care for their children and friends and fellows, then they care non-derivatively about honesty, the weal and woe of their children and friends, the well-being of their fellows, people getting what they deserve, justice, equality, and the like, not just one thing: doing what they believe to be right, where this is read *de dicto* and not *de re*. Indeed, common sense tells us that being so motivated is a fetish or moral vice, not the only moral virtue. (1994, 75)

In generally, morally admirable agents appear to be driven by *de re* concerns to bring about concrete ends that standards of justice and honesty require. Someone whose concern for moral rightness was purely *de dicto* would exhibit, according to Smith, a kind of moral *fetishism*: a preoccupation with rightness that is detached from proper moral attachments to the people and situations around them.

To illustrate this point, consider the follow example from the moral philosopher Bernard Williams. Suppose that your spouse and a stranger both fell into a river
putting their lives at risk. Neither are able to swim. What leads you to jump in to save your spouse? We can compare the internalist and externalist accounts of the thinking that leads you to be motivated to make the jump. According to the externalist account, one should be motivated – at least in part – by a (de dicto) consideration about what would be the right thing to do in these circumstances. However, to reason in this way appears both psychologically alienated from one’s spouse and also morally questionable. Williams puts it as follows:

This construction provides the agent with one thought too many: it might have been hoped by some (for instance, by his wife) that his motivating thought, fully spelled out, would be the thought that it was his wife, not that it was his wife and in situations of this kind it is permissible to save one’s wife. (1981: 18)

One shouldn’t need to introduce a de dicto concern about the morally right thing to do in order to be motivated to act to save one’s spouse. Instead, one should be motivated by a de re concern for one’s spouse, that is, a concern for this person rather than a concern about what is proper to do in such situations. The de dicto concern appears to be ‘one thought too many’. To return to the earlier example of externalist practical reasoning: ‘I want to do what is right (de dicto)’ is superfluous to moral reasoning. It is the de re judgement that X is right, along with the belief that Y is needed for X, that motivates the moral agent to do Y.

To say that de re concerns are important to many moral evaluations does not exclude the role of de dicto concerns in moral reasoning and motivation. Suppose, for example, that I find myself with the responsibility of caring for a sick relative. My conduct in caring for that relative may sometimes be motivated by de re concerns, that is, my emotional attachment and care for this particular person. However, I may also sometimes be motivated by more de dicto concerns. That is, my more general sense of obligation for looking after someone for whom I have responsibilities may play the important moral role of stiffening my resolve to continue with the care. This is particularly valuable in cases where the demands of caring for this particular person are particularly burdensome. It is precisely the principled and unspecific nature of de dicto moral attitudes that assist in making moral motivations more consistent across different circumstances and less dependent on local and variable attachments to particular people with whom one is acquainted. Having said this, if I cared for a relative motivated by only de dicto concerns, this would be a morally questionable basis for action. I would, in effect, be acting purely for the carrying out of a duty, rather than for affection and concern for the person in question. So while de dicto attitudes may play a contributory role to moral motivation, normal and unalienated moral motivation typically spring from de re attitudes.

Before drawing conclusions from this theoretical discussion there are two further points to make. First, we should note that we sometimes express de re concerns in the form of de dicto concerns. For instance one might, in a general way, value companionship. Similarly, one might believe that as a matter of principle that one should ‘do one’s duty’. On both cases, these judgements appear to be de dicto. However, it is plausible that they are in many cases de re judgements. This is because one might express one’s valuing of particular companions by saying that one values companionship; one might express one’s commitment to carry out the particular
duties that one has or will have by saying that one values doing one’s duty. So a superficially de dicto attitude may in fact be the expression of de re valuing of particular companions or of particular duties. We will return to this point in the following section as it is useful in the context of understanding whether a person is expressing a de re or de dicto evaluation. Second, while de re attitudes seem particularly relevant in moral evaluation and motivation, they are not essential for all kinds of valuing. Notably, when we are considering classes of objects such as fungible commodities to which we have no distinctive historical or emotional ties, de dicto attitudes may be appropriate. For instance, someone may value the possession of money without any concern for the particular form in which that money is possessed (i.e. the units of currency, where it is stored, etc.). Similarly we often value tools because they fulfil a function, rather than valuing a particular tool. However, when it comes to considerations of what is non-instrumentally right or good, we are usually concerned with distinct individuals and our attitudes are appropriately de re.

This completes our review of the theoretical material about motivation and we are now in a position to formulate a hypothesis. We have seen that moral evaluations fit into a Humean theory of action as intrinsically motivational states that frequently (if not exclusively) express de re attitudes. We have also seen that other kinds of evaluation, particularly those about fungible commodities, may involve only de dicto attitudes. How, therefore, do attitudes towards biodiversity and other aspects of the environment fit into this account? It seems plausible that many our judgements about the value of biodiversity and more generally our evaluation of the environment are more akin to the former class of moral judgements. To the extent that this hypothesis is true, therefore, the theoretical background that we have considered provides us with a way of understanding the circumstances under which individuals are motivated to act in ways that are friendly towards biodiversity and more generally towards the environment. That is, we can model many of our pro-biodiversity motivations in the same way as moral motivations: at least some of our evaluative judgements about biodiversity will motivate us in the same way as moral judgements.

The hypothesis, therefore, is that a significant class of evaluations about biodiversity are de re attitudes that should be modelled as moral evaluations, and as intrinsically tied to motivation. A key consideration in testing this hypothesis will be to find to what extent the environmental evaluations of individuals engaged in thinking about environmental policy are de re or de dicto. We will explore this in the following section.

4. BIOMOT Interviews

Findings from the BIOMOT interviews indicate that de re concerns about nature and biodiversity are prevalent. Interviewees voice their connectedness with their memories and experiences of nature. Moreover, interviewees often express their concerns in terms of particulars rather than general or abstract descriptions; they often express their evaluations of nature in terms of specifics – things with which they are acquainted – rather than general matters of principle. This is not always the case, of course. There are some interviewees who describe their interest in environmental matters in largely unspecific ways. A small number of interviewees are not drawn on
their attitudes about nature but instead talk about career interests. In general, while de dicto attitudes are present, the range and frequency of de re attitudes is notable.

Characteristic of many of the interviews is the expression of an attachment to some general aspect of nature, which appears to be a de dicto attitude; however, when pressed further, the interviewee expresses a range of de dicto attitudes, such as attachments to particular places, or memories of specific experiences. There are several examples of this. UNI1 expresses strongly feelings about protecting the environment, specifically the interviewee values the conservation of canals. These are, on the face of it, de dicto attitudes. However, when asked on specifics, UNI1 mentions personal experiences with boating and canals, the organisation of volunteering work, and work with a charitable trust. Additionally, UNI1 cites the experience of playing as a child in specific locations, as a relevant factor. We find that UNI2 expresses a concern for the welfare of particular members of a fishing community, and that this concern appears to be rooted in membership of that community. UNI3 expresses a love of the countryside but when asked for details, mentions the influence of his/her father who also loved the countryside, experiences of the environment as a child, and attachments to particular regions and stretches of countryside. UNI 9 expresses a belief in the intrinsic value of woodlands, but also expresses a lifelong fascination with woodlands and the environment that is rooted in personal experiences as a child. These experiences drove him/her towards volunteering work with a woodlands conservation group, which later developed into a career. UNI 10, engaged in voluntary work improving footpaths and countryside services, expresses de re attachments to childhood experiences of farming, camping, and canals.

While most interviewees communicate de re attitudes and some de dicto attitudes about the environment, this is not true in all cases. For instance, UNI13, who works as an ecology adviser with special interest in wild cats, values the fact that there are tigers in general; this attitude appears to be, on the face of it, a de dicto valuing of tigers that is not based on acquaintance with particular tigers. Also, UNI15, and NGO worker engaged in conservation issues, expresses some attachment to particular places but appears largely motivated by the practical needs of finding a career. Many interviewees, understandably, express both de re attitudes towards the environment as well as de dicto attitudes towards their career.

Although the interviews do not establish that de re concerns for the environment are present in all cases, they do show that they are present in most cases. Of course, the attitudes expressed in interviews do not establish for certain that these attitudes play a pivotal role in the motivation of the speakers. However, the evidence of what speakers say about their own attitudes is at least indicative. To this extent, the interviews lend support to an important component of the hypothesis discussed in the preceding section.
Conclusions

The finding that de re attitudes are, if not universal, prevalent in individuals who are environmentally motivated has two notable policy implications. The first of these, which is negative, is that the currently prevalent de dicto valuations of the environment must be treated as at best an incomplete basis upon which to formulate policy. The second of these, which is positive, concerns the way of promoting attitudes towards the environment that are motivationally efficacious.

a. The basis for environmental policy

One consequence of the prevalence of de re attitudes in thinking and reasoning about the environment is that methodologies that treat biodiversity as objects appropriate only for de dicto valuation are significantly incomplete. Specifically, they fail to capture an important component of our relationship to the environment – i.e. the de re attitude – and the value we find in it as well as the aspects of it that motivate us to engage in and promote environmentally friendly behaviour.

A case in point is the TEV (total economic value) approach to biodiversity valuation. Central to this approach is the assumption that biodiversity can be understood as a kind of ecosystem service. The idea of ecosystem services is widely used. They are taken to be services ‘offered’ by nature that provide for human wellbeing; the services in question are ‘the benefits people obtain from ecosystems’ (Millennium Ecosystem Assessment (2005)). A standard way of distinguishing ecosystem services is in terms of their regulative function (moderating climate, disease control, water purification, and so on), their provisional function (providing food, fresh water, fuel, and so on), their supporting function (nutrient cycling, soil formation, etc.), and their cultural function (aesthetic value, cultural heritage, sense of place, recreational use, educational use, etc.). Notably, research has often focussed on provisional ecosystem services, which can be quantified (for attempts to quantify these different uses see; Costanza, 1997, Nelson 2009, Barbier 2011). The biodiversity of an ecosystem is measured by the observed diversity of biota within the community; this can then be considered as a contribution to the effective functioning of an ecosystem service. On this basis, the value of biodiversity as part of an ecosystem can be measured by its contribution in enhancing or maintaining the well-being of humans.

Why does this approach assume that biodiversity and ecosystems more generally have only de dicto value? It follows that if two biodiversity ecosystems are able to deliver a service as effectively each other, then their value is equivalent. This, however, is a purely de dicto evaluation of biodiversity: constituents of ecosystems and ecosystems as a whole are valued not as distinct objects but for their satisfaction of various function. Put differently, valuing something as a replaceable or fungible commodity is to take a de dicto attitude towards it. That is, in placing value on something by virtue of its function, usefulness or economic evaluation, one values it as falling under a description rather than as a particular thing. Similarly, to treat ecosystems as services is to consider them de dicto: one is valuing the ecosystem service provision and the
ecosystem itself as valuable insofar as it delivers the service, rather than valuing the ecosystem as a particular thing that provides this service (compare the imaginary version of Zsa Zsa who does not care for the health of the particular person who is her husband, but is concerned that whoever should happen to be her husband is young and healthy).

The treatment of biodiversity and other aspects of ecosystems as replaceable commodities is not, of course, mere theory. It underpins the policy of *offsetting*: compensating for losses in biodiversity (usually as a result of development) by conservation activities that yield biodiversity increases at other sites. These improvements are measured by biodiversity units that are lost or gained as development or conservation occurs, thereby allowing for an evaluation of net loss. This is already active policy in the UK (see DEFRA, 2012) and is currently under consultation at EU level as a ‘no net loss’ initiative.

As indicated by the research in this paper, approaches that take biodiversity and the environment to be evaluated in purely de dicto terms will be seriously incomplete. They will fail to adequately capture those *de re* respects in which people value environmental sites to which they are attached by acquaintance. This omission would not be such a problem if *de re* attitudes and *de dicto* attitudes were fully in alignment but they are clearly not. *De re* valuing a particular place with which one is acquainted will not be respected by a *de dicto* valuation of the same place: a *de re* valuing considers it as a distinct object, a *de dicto* valuing considers it as a replaceable commodity. As such, total economic valuation of environmental should be treated as, at best, an incomplete account of the value of the environment and as an insufficient basis from which to draw conclusions about best environmental policy. Instead, policymakers need to take account of the specific circumstances of features of the environment and the attachments that individuals and communities have towards them.

b. Promoting pro-environmental attitudes

The second result is more straightforward and can be stated more quickly. We have seen that our thoughts and feelings about the environment may sometimes be *de re* and sometimes *de dicto*, and that both *de re* and *de dicto* evaluations feature in the thinking of individuals actively engaged in environmental issues. This paper has focussed more on the *de re* attitudes in part because they have been largely ignored in environmental policy considerations (as noted above) but also because *de re* attitudes plausibly play a critical role in motivating individuals to act in environmentally friendly ways. However, the upshot of the argument and evidence that we have considered is that to motivate individuals to act in environmentally friendly ways – particularly in educational efforts – requires the encouragement of both *de re* and *de dicto* attitudes. That is, we should not be concerned to promote just the theoretical importance of, say, biodiversity in promoting human well-being but also promoting attachments to distinct, local features of the environment. This is perhaps most directly achieved by giving experiences of and educating individuals about local
aspects of the environment of which they are a part and with which they are currently unfamiliar.
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Part III

How stories help to understand how the world matters to us

Martin Drenthen
Radboud University Nijmegen
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DRAFT
How stories help to understand how the world matters to us

The BIOMOT project aims to find out what the secret behind the motivations is of those few who do move into committed action for nature. What drives them? And can these drives be translated into conditions for more effective biodiversity policies?

Most people know that there are good arguments to protect biodiversity. Yet only few act accordingly. Apparently, knowing that it would be rational to do something is not enough. Conversely, those who do come into action refer, when asked, only seldom to abstract arguments to explain why they act. They tell a narrative, a story that explains why it makes sense to act for nature.

The philosopher Bernard Williams has argued that a detached, impartial perspective fails to provide a motivation for action. We do not act out of pure rational reasons. Instead, we only will act when we are engaged in a morally significant world. Therefore, moral philosophy should start “from the ways in which we experience our ethical life.” It should take its starting point in existing moral experiences. Unfortunately, dominant environmental ethics has done the opposite and has focused on rational justification. A good example is environmental ethicist Paul Taylor. According to Taylor, respecting the inherent value of all living beings is the most rational and therefore also the most ethical thing to do. The same would hold for ecosystem services; it is rational to maintain them. For Taylor, that insight generates sufficient reasons to act; because acting rationally is or should be imperative.

The divorce between rationality and reason

Why should the finding that something is rational automatically prompt a motivation to act? Taylor does not ask that question. That is strange, since we know that most people do not act automatically because something is rational. Neither is it true that everything that is rational is by definition good. Only those who already believe that rationality should be the guiding principle in our lives could be expected to act on intrinsic values or ecosystem services – all others will not. Something different or extra has to be there, a something that Williams calls commitment and that other call connectedness – to persons, to nature, or to other things that matter to us; in short: to something meaningful.

Things that are meaningful to us are often very personal and subjective, not general, universal and rational. Yet, they are our real reasons to act. A paradoxical consequence of this ‘divorce between ratio and reason’ is that you can have irrational reasons, and meaningless rationalities, a consequence that throws up all sorts of problems also for biodiversity policies. For instance, does the economic valuation of ecosystem services only produce meaningless rationality?

This divorce between ratio and reason did not always exist. Ancient Greek moral thought, for instance, assumed that the world was a wonderfully ordered whole, physically and morally at the same time, a cosmos in which everything had its natural place and purpose. In other words, the world was a whole in which what is and what
ought to be overlapped and could be understood in a single line of thought. What you were defined how you ought to act. Life, all life, has a purpose and a meaning – else it would not be.

Since then, our worldview has changed drastically. The underpinnings of the Greek cosmological worldview have disappeared. We no longer believe to live in a morally ordered universe. The ‘real’ and ‘objective’ world as revealed through science is seen as merely factual and morally neutral, and our moral judgments are seen as nothing but purely subjective judgments, as a result of highly personal taste. Interestingly however, the philosopher Alasdair MacIntyre (1984) has shown that remnants of classical Greek ethics still exist in the current moral perception of Western people. We still feel that there is a moral order to the world that we should try to attune ourselves to, and ‘doing’ so tends to give a feeling that life makes sense. The only difference between us moderns and the ancient Greeks is that whereas for the Greeks the moral order of the world could be revealed through science and metaphysics, for us the world only appears morally meaningful in virtue of the stories we tell about it. The meaningful order we experience has become embedded in our narratives.

The quest for meaning
Narrative ethics tries to do justice to this phenomenon. It does so by collecting and examining the stories people tell that give meaning to their life and role in the world, and explain their action and moral choices. It turned out that the social and physical environment, and within the last one, nature experiences, often play a special role in these stories. As philosopher John O’Neill recently put it, “we make sense of our lives by placing them in a larger narrative context […] Environments matter because they embody that larger context.” A person who is motivated to act, will do so out of a feeling that this action makes sense in a life that makes sense, embedded in a meaningful world.

A narrative does not merely depict the world, it lets the world present itself in a particular way. It, in a way, creates the world by bringing it into life and ordering it. A narrated world is a meaningfully ordered world. But narration works through language, and because of this, it will always be dependent on specific historic cultural settings and contingencies, and a specific here and now. In other words: stories will never be universal, impartial, or objective. These local and historical contextual conditions and traditions, and the stories based on them are vital to understand why people act, e.g. why people act for nature or biodiversity.

In the BIOMOT project, we have used this insight to collect 213 life stories of people who were motivated to act for nature or other societal causes. We did this in the expectation that those stories will reveal that their actions give meaning to their lives and are embedded in a social context that grants existential meaning to (acting for) nature and biodiversity. From this perspective, one would expect that for people who are highly motivated to act for biodiversity, the natural world is important, not just as a valuable and valued object that needs to be appreciated, but as a meaningfully whole that provides a context for self-realization.
The interviews indeed seem to validate our assumptions. Hardly any interviewee expresses that rationalities of intrinsic value or ecosystem services has had any motivational impact. Overwhelmingly, the life stories themselves turned out to be themselves structured as narratives (not surprisingly of course), but also more specifically as a quest for meaning. Many interviewees recalled their life story as a journey during which a moral meaning was discovered in the world, a meaning that compelled the need to act and made acting for nature the natural way to react and to become. These stories can also inspire others to act for nature. That is how stories work.

The narrative perspective
Motivated people need to explain their motivation to act for nature through a story of meaning for several reasons. First, they themselves often got inspired through stories of other motivated people; apparently, there is something about the way that stories disclose reality that is crucial for getting involved. Second, many motivated people feel that they want to inspire others to get engaged as well. Many want to use stories as a means to motivate or convince others to engage with what they see as being of utter importance. Third, a narrative perspective will add to this, that the stories that highly motivated people will also be used to ‘remind’ themselves what their life is about, and how their life makes sense as part of a sensible, meaningful whole. In other words, stories about the meaning of nature are not just means of communicating the meaning and value of nature; they are also the medium in which these meanings exist. Stories open up a meaningful world that can be expressed, shared and cultivated; without the cultural context, the language traditions and the language communities, the care for nature will not have a foothold in our lives. In that sense, conserving and stimulating a culture of nature is just as important as caring for nature itself.
Policy makers can use this insight to promote the embedding of biodiversity in narratives: narratives of places and landscapes, narratives of evolution, narratives of human lives. This requires the promotion and continuation of languages, practices and cultures of connectedness with nature. And these, in turn, as other findings of BIOMOT will show, are conditioned by opportunities of true encounter of humans with nature.

Findings
Self realisation
In many interviews we find evidence that to motivated people, nature is not primarily seen as a valued object but rather as a meaningful context for self realisation – for having a meaningful life. Roughly speaking, people tell at least two types of stories when asked to explain how their motivation to act for nature came about.

Home coming and liberation
Many interviewees tell a story about finding their commitment to biodiversity in terms of a gradual re-discovery, a kind of ‘homecoming’. Many interviewees report that at one point in their life, often in young adulthood, they discovered their true passion or destination and from then on decided to devote their lives to nature.
protection. Very often what they discovered is experienced as a re-discovery of something that implicitly they already knew earlier in their life, in childhood, and was lost later on in their lives. The rediscovery of this earlier passion is often depicted as a moment of liberation, a liberation from societal habits, social pressure, cultural distractions, something had to be overcome. In this kind of story, finding a meaningful connection to nature is presented as a rediscovery of what had been important in their lives all along. Often, this process was initiated by significant others – inspiring people that showed them that an alternative way of life existed, sometimes it was discovered almost by accident.

**Over coming crisis**

For other interviewees, the sense of re-discovery was less outspoken. For them, discovering a meaning in nature coincided with the moment of crisis in which their lives were put upside down, or –less dramatically put – when they went through events that shed new light on their life and the meaning of their life. In some cases, interviewees tell a story in which they experienced a personal crisis after which they discovered another sense of self. In other cases, they met other people that provided them with a new model of how to order one’s life, often a new life style in which nature did play an important role. In general, the meaning they discovered was an answer to a perceived crisis of meaning resulting from an experience of coming to a dead end in their lives.

**The ordering power of narratives**

Life stories typically reconstruct a life by connecting a series of separate life events into an order that makes sense. In this sense, a life story brings unity to a life, it constructs one’s life as a whole, rather than merely articulate that life. It is through the telling of the life story that we can present (to ourselves and to others) our lives as a whole. Moreover, this narrative process always works backwards - the life story always consists of a re-narration of one’s life from the vantage point to now. New events can force us to re-narrate our life story, because new events may shed new light on past life events that earlier were deemed insignificant, but suddenly appear in a new order. Life stories are themselves quests for meanings, in which people attempt to find the connection between what at first might appear to be a series of random or separate events. A life story connects the separate dots of the past, connects them in an order that makes up a story, re-constructs this life as a whole. As soon as a person finds an appropriate story about his or her life, this will often have the character of a re-discovery, in the sense of an experience “yes, this is how it was”, “I now can see clearly what has been the meaning of it all along.” In other words, the fact that people experience a feeling of “homecoming” is what one can expect in a life story, since an experience of finding meaning in one’s life very often is an experience of things and events falling into place, i.e. appearing in an order that was not made but that already existed.

We may conclude that in general, life stories are not just a mean to explain to others what happened in one’s life, but also a way to ‘remind ‘ ourselves what our life is about. Yet, this very feature of life stories, also comes with a risk: life stories very easily turn into fixed stories, that get repeated over and over again, that petrify the
meaning of a life. For this reason there is, of course, also a risk in asking people to tell their life story and explain how they became the highly motivated person they are. Since a story reconstructs a series of events in hindsight, it easily distorts, and run the risk of confabulating causal relations that in fact can be questioned.

In the BIOMOT interviews, we tried to prevent this confabulation from happening by repeatedly forcing people to include specific facts about their life story (When? What? Where?): e.g. by explicitly inviting them to structure their life story in different age-phases of their youth. This may have disrupted a standard account of a life, and forces the interviewee to think back on his life anew, and actively reconstruct the way their key motivation developed. This cannot change the fact that a life narrative is per se a backward looking reconstruction of a life, but it does interrupt a possible standard story that an interviewee might have constructed earlier. By critically challenging the interviewees to re-narrate their life story with the inclusion of specific place and nature-related events one may hope to arrive at a life story that does reveal something of the deeper motivational reasons and meanings at play in a person’s life project.

**Nature as meaningful context**

A similar thing can also be said about the meaning of nature as it comes forward in stories about nature. As mentioned earlier, in the interviews we typically see that nature does not come forward as an object of value, but rather as a meaningful context. Nature is the context of one’s life, but the meaning of nature extends beyond oneself. Nature means more than merely the context of *my* life; it is the world as such. According to narrative theory, the moral meaning of nature or the natural world that appears in a life story exists *in* language - having the experience of nature as meaningful context will be dependent on the presentation of the world through the story about the world, as told by others and by ourselves. In other words, the moral meaning of it is dependent on a cultural context, tradition or social interpretation that opens up the world to us as being meaningful. The story is not merely a mean of communicating the meaning; it is the medium in which it exists, and therefore a condition for its existence. Earlier, we argued that we expect that the experience of nature as a meaningful order can still be found in contemporary moral sensibility – as a remainder of pre-modern (classic Greek and early Christian) cosmology. Yet, even when nature is perceived as morally ordered and meaningful order, it will probably not present itself as a moral pre-given order that humans merely have to register and observe, as it did in classic pre-modern cosmology.

The interviews seem to confirm that many interviewees indeed have a moral sensitivity for nature as a morally significant order, which provides a context in which meaning can be found or created. Some recurring elements in the interviews can be understood from this analogy with classic ethics. Yet, we can also see clearly some differences. Below we focus on some key aspects of the BIOMOT interviews that resemble elements of premodern cosmology, we will see how these resurface in contemporary moral sensibility, and examine how they are related to motivations to act for nature.
Nature and enjoyment
Humans love to be in nature and it makes them happy. For many interviewees, this is an important motivation for their commitment to protect nature, many use the term when asked why nature is important for them. Many interviewees recall that being out in nature was important for them as a child; many still have vivid memories of these experiences, and believe that these have been formative – played a big role in what they have become later in their life. Some talk about the experience of spending time outdoors as an antidote to the dullness, alienation or lack of freedom in everyday life, e.g. in schools or other societal institutions. Being in nature made them happy because it made them feel alive and free. Some interviewees directly relate this sense of personal happiness with their key passion: they feel that it is important to show others that nature is important for leading a full and rewarding life.

The happiness that nature brings about in people’s lives is often interpreted in terms of ecosystem service. From an ecosystem service approach, the happiness that one experiences while being in nature is typically seen as a psychological effect of a person’s interaction with nature. If we think of happiness as a state of mind, as a psychological response to a stimulus, an effect of something nature does to us, if we think of happiness in nature in these purely psychological terms, it follows that we can conceive of the experience in terms of a service provided by nature/ecosystems. Nature provides us with a service by causing pleasant experiences of happiness.

However, if we look more closely at the narratives of the life story interviews, we can notice narrative elements that seem to be add odds with such an interpretation in terms of ecosystem services, and another more appropriate interpretation of happiness is called for.

Happiness as fulfilment: eudemonia
In many interviews, people talk about the happiness of being in nature in terms of fulfilment or completion, they say that being in nature causes a feeling of being ‘at home’, a feeling of true fulfilment. This particular articulation of happiness has strong similarities to the way how nature functioned in classic cosmology. In classic times, the natural world was seen as a cosmos; the word cosmos also meant a gem or a jewel. Nature as cosmos was a beautifully ordered system in which all the parts contributed to a larger, beautiful whole, in which everything made sense: the natural order of things. For Aristotle, this notion of an objective order in nature was intimately tied to the idea of a good life: for humans to live a good life was to lead a life in accordance with human nature, which in turn meant a life attuned to the overall order of the world. A good human life was a life that was in accordance with human’s place in nature, in line with its natural goals or purpose. Ultimately, a good life was a life that was appropriate to its place in the natural order of things. Moreover, according to Aristotle, humans are naturally oriented towards finding their natural destination or purpose. His ethics assumed that the good life was a life in line with the natural human desire for happiness, in other words, the desire to live a good life, that is, a life in accordance to nature, was an innate desire in all human beings. The task of ethics was not, as in modernity, to show people what they should do irrespective of their desires, rather it was to help people see and understand how their natural desires
were to be understood and guided so that people could actually flourish, that is, succeed in developing their human potential and find their appropriate place within the larger whole. For Aristotle, human happiness was not so much a psychological state of mind, as we tend to think today, but rather flourishing, which is the result of a good ‘fit’ between one’s life, one’s own nature and the order of the natural world. According to Aristotle, all humans strive towards happiness, which for him means that all humans strive to fully develop their human capacities in such a way as is in accordance to their nature. The happiest person is the person who is most successful in living up to his or her human potential, a happy person feels that he or she lives in accordance with his or her own nature, which, in the Greek view, will always be attuned to nature in the larger overall sense of the word. Finding one’s place in the larger order of things, and finding one’s own true nature coincide. What makes one happy is the coinciding of finding one’s own natural goal and finding a place within the world.

In the interviews we often find words that resonate with this classic Greek thinking about human happiness and human flourishing. Happiness is seen as a form of fulfilment, of finding one’s own nature, one’s true self, one’s natural goal, and to many of the interviewees this happiness is connected to a sense of connectedness to nature. Apparently, an Aristotelian type of thinking is working at the background, providing us with an alternative frame of interpretation for understanding statements that being in nature leads to happiness.

This similarity with classic though may help explain, for instance, why some interviewees have difficulty with the question whether they real passion is about nature or about humans. From classic Greek cosmology, it would be difficult to distinguish whether some action is motivated for nature or for human wellbeing. In line with this, many interviewees state that they do not see these as mutually exclusive answers. This is the answer that one might expect from a classic Greek cosmology: human nature is part of nature as a whole, and human flourishing is understood as the fulfilment of the natural goal of human nature, human fulfilment presupposes humans being part of nature. Therefore when asked if their engagement is with people or with nature, many interviewees state that for them the relation between nature and human flourishing is fairly straightforward. In a classic cosmology, both cannot be distinguished; from a modern cosmology the choice between either one of these gaols will be fairly straightforward too.

The order of nature reconsidered
Yet, some interviewees have second thoughts about this connection, and seem more aware of the problems connected to the classic ethical idea of human flourishing in nature. Might it be because they are aware of the fact that the Greek cosmology, and the classic assumption that human nature has a good fit within the overall order of things is no longer undoubtedly true? One of the interviewees seems to clearly struggle with this dilemma. He too seems to recognize the experience that the natural world provides a context for true self-realisation, and can be important to find ones true self. Yet, he also seems to be aware that the relation between human flourishing and the overall order of nature in contemporary times is far from straightforward. This
ambivalence, and the embarrassment it causes, can clearly be seen in one of the interviews (Ned 17), when the question is whether the key passion is about nature or about humans:

A: “...this is my actual motive: I like it when people are alive”.  
Q: “I immediately get from this that this [your key passion] is about people instead of nature. Do you think that everything you do for nature is motivated by something you want for people?”  
A: “There are two answers possible. The first answer is the simplest: yes, I sometimes say we are more a people movement than a nature movement. The other answer is that it isn’t a very relevant question because – well perhaps it is for you but not for me – because in the end it is all the same whether you are talking about the intrinsic value of nature or at the core it comes to this .... to keep it simple: yes, people”  
Q: “Could you explain a bit more about what you meant that it all comes down to the same thing?”  
A: “No.”

This interviewee too went to the outdoors as a child very often, and it was important to him. But when the interviewer then suggested that the reason for going to nature might be that nature was a contrast world to which one could flee leaving the societal bonds behind, the response is hesitation: “that would be almost too nice to be believable. [...] No, probably I did it because it was fun.” But then the interviewee also remarks that now, on a later age, being an adult, he does the same things in a more deliberate and conscious manner. Apparently, the fit between one’s own nature and nature did not come across spontaneously, but as a result of a conscious choice to live one’s life in accordance with nature.

Also with regards to what happiness is, the interviewee seems to hesitate between a modern state-of-mind- concept of happiness and a classic idea of happiness as fulfilment of one’s nature within the overall order of things:

“[being] happy, having a nice life is possible without nature. But real fulfilment, real, real fulfilment, for that you need nature to be fully human on all levels”. [my emphasis, MD]

Here we can see that the motivation to act for nature as a meaningful world is entrenched in a worldview that has one foot in modernity and one foot in pre-modern times. Only within a convincing, inspiring story, the deeper connection with nature can exist. It is not by accident that in the work of this interviewee storytelling plays an important role. It is the story that brings to the fore the natural world as a meaningful context for a fulfilling human life.

**Learning, beauty and connectedness**

A similar hesitation regarding the meaning of nature as a given moral order for human flourishing can also be found in the responses of another interviewee (Ned 15). As mentioned, in the classic cosmology, the moral order of nature could be discovered
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through science, since the natural world was actually structured according to a moral principle. In contrast our contemporary moral sensitivities experience a similar moral order of the world, yet we know that this order is created through and dependent on human interpretations and storytelling. For interviewee Ned15, having an ecological understanding of the workings of nature, and having knowledge about the specifics in nature, e.g. of the importance of the way specific species interact in nature, is of key importance to a good relationship to nature. When the interviewee suggests that all these understandings seem rather cognitively biased and if there is not also an element of care and connectedness tied to this deeper understanding of nature. This interviewee also states that for him, knowledge is a way to avoid a merely superficial understanding and appreciation of nature. Superficial enjoyment of nature is merely focused on the perceived beauty of things. According to this person, there is something more at stake in our relation with nature, and gaining insight in the structure of nature, and seeking an understanding of why things are the way they are play a key role in that process. When the interviewer then suggests that this understanding sounds rather abstract, and does not automatically lead to a commitment with the world, the conversation takes an interesting turn:

Q: “...you talked about richness and about complexity of nature but also about that it is beautiful. Do you see these as different things or the same?”

A: “Yes that is very, very intertwined. [...] Beautiful is not enough for me, not because it can also be very fragile. [...] But if you look more into it – like you look at how and why [...] there are so many hovering flies in that [place] – then suddenly you ... [signs of hesitation, MD.] I just think it's really nice to see to see the connections to see the relationships so, ehm yeah, it really matters that you can make a distinction between one species and another, between this and that flower. That also applies to animals: it's just really essential to see whether eh it is a predator or prey; or that something is tasty or not or toxic. These distinctions are just very essential to understand why the world is as it is. [my emphasis, MD]

When the interviewer asks to clarify how the understanding of the intricate interconnectedness of nature leads to a feeling of involvement with nature, it appears as if the interviewee has difficulty finding the right words. He merely repeats the statement that both aspects are related, but cannot really explain why:

A: “There is just a very beautiful structure that came into being in millions of years and we are part of that and if you if you have the idea that you start to understand it that is just very exciting, an adventure.”

Q: “Do you think people get involved or could become part of that complexity or is it more about observing it from a distance?”

A: “That too, yes. But the trick is to pull people into this perspective as far as possible. I really think that in that way it will emerge that you really become part of the system and you start feeling that you should not be inconsiderate with nature. If all things are intertwined then you will be careful not to break something or to disrupt a connecting piece or to disconnect a relationship
because that would just be shortsighted. It is also short sighted if people refuse to get to know each other. [...] But anyway, this is all rather abstract; meanwhile in practice you work very concretely on educational projects.” [my emphasis, MD]

Here, too, the interviewee confirms that there is a strong connection between an understanding of the order in nature and a connection to that, but cannot explain why in an objective manner. We might interpret this hesitation as an implicit recognition that a story needs to be told – “the trick is to pull people into this perspective”. Only by telling a story, and only from within the context of that story, a connection exists between understanding of nature and intricate interconnected complex system and a feeling of connectedness and belonging to and involvement with that system. Objectively, someone could always decide to be indifferent towards the intricate beauty of nature, but within the context of a story about the beauty of the natural order, these interconnections of nature appear as meaningful, as a context for human flourishing and as worth protecting.

**Stories of nature as inspiration**

Other interviewees also talk about their attempts to involve and inspire other people to engage themselves too into protecting nature. Storytelling is crucial for many of these interviewees.

One interviewee clearly states that stories present the world of nature to us in a meaningful way. One interviewee clearly states the importance of stories for opening up the world:

“What you think about an apple? [...] A religious person will start to ask about Adam and Eve. My child may talk about candied apples. Others say you can make cider from apples and yet another person will say something else again. [...] Before you know it you’ll get all kinds of stories and so on, a Swiss will tell the story of William Tell who had an apple on his head with a bow and arrow [...] you get many different stories, every culture deals with it differently, and that actually makes it special: this way nature can get an extra dimension, becomes more interesting.”

The same interviewee then goes on and contrasts this cultural diverse image of nature to a utility-oriented approach to nature. He talks about a case where someone approaches a forest merely as a location for nordic walking, and tries to pass through it as quickly as possible. In that case “you will not experience nature at all, you will forget about the importance of nature, of fertile soil...”. To understand and experience nature as something meaningful, you need to pay attention to nature, but also, you need to tell a story: “It all depends on how you tell the story, but the story has to be true” (NL33)
Many other interviewees see storytelling as a way of communicating insights into the workings of nature to others, but interestingly, most of them also believe that these stories can also bring about “enthusiasm” and the desire to protect nature. Some explain that they not merely want to “raise people’s awareness” about nature, but also inspire them, and make them “enthusiastic”. (NL29). Others stress that knowledge about nature and the commitment to protect nature somehow belong together. “With nature it is as with humans: the more you try to recognize and understand the other the more you will value and understand it” (NL15). But this understanding of nature is not merely observing facts, but adopting a certain view of nature. Once you have taken people along in a specific outlook on nature, in which they become aware of the interconnection of all things in nature, and our belonging to nature, “than you’ve got them where you want, and will play a home game: then you will be able to make people enthusiastic and make them seek a real connection to nature” (NL15).

Autonomy, freedom, wildness and otherness

In many life story interviews, interviewees stress that finding a sense of autonomy was crucial in their development. Many reported that they first had to break free from a societal bonds and role that were imposed on them before they could discover their own drive and their own sense of identity. This notion of autonomy is often thought of in terms of freedom or individual liberty to act, freedom of impositions by others, etcetera. It is tempting to interpret these experiences of autonomy as pointing to the absence of any external force of outside demand.

Yet, in many life stories, we also encounter articulations of experiences of freedom or autonomy that beckon a different interpretation. Some interviews suggest that the feeling of autonomy that is so important for people, was not an experience of being cut loose from all bonds and being an autonomous, isolated individual. Rather, some interviewees stress the importance of nature being present as a realm of wildness, where one can discover this sense of autonomy. In these cases, being in nature makes one aware that it is possible to break away from societal restrictions and demands. Nature is encountered as a realm where one can discover one’s self. Nature does not have an opinion of us, it gives us the freedom to decide what to do with our life because it does not impose demands on us. It is the very indifference of nature that opens up a space of freedom, that seems to be important in many people’s life..

The notion of autonomy that people discover is somewhat a paradoxical: being in nature as a realm of indifference gives us the opportunity to experience a sense of freedom towards societal bonds. But this very experience of nature itself seems to lay a claim on us, for it seems that it is this experience that for some people forms the basis for a sense of commitment to and engagement with this nature. Nature provides us with a sense of freedom by not imposing any norm upon us, and some people for that very reason feel some sense of duty towards that nature to protect it and care for it. In this experience of wildness, nature is not primarily discovered as an object that one should ascribe value to – although arguably, the experience of nature as a realm of freedom is valuable to people – but rather, nature is discovered as a realm of where humans can find their true identity, find themselves.
Many of the interviewees report that they had these experiences of freedom in nature. These experiences were their reason to decide to help protect nature. That does not mean that they value nature as a valuable object, rather, they appreciate nature as a realm that humans cannot do without, wild nature is appreciated because it provides them with a context in which they could discover themselves, find a sense of autonomy or authenticity that elsewhere they could not have found.

In some of the interviews, we can notice that some people refuse to identify what it is in nature that should be protected. They value nature for its undetermined, open and wild character, and state that determining the value of nature would be a failure to recognize this quality of nature. It is telling that one of the interviewees (Ned17) refused to fill in the open Q-analysis card and decided the card should be left blank. The same person also articulates that the very sense of open and indeterminate character of nature is what should be recognized and appreciated.

“I am thinking about why do I do something for nature: on the one hand I say because I like it, but mostly I think it is because I am a bit scared about the situation in which people have total control. I think that is the core of it: if you for example look at the financial crisis when people are in total control with computers and also politics and everything, I have less confidence in that than in a world in which part of life is not determined by humans but by natural laws and so on. And that is why I am for nature."

Q: “Do you need such a world in which humans do not have total control?”
A: “Well, I am working on that a lot with future visioning and I am writing a book about it. I have the feeling that a certain wildness is very important within order and within the artificiality of things. Nature is a sort of safety lane: on the one hand as a director it corrects in makes sure that we do not choose the wrong path, it moderates us a bit. On the other hand it is a sort of crack in our artificiality. To cite Leonard Cohen ‘there is a crack in everything, that is how the light gets in.’ I think that is beautiful. So where in the past nature was necessary for survival and nature had to be fought to live longer and not get eaten by the wolves, nature today is for a large part our crack in our own artificial the entrance the beam of light the oasis.”

What is interesting in this part of the conversation is that the interviewee stresses that nature protection is no longer solely necessary for our survival — for it provides ecosystem services, one might add. “I do not think we need nature to have a good time or to be ourselves or to be happy in the end it is not about survival but about other things.” Rather, we need to protect nature for the sense of openness and freedom that otherwise would get lost in our modern world.
In another interview (Ned15), this value of the indeterminate, wild character of nature is stressed also. At first instance, this conservationist and rewildler seem to stress the importance of ecological knowledge of nature.

“in the Netherlands there are almost 1500 species which all have a place all of which have a relationship to us. Well, I know only a fraction of it, but the more you know and learn the more interesting it becomes and the richer I think my world is. [...] It's interesting to get to know people from other cultures. You can also shield yourself from that like ‘we don’t want to do anything with it’, well then you make your world even smaller and quite narrow, which leads quickly to very negative sentiments. Well, with nature it is not much different: the more you seek to understand the other, seek to understand what's behind it all, you are going to appreciate it and understand more.”

But then, he goes on and criticizes the very attempt to determine value and meaning of nature, also among fellow nature conservationists:

“[I want to help people to] take nature into account when they make choices. And in such a way that nature can be nature and is not, say, eh, eh, too much pushed into a concept by our so-called stewardship. Yeah that's a also a kind of life fulfilment: that you're trying to get people out of that arrogant attitude in relation to nature and also: let them delve into what nature is () instead of imposing your own preconceptions about nature on it. Again just as with people: if I have a conversation with you and I already know who you are – just a girl with long black hair, bit of a leftist type – at that time it's actually no longer a conversation but I project my judgments on you; then I am not really interested in who you are. […] I prefer to talk with people: I just want to know who you are, why you are who you are then it then it starts to be interesting. Nature is no different. If you think nature is far too often ‘I have to take care of it’ or ‘that is an exotic species, that should go’. If you look at nature in that way, you are really directing it instead of trying to look deeper and ask ‘precisely why is this species here?’ or ‘why this is happening now?’ ”

He stresses the importance of a kind of humility that refuses to control nature or impose a particular judgment or evaluation upon nature, but instead remains open to nature as an independent realm. This sense of respect is directly connected to the notion of knowledge of nature, or rather, an awareness of the limitation of our knowledge and a sincere attempt to observe and respect nature as it is. Whereas in modern science, having knowledge of the workings of nature is and what services it may provide in itself not yet morally meaningful, but can inform our decisions, in the view proposed here, understanding the deeper narrative meaning of nature also implies respect.
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Conclusion

The interviews seem to confirm that for many people who are motivated to act for biodiversity, their motivation is rooted in a moral sensitivity for nature as a morally significant order that provides a context in which meaning can be found or created. We have tried to show that this worldview has some recurring elements that can be understood using an analogy with classic ethics, but also saw that the narrative view of nature is much less fixed and fully dependent on a language and language practices.

From a narrative perspective, meanings that people experience in nature exist in and through the medium of language - having the experience of nature as meaningful context is dependent on the presentation or interpretation of the world through stories, most often stories told by others. That is not to say that meanings are constructed through stories from scratch, rather, the experience of meaning that people have beckon to be understood and articulated in language. Therefore, it is dependent on a cultural context, tradition or social interpretation that opens up the world to us as being meaningful. For that reason, we also need to protect the cultural resources that enable people to become sensitized to the meaning of nature.

Stories about the meaning of nature are not just means of communicating the meaning and value of nature, they are also the medium in which these meanings exist. Stories open up a meaningful world that can be expressed, shared and cultivated; without the cultural context, the language traditions and the language communities, the care for nature will not have a foothold in our lives. In that sense, conserving and stimulating a culture of nature is just as important as caring for nature itself.

Policy makers can use this insight to promote the embedding of biodiversity in narratives: narratives of places and landscapes, narratives of evolution, narratives of human lives. This requires the promotion and continuation of languages, practices and cultures of connectedness with nature.
References


Part IV

Systemic Demotivation

Tadej Troha, Rado Riha, Samo Tomšič,
ZRC-SAZU Slovenia

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DRAFT
Introduction

There is nothing I can do, so the best thing is for me to do nothing – this is how we could formulate the basic credo through which the majority of the global population confronts contemporary ecological problems. When thinking of their number and connectedness, moreover, when recalling the complexity of the natural and social processes that they comprise, it seems that the resigned subjective position that finds its sole support in the firm conviction of its own powerlessness is entirely legitimate.

Of course, in a situation where a majority cannot even think of acting in a way that would decisively intervene in the processes of environmental degradation, we should not be surprised that the problem of motivation for environmental action also emerges. This problem forms the core of the entire BIOMOT project.

The research team of the Institute of Philosophy at the Scientific Research Centre of Slovenian Academy of Sciences and Arts in Ljubljana took as its point of departure the hypothesis that the absence of motivation for environmental action is not coincidental or spontaneous, but generated by a complex systemic mechanism that we have examined under the notion of systemic demotivation.

At first glance, the immediate implication of this notion, addressed by the predicate systemic, is easy to understand. The question of motivation cannot but be a systemic question. Motivation is never merely a direct problem of individual psychology. Motivations are not given at birth; they are formed and refined over a lifetime. That is what, in BIOMOT, we call formation – the idea that collective and individual motivational processes are always socially and politically grounded and organised.

Much more crucial is the second implication of the proposed notion, condensed in the term demotivation. Demotivation is not simply non-motivation or the absence of particular motivation, but an expression of an internal obstruction of the whole mechanism by which motivation is linked to action. Differently stated, demotivation is an expression of dysfunctional motivation, caused by a split between consciousness of the general necessity of action, on the one hand, and the conviction of its fruitlessness, on the other. This split can be observed both in individuals, institutions, and social environments, which is why it does not make sense to limit it only to the level of individual psychology. By speaking of systemic demotivation, we strive to overcome the dichotomy of individual and social, and thereby address the intermediate, in-between zone, where the psychological mechanisms are determined by the social mechanisms, and inversely, the sum of concrete individual convictions, actions, and attitudes produce more general social positions towards issues such as ecology and the natural environment.

When we speak of systemic demotivation we thereby describe the mechanism in which the complexity of the system that we should be preserving and in which we live is doubled on the level of particular motivations, be they individual or collective. The split of the system on the desire to preserve “business as usual” and on its real, scientifically proven perturbation or destabilisation, which is most evidently expressed through the process of climate change, becomes additionally complicated on the level of the subject as such – a subject that is also split between two contradictory tendencies.
The psychological understanding of the subjective reaction in this situation consists in the formation of a compromise position: resigned indifference, which delegates the solution and responsibility to the supposedly autonomous system and its presumed capacity to self-regulate. This delegation is expressed both in the belief that the natural system is grounded in a homeostatic principle, as well as in the economic belief in the omnipotence of the market's self-regulation. The extended version of the contemporary credo of demotivated subjects could thus be extended in the following way: *I have all the reasons to act for nature, however, there is nothing I can do, so the best thing is for me to do nothing, and let the system take care of itself.*

In the following contribution we analyse the mechanisms of systemic demotivation by means of philosophical theories and the findings of contemporary science. We believe that this analysis is the first necessary step towards a correct understanding of the problem, which can only be the grounds for more accurate systemic action, concrete measures, and policies. In addition, the analysis also departs from the basic insight obtained through the interviews carried out in the BIOMOT framework. The motivations of individuals and collectives that already act for nature can be very different and linked to the individual's particular context. These motivations often remain more or less unreflected upon. To a great extent they are *processual*, i.e. they are induced through the very action and *cannot be transmitted directly*. The example they make can thus be imitated only in one common feature: in order to act for nature it is not possible to wait – as many of us do – for sufficient motivation. Instead one needs to follow an impulse that might, from the viewpoint of today's criteria, be insufficient for action, but that at least contains the hypothesis of different possible futures.

Nevertheless, the existing good practices of action supporting biodiversity, which have successfully avoided the system of demotivation, will sufficiently spread to the entire social system only under the condition that the socio-political institutions will follow yet another example of good practice: contemporary science and its way of *thinking*. What we have in mind is basic, creative science, science that is not subjected to the imperative of immediate usefulness and the creation of financial profit. Scientists, too, have all reason to be pessimistic and not to act, and yet they think and act so that future generations will still have a future and not merely a present, in which there would be room only for necessary, unconsidered, and probably also counter-productive measures. Still, as one of the world leading climatologists, Kevin Anderson, writes:

> On a professional level, scientists policymaking (...). Policymaking is necessarily a messy process. Scientists, however, often assume that the most effective way of engaging is by presenting evidence, without daring judgement. Perhaps, for narrowly defined disciplinary study, this is entirely appropriate. Yet many highly respected researchers are emerging with interdisciplinary expertise. Academic training has begun to foster the ability of researchers to embed quantitative analysis within a wider socio-political and economic context. (Anderson & Bows 2012: 640)
If we want to break the obstruction generated by systemic demotivation and encourage a process of environmental systemic remotivation, the priority of our time is to reopen the space for science in all its interdisciplinary connections within the public space and public discourse. Further priorities are:

- To strengthen the role and status of science in political and economic decision-making;
- To revise, again with the help of science, the already existing strategic documents in which the solution of ecological problems is included among priorities only on a declarative level, while the directives in other fields, notably regarding the economy, contradict these ecological solutions;
- To encourage the presence of science and a culture of scientific thinking in the media space and thereby to contribute to the strengthening of good practices regarding environmental action;
- Finally, to introduce the findings of contemporary (environmental) science on all levels of the education system.

**On systemic demotivation**

This contribution strives to develop a systematic perspective on the question of motivation for action that would intervene in the processes of environmental degradation and counteract the consequences thereof. We thereby take as our point of departure the conviction that in the field of humanities and social sciences it is necessary to lay new critical foundations for theorising the human relation to nature. This theory would in the first place need to respond to and account for all the different contemporary views of the complex dynamic of systemic processes that are examined in the natural sciences, from biology to climatology and beyond.

**Nature plus Culture**

Inadequate notions of the relation between nature and culture, ignorance of the fact that human actions are essentially included in natural processes, and finally the persistent illusion that nature and culture represent two distinct and autonomous spheres (the classic nature/culture dichotomy), all this is highly problematic, not only for being wrong from a theoretical point of view and entirely incompatible with the actual state of things. In the epoch of the *Anthropocene*, where the “terrestrial biosphere made the transition from being shaped primarily by natural biophysical processes to an anthropogenic biosphere (...), shaped primarily by human systems,” (Ellis 2011: 1029) the revision of the nature/culture dichotomy is more than a matter of pure theory. This revision needs to take place both in the scientific sphere and in the social context, which means that the *theoretical revision* of the human relation to nature has meanwhile become a matter of *practical necessity*, as far as the persistence of the dichotomy, which has indeed been overcome, works as an obstacle to the formation of efficient strategies of environmental action.

Scientific research and political strategies here encounter a highly challenging problem and even a form of intellectual resistance. We have to be aware that the simple distinction between nature and culture, in terms of two entirely separated and
autonomous spheres, has a long history and can be found in the oldest religious traditions, philosophical systems, as well as scientific practices. We merely need to recall that scientific modernity, which started in the 16th century and whose epistemic foundations continue to determine the modus operandi of contemporary Western societies, was driven by the idea of mastering nature: by means of technology, mathematics, but also a conceptual apparatus. After the weakening of religions and their diminished influence on social reality, man’s goal became to rise above nature by means of positive knowledge of his natural environment. Nature has been integrated into culture by being turned into a privileged source of value and the uncontrolled exploitation of natural resources continued under the presupposition that things can endlessly continue in the same manner without serious destabilisations and ecological catastrophes. In this process the deep rootedness of the nature/culture dichotomy was never seriously challenged or overcome, and one can legitimately claim that it continues to determine human thinking and actions in an unconscious manner. It remains a spontaneous and implicit belief despite better conscious knowledge. We can recognise in this traditional dichotomy an important general intellectual frame that determines the way human beings continue to contextualise their actions and non-actions for or against nature.

At this point we enter into the very core of the motivational obstruction that can be observed on the level of individuals and collectives, as well as in policymakers. This obstruction is in many cases intimately linked to a real dilemma: an implicit awareness that the old recipes and ways of environmental action are simply no longer adequate for the type and global scale of the ecological problems that we are facing at this point in history. Nevertheless, it seems that we mostly remain half way: we know that we cannot act in the old manner, and we know that “business as usual” is no longer possible – even in the conception of environmental critique. Still, at the point when we would have to redefine the entire relation between the human system and the natural system, we instead relapse into dichotomous thinking, which (if nothing else) liberates us from our responsibility to act. It is precisely this combination of the right intuition and the disavowal of its inevitable conclusions that forms the underlying structure of the complex mechanism that we have described by the notion systemic demotivation, whose various forms will be analysed below.

What we would like to point out first is that the notion should not be interpreted in the sense that we are thinking of various conspiracy scenarios in which individuals, social groups, or political or economic institutions are acting consciously in a way that would prevent people from acting for nature. Put differently, although we do not deny the existence of economic and political strategies that safeguard the interests of global economic and financial networks and notably pursue undisturbed exploitation of natural resources, we reject the idea that the strategies of systemic demotivation are produced, directed, and implemented from above. What we would like to problematize is the exclusive focus on conscious decisions to sabotage environmental action and the idea that behind these strategies there is a simple vertical power relation, i.e. that the strategies aiming at the demotivation of individuals and social groups are imposed from a superior instance or centre of power. In short, systemic demotivation does not imply a vertical but a horizontal network of power relations, and it does not imply only conscious policies and strategies, but also and above all
unconscious thought patterns, such as the already mentioned traditional dichotomy that places the system of culture outside the natural system, the so-called “human exception”.

What is nevertheless true is that systemic demotivation is above all a form of resistance common to individuals and social formations, hence a reactive formation, which protects societies and individuals from the difficult task of transforming the given social system. Only by means of such transformation would it be possible to form not only more efficient but in the first place efficient ways of intervening into the processes of anthropogenic environmental degradation. It is precisely for this reason that it is crucial that systemic demotivation is not understood as an anomaly and the absence of motivation for an already-defined environmental action, but as a specific reaction and response to a real antagonism that traverses the existing political and economic space – an antagonism that concerns all individuals and to which everyone is subjected in one way or another. As far as its mechanisms comprise all levels of the social system, systemic demotivation – despite the fact that it describes a motivational dysfunction – is the only existing socio-systemic respondent of the complex systemic processes that human action has caused in nature.

To reformulate this point, the more the destructive consequences of human interventions in natural environments become manifest, the more this manifest character feeds human resistance to action and the more it seems to legitimise the absence of motivation, placing humans in a position of helplessness, impotence, and even denial. For this very same reason, the analysis of systemic demotivation is the first necessary step in forming a theoretically adequate and practically efficient model of the human relation to nature.

**Ecological critique revisited**

Only a few decades ago, the field of ecological critique was dominated by the view according to which the negative human influence could be reduced to individual cases and types of interventions, and consequently, that acting for nature could be brought down to positive counter-acting, to the effort of preventing these individual interventions. Yet the systemic processes which science confronts us with today pose an entirely new situation: global systemic change that is a consequence of the “normal” functioning of the system. The Danish philosopher Henrik Jøker Bjerre has shown this shift in a vivid way in the case of coral reefs:

In 1995, the world experienced relatively widespread protests by organisations and private citizens who objected to the continued nuclear testing that France was conducting in the Pacific Ocean. Angry consumers poured French red wine into the gutter, while demanding boycotts of the French, who were disregarding the significant impact on coral reefs and marine life in general in the areas where the testing occurred. “Save the coral reefs!” was the slogan of many of these protests. (But) what has happened to the coral reefs in the meantime? Already in 1998, exactly in French Polynesia, the first serious bleaching of coral reefs set in because of global climate changes. Since then, the bleaching has reoccurred, and the problem seems to be growing, even dramatically, partly because of the warming up of the sea and partly because of the acidification of the sea. (The oceans are absorbing massive amounts of
surplus carbon dioxide from the atmosphere, and this has begun to take its toll on the primary processes that depend on the production of chalk). Some experts fear that all of the world’s coral reefs will be destroyed within 3-5 decades if we stay on the course we have set. In other words: While angry consumers were protesting against the after all relatively limited damage caused by French nuclear testing, the very same people were, like all of us, part of a fossil fuel culture that was actively and rapidly causing much more serious damage to all the coral reefs all over the world. (Bjerre 2014, 119–20)

According to the old paradigm, the harmful intervention in nature was understood as something isolated and reversible and remained entirely within the classic nature/culture dichotomy. However, the new type of ecological threats, where human action often causes invisible yet generally irreversible processes with delayed realisation and unpredictable outcome, contradict the spontaneous vision of the world according to which man is considered both an omnipotent master of nature and at the same time an agency that cannot essentially influence nature and which precisely cannot produce a significant systemic change in nature.

Cyrano de Bergerac famously wrote about “the insufferable arrogance of human beings to think that Nature was made solely for their benefits, as if it was conceivable that the sun had been set afire merely to ripen men's apples and head their cabbages.” Such arrogance and ignorance has always counted, and continues to count, on the eternal immunity of Nature to human interventions. Of course, the belief in the general immunity of Nature is not an absolute belief in its untouchability. For instance, most people accept the explanation according to which the increased frequency and intensity of extreme meteorological events is a direct consequence of human actions. We understand that these events result from our interventions; in principle we also accept the idea that these events will additionally intensify, but nevertheless we spontaneously conceive of them as extremes, after which the initial, “cured” neutral state will return or re-establish itself and consequently erase the causes of these extreme and catastrophic natural phenomena. In other words, we believe that the self-regulation of natural systems will abolish the consequences of past and present human interventions. The more or less implicit presupposition and even some sort of “spontaneous philosophy” of this human attitude conceives of nature as a self-regulating order, which through an immanent spontaneism constantly tends towards balance, homeostasis, and order, thereby undoing the imbalances that the human factor has caused in the natural environment. In short, even if we accept the thesis of the harmful systemic consequences of our actions, every manifestation of the instability of the system continues to be understood according to the old paradigm, as an isolated and unique event, after which the system will return to a state of homeostasis. The idea that natural environments are already in themselves a state of disequilibrium, or stated differently, that they should be understood as dynamic systems whose order can be easily destabilised – this representation of nature remains marginal in the social and broadly cultural context.

The reality is evidently different. Of course it would be absurd to claim that human action is capable of bringing about the ultimate collapse of the natural system. One could see in this catastrophic scenario a rather narcissistic idea of *homo sapiens*
as the embodiment of the foreign element in the natural environment, hence another variation of the “human exception”, which again presupposes the traditional nature/culture dichotomy. In direct connection to this, we can remark that the notion of nature as a self-regulating, harmonious, ordered, and well-balanced system (natural homeostasis) is merely the flipside of the fantasy of human culture as a systemic disturbance and of the human being as a foreign body among a multitude of natural bodies. The natural system is clearly more complex and infinitely more adaptive, which means that it will preserve itself as a system in one way or another. The actual question is whether and to what extent the human system will be able to adapt to these natural adaptations, even if it was the human system that triggered the dynamic of natural adaptation. As Slavoj Žižek has put it on several occasions, nowadays we can no longer “rely on the safeguarding role of the limited scope of our acts: it no longer holds that, whatever we do, history will go on.”

The mutual connectedness of the human system and natural system, which was historically conceived mostly through romantic interpretation, must nowadays be understood in an objective sense – and this is precisely the most basic lesson of the notion of biodiversity which could be seen as an expression of the mutual inclusion of nature in culture and of culture in nature, an example where the opposition nature/culture and the premodern notion of nature (nature as homeostasis and a stable order of necessary and unalterable natural laws) simply is no longer operational. This overcoming of the nature/culture opposition aims at what is in-between, and that is precisely the human being, who understands him/herself as part of the biodiversity, and no longer within the frames of the “human exception”.

This type of inevitable connectedness of human and natural systems implies that in the overall dynamic we assume the role of an element, which is, just like any other element, subject to a process of systemic adaptation. In this respect, our fate is absolutely open and uncertain. In this way the extinction risk – the question that forms one of the central elements of contemporary biological research – also concerns the human species both directly and indirectly. Yet, as opposed to other elements of the biosphere, it is undoubtedly clear that we have to pursue our adaptive capacity in an indirect way: on the one hand by preventing further harmful interventions in the natural environment, hence through an overall change of our present actions, and on the other hand by searching for ways to intervene in the processes that we have triggered, whereby we should not forget that these processes subsequently assumed an autonomous dynamic. The exclusive and immediate focus on our own adaptation, accompanied by the narcissistic narratives about our extinction will undoubtedly lead to a situation that we do not wish to see actualised: progressive loss of control.

For this reason it is crucial that we understand the consequences of our actions in their entire scope, or better, we need to understand that the consequences of human actions can be thought from two perspectives. In the first one, which has already been mentioned, these consequences manifest in the form of particular, isolated extreme events. However, the actual manifestation of the effects in question is not these extreme events but the very trend of systemic adaptation. The truly irreversible dimension, which negates the illusory possibility of simply abolishing the negative influences as they emerge, does not pertain to the resulting changes but to the process of change. Science can grasp these changes only through various complex models, in
which, despite their increased elaboration and improvement, a moment of uncertainty continues to persist. Just like irreversibility, this uncertainty can become a subject of opposing interpretations. But we will say more on this issue later.

If we wish to prevent the development of events that is indicated through the persistence of current practice, the ecological critique faces a clear task: with the assistance of modern science it has to correct the flawed spontaneous idea of natural processes that dominates in public discourse, regarding individuals as well the majority of political actors.

**Everyday denialism**

As already indicated above, some consequences of human interventions in nature can already be observed directly. Changes in the functioning of certain ecosystems, the fragmentation of habitats, the endangeredness or extinction of certain animal and plants species, the increase in extreme meteorological phenomena, but also the less spectacular disappearance of the differences between seasons in certain climate types – all these phenomena are in principle accessible to our direct perception and are only secondarily subject to the mechanisms of denial. In her study of the way the inhabitants of a small Norwegian town (with the fictitious name Bygdaby) understand the consequences of global warming, K. M. Norgaard states that we cannot claim that the public does not notice this category of events. Moreover, for these phenomena we also cannot claim that the public does not acknowledge the fact that the anthropogenic factor contributed to their emergence:

> Although lack of information and lack of concern are often described as reasons why people do not respond to global warming, my observations and conversations with residents of Bygdaby do not support the idea that they were ignoring climate change because they naively did not know why it was happening, or were simply unconcerned. Political and meteorological events were connected with global warming in the media and the minds of citizens of Bygdaby during the period of my fieldwork. (Norgaard 2006: 355)

In order not to acknowledge what they have already perceived, the inhabitants of the town need to invent ways of avoiding reality, various mechanisms of repression and denial, which form two realities, rather than acknowledge the actually existing one:

> Because members of the community did know about global warming but did not integrate this knowledge into everyday life, they experienced what Robert Lifton calls a state of double reality. In one reality was the collectively constructed sense of normal everyday life. In the other reality existed the troubling knowledge of increasing automobile use, polar ice caps melting, and the predictions for future weather scenarios. In the words of Kjersti, a teacher at the local agricultural school in her early thirties: “We live in one way and we think in another. We learn to think in parallel. It’s a skill, an art of living.” (Norgaard 2006: 357)

In these elementary words we can already detect one of the fundamental features of systemic demotivation for environmental action. We can again underline that
environmental demotivation should not be simply reduced to mere absence of motivation for environmental action. Put differently, environmental demotivation is not an isolated subjective problem of individuals or an empty space which could potentially be filled with positive content, but is as such embedded in a complex network composed of social and mental mechanisms.

In this issue the true question is not whether the insufficiency or the absence of environmental motivation follows from the fact that environmental goals are not the only goals pursued by individuals. Even if many individuals stated precisely such an argument in their defence, the problem is not simply that the intensity of environmental motivation depends on the number of other interests and thereby needs to be adjusted to the framework of the disposable capacity of motivation. The multiplicity of different goals and interests in itself does not prevent either motivation or action in favour of nature, something that several cases of contemporary ecological movements, in which environmental action without any difficulty accompanies other social, political, economic, and finally personal goals, clearly testify to.

On the contrary, true demotivation becomes manifest when a contradiction emerges between two different goals that we want to pursue. As the example above demonstrates, in such a situation the most acceptable strategy for individuals is to assume the split itself. Rather than being directed to environmental action, people direct their mental energy into sustaining this split. With regard to the information they possess, “normal life” can no longer be lived as it was till now, and a mental investment is needed in order to continue to sustain the status quo in a reality that has altered its “normality”: either direct denial of negative information or the adoption of the illusion that despite practical ignorance the persons in question do useful work already by thinking of environmental problems and are concerned about the environment, even if they are practically doing precisely what they should not. Of course, as far as these persons are convinced that they are too powerless, as individuals, to take action, they become demotivated subjects, who transform their lack of action into virtue: There is nothing I can do, therefore the best thing is for me to do nothing.

In the introduction to her last book This Changes Everything, Naomi Klein articulated a similar mental mechanism of forming the state of double reality in which the contradiction between the awareness of the problem and the persistence of the status quo is resolved through succession. Those who actually confront the problem of climate change and reject all types of direct denial or relativisation, spontaneously remain within the purely formal mechanism of resistance to action:

> [M]aybe we do look – really look – but then, inevitably, we seem to forget. Remember and then forget again. Climate change is like that; it’s hard to keep it in your head for very long. We engage in this odd form of on-again-off-again ecological amnesia for perfectly rational reasons. We deny because we fear that letting in the full reality of this crisis will change everything. And we are right. (Klein 2014: 4)

As we have already indicated, the full reality of the crisis concerns not only the directly visible negative effects in reality, but also another category of phenomena –
those which can be described in the strict sense as *phenomena with delayed realisation*, hence phenomena that have, paradoxically, already happened *in the future* and which, as such, demand an entirely different ethical stance, an apparently impossible project of *preventing the already happened futures*. We can add to this remark that the future in question matches the linguistic structure of the *future present*, so in order to point out the paradoxical status of these events, the correct phrasing would be that these future events “will have happened” under the condition that the present state continues and the processes of systemic adaptation take the course predicted by various scientific models. The probability of these events, and consequently their reality, increases with time – therefore their reality is conditioned by the mutual interaction of harmful human interventions in the natural environment and the course taken by the systemic adaptation of natural environments, which is constantly in a process of alteration.

**Extinction debt**

In biodiversity studies the *extinction debt* offers the best example and illustration of this type of phenomenon with delayed realisation. The notion was introduced in the now classic study *Habitat Destruction and the Extinction Debt* (Tilman et al. 1994: 65). Defined as “time-delayed but deterministic extinction,” it has since been used “to indicate that, following the creation of remnants by surrounding habitat destruction, some species on the remnant are doomed to eventual extinction, even if it occurs after multiple generations” (Malanson 2008: 277). The element of delayed, deferred realisation that is contained in the notion also explains its name: “Because such extinctions occur generations after fragmentation, they represent a debt – a future ecological cost of current habitat destruction” (Tilman et al: 65).

With the increased research on the influence of climate change on biodiversity, the notion of extinction debt increased in relevance. In this connection, it can be understood as an important additional corrective of the recurrent and entirely ungrounded optimism in the public perception of climate change. In research on the biospheric changes, the extinction debt practically doubles and reaffirms the essential feature of the phenomenon of global warming – namely the fact that we are dealing with a process where the effects of the present are deposited in the future and are precisely “time-delayed but deterministic”.

Scientific models predicting the extent of the potential extinction of animal species, plant species, or populations in a specific environment until a specific year (e.g. 2100) measure the percentage of the actual disappearance of populations (% grid cells lost). In the majority of cases, these percentages are negligible (according to the study of Miles et al. 2004, dedicated to the impact of climate change on tropical biodiversity in Amazonia, the majority of the populations are entirely preserved). An entirely different story is shown by the results that measure the percentage of “non-viable cells”:

For most species no significant changes were simulated in their realized distributions between 1990 and 2095. No species became extinct over more than one third of its estimated range, although many populations declined to a very low density, which would render them vulnerable to extinction through stochastic external events and genetic drift. On the other hand, there were
significant changes in the potential distribution of all species, leaving many populations as non-viable relics (...). Populations became nonviable for 28 of the 69 species in the SI scenario (...) and for 14 species in the RI scenario. (Miles et al. 2004: 559)

Similar conclusions are to be found in the study of Dullinger et al. (2012), which examined the climate-driven spatio-temporal dynamics of 150 high-mountain plant species in the Alps, and, by using a hybrid model, came to the conclusion that the opposing effects of delayed local population extinctions and lagged migration rates will result in less severe twenty-first-century range reductions of alpine plants than expected from static, niche-based model predictions. However, these apparently ‘optimistic’ forecasts include a large proportion of remnant populations under already unsuitable climatic conditions. The persistence of such remnant populations creates an extinction debt that will have to be paid later unless species manage to adapt phenotypically or genetically to the changing climate and to the likely associated alterations in their biotic environments. Our simulations indicate that such repayment will take several decades, on average, and might extend to several centuries for some species and/or populations (...). Furthermore, recent evidence of frequent postglacial migration lags among alpine plants strongly indicates that the complementary ‘immigration credit’ – represented by the accumulating number of suitable, but uncolonized sites – will not become fully realized for a long time into the future. (Dullinger et al. 2012: 621)

The study of phenomena with delayed realisation confronts us with two major problems. The first one concerns the still not entirely optimised scientific methodology due to which the predictions of the future are to a great extent marked by uncertainty. Should we entirely reject these predictions due to possible “type I errors”, accepting a thesis regarding which one cannot say that it reaches the threshold of 95% statistical certainty? Should we, in the name of scientific scepticism, wait for statistically more reliable models? But the actual question to be raised is whether we can still afford to wait in the timelessness of pure science, while every new prediction of extinction risk or global warming shows a more pessimistic picture. “Uncertainty is often misused to argue for delaying mitigation until we know more,” stated Knutti and Rogelj,

but in fact the opposite is true. To prevent ‘dangerous interference with the climate system’, the stated goal of UNFCCC, with any likelihood greater than even odds means that a larger uncertainty implies stronger emission reduction targets to be on the safe side. (...) The argument for ‘wait and see’ strategies is to wait until we know enough to optimally allocate money. That works in a situation where corrective action can be implemented quickly and has an immediate benefit, but neither is the case here. When we know more about the magnitude of climate impacts, it will likely be too late to prevent them. Uncertainty is often presented as an argument to defer action, but here ‘wait and see’ is essentially a (small) hope that we will be lucky, and the risk of being
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unlucky is put on the shoulders of other generations. (...) Uncertainty is not our friend and there is simply too much at stake for us to resign and accept failure. (Knutti & Rogelj 2015)

In short, uncertainty cannot be the argument for inaction – especially when the uncertainty does not concern the question of whether x will happen, but how soon and in what way it will happen. The fact that the precision demanded by the radical sceptics is in principle entirely unreachable in predicting the future calls for a decision. Or stated differently, uncertainty of this kind calls for a decision because in principle it cannot be abolished and pushes us into a vicious circle if we want to abolish it entirely – meanwhile, in the worst-case scenario, reality happens even before we succeed in predicting it.

**Signs from the future**

This is also the critical point that the French intellectual Jean-Pierre Dupuy drew from his analyses of environmental catastrophes. The problem of catastrophic future scenarios lies in the fact that they are both impossible – because they did not happen – and inevitable – because the present environmental changes that already contain a catastrophic dimension can be interpreted as some sort of symptoms or signs from the future (or signs of possible future developments), thereby communicating fragments of reality, which will have been, i.e. which is in the process of constitution, becoming reality, but for now remains a future reality, which can still be modified. Put differently, the impossible character of this future reality lies in the fact that it has its “ontological roots” in the present, but is not grounded in any underlying stable and rigorously determinate causal order that would lead to its future realisation with 100% certainty and necessity. Yet even when we dismiss the argument of sceptics and uncertainty ceases to function as an internal obstruction and is instead transformed into the driving force of motivation, we confront another problem – the thesis of the irreversibility of processes.

Before moving on to the problematic of irreversibility, another remark regarding the paradoxical necessity of future catastrophes is in order. This necessity is quite evidently rooted in radical contingency, which cannot be thoroughly eliminated from reality: contingency is in fact constitutive of reality, making it radically disclosed and in constant movement. Dupuy stresses that human action is thereby confronted with the following dilemma: if we draw appropriate decisions and take preventive measures and actions, we will avoid the catastrophic scenario for the price of making all these measures and actions seem exaggerated in retrospect – but only because the process of their implementation will alter the very development of the natural system toward a catastrophic scenario. If, however, these decisions and measures are not taken, the catastrophe will only appear inevitable at the moment of its full realisation. From everything that has been said till now, another critical remark arises. What needs to be modified significantly is the way we perceive the very idea of catastrophe. Namely, a vast majority of people understand under catastrophe a singular traumatic event of a global scale, a sudden breakdown of the system or destabilisation of an established and self-regulating order. We could call this an **occurential catastrophe** or **occurential event**. However, scientific insight into climate change and into the damaging modifications of natural systems show us that we should instead be
speaking of *gradual catastrophe* or *gradual events*. Consequently, this means that catastrophe, too, is not a simple situation but a movement stretching over larger periods of time. In addition to this, the gradual or processual character of catastrophes—which the environmental sceptics in principle systematically ignore—constitutes the invisibility of catastrophes: we can be in a catastrophic movement without being fully aware of it: only the already mentioned symptoms or signs from the future (a future which will have happened under the presupposition that no preventive measures are implemented) testify to its complex reality. And when we do recognise the catastrophic character of a dynamic natural process, the latter has already reached its climax and now appears to us as something that has always-already been inevitable and irreversible.

**Intervening into the irreversible**

The question that needs to be asked at this point can be formulated as follows: Should we—because of the conclusions that many processes are irreversible, that in many cases, as scientific models demonstrate, their trend is fixed, and in other cases, as science has repeatedly warned us, they have already reached the *point of no return*—simply lose hope and abolish all action? Differently put, is it legitimate to transform the alarming conclusions regarding the irreversibility of the problem into a rational argument of *demotivation*? Or should we, on the contrary, simply ignore the conclusions regarding the irreversibility and pretend that the problem does not exist? Neither nor. Both reactions, which at first glance seem opposite, remain within the same mechanism, the mechanism of systemic demotivation, and in this respect they actually represent two sides of the same problem. Although it is not certain that humanity has infinite time for action at its disposal and although we cannot exclude the possibility that at one point we could find ourselves in a state of absolute loss of control, there is still time today for an active position—which, however, cannot be the active position of ignoring the problem.

The only remaining way is that we accept the scientific conclusions regarding the irreversibility of processes—which means that we accept them in all their complexity and in the register of science. “Liberate the science from the economics, finance and astrology, stand by the conclusions however uncomfortable,” as Kevin Anderson and Alice Bows have formulated. However, this fundamental maxim, which should clearly be followed today, is merely the first step, which is insufficient as long as it remains alone. The transfer of all action and thinking onto science leaves aside the complexity of political, economic, and social systems in the broader sense.

In an increasingly interconnected world where the whole—the system—is often far removed from the sum of academic judgements. Not unsubstantiated opinions and prejudice, but applying a mix of academic rigour, courage and humility to bring new and interdisciplinary insights into the emerging era. Leave the market economists to fight among themselves over the right price of carbon—let them relive their

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*9 The suggested differentiation between occurential and gradual events and catastrophes draws from Catherine Malabou's distinction between occurential contingency and gradual contingency. See Malabou 2014.*
While we said that the problem of irreversibility should be understood in all its complexity, we cannot ignore that for the majority of ecological problems the irreversibility of processes does not concern the functioning of the autonomous natural system but the interaction of the natural system and the human system. From this perspective, it is therefore essential that the irreversibility is absolute only under the condition that we continue or slightly modify “business as usual”. In the case of global warming, the time for minimal changes is irreversibly gone. “A carbon tax here, a little emissions trading there and the odd voluntary agreement thrown in for good measure will not be sufficient.” (Anderson & Bows 2012: 639) Nevertheless, as Matthews and Solomon (2013) have insisted, this does not mean that we have lost every possibility to intervene. Emissions from the past co-determine future warming, but they do not determine it entirely. Directly put: we have to be aware that the natural system in itself, no matter how high the concentration of CO₂ in the atmosphere might be, did not transform into an immense CO₂ factory. Additional emissions are our responsibility and our decision.

The notion that there will be additional future warming or 'warming the pipeline' if the atmospheric concentrations of carbon dioxide were to remain fixed at current levels has been misinterpreted to mean that the rate of increase in Earth's global temperature is inevitable, regardless of how much or how quickly emissions decrease. (...) But irreversibility of past changes does not mean that further warming is unavoidable. (...) although the CO₂-induced warming already present on our planet – the cumulative result of past emissions – is irreversible, any further increase in CO₂-induced warming is entirely the result of current CO₂ emissions. (Matthews & Solomon 2013: 438)

When it comes to global warming, the core of the false interpretation of irreversibility is found in the fact that the inertia of the past, which determines the future, is entirely transposed onto the climate system. We have established that we can initiate systemic changes, but in the second step we relapse into the old nature/culture dichotomy, according to which nature entirely reassumes its autonomy. We accept that we have produced consequences, but then we translate these interventions into a one time past intervention, a past sin, for which we can repent, but not more than this.

The basic message of climatologists is entirely different. We intervene into natural processes systematically and gradually, we intervene every day and even every second – and precisely this continuous systematic intervention is what in combination with the reaction of the environment works absolutely irreversibly. The unstoppable character of the process is not in the domain of the natural system – or stated differently, the true inertia, which generates the appearance of being unstoppable, is in the first place the inertia of the human system.
The climate system physics implies that further increases in warming could in principle be stopped immediately, but human systems have longer time scales. Carbon-emitting infrastructure is designed to benefit humankind for many decades; each year’s additional infrastructure implies added stock intended to last and emit CO₂ for many decades. It is this dependence on CO₂-emitting technology that generates a commitment to current and near-future emissions. Cleaner alternatives are being developed and carbon capture and storage technologies are being tested, but technological development and diffusion are subject to substantial inertia. Societal inertia, rather than the inertia of the climate system, is thus the critical challenge if we wish to begin to decrease the rate of CO₂-induced global warming in the near future. (Matthews & Solomon 2013: 439)

Of course, the fact that even strong engagement in changing the system and the introduction of new technologies and ways of life will not bring about a sudden and miraculous healing of the environment can function as a support for demotivation: no matter how much effort individuals and societies make, there will always be others who will live the old way, use old technologies, and continue to pollute the environment. But again, just as in the case of the sceptical interpretation of the uncertainty of model predictions, we have to envisage the same fact from a different perspective. Acting in favour of the environment is urgent precisely because of the moment of inertia.

**Anticipated certainty**

In order to address the question of motivation on its most fundamental level, we need to move from the *multiplicity of motivation* to the *formal structure of action*. The analysis of the BIOMOT interviews namely confronts us with the problem that was identified as the “contextuality” or “particularity” of motivation. However, insisting solely on the level of particular cases does not answer the most crucial question: What is the structure of motivated action, and how can this action ground a more general strategy to counteract the systemic demotivation? In the theoretical framework, this problem demands a theory of judgment in which a specific type of articulation between the particularity of actions and their inherent universal validity is at work. The classic German philosopher Immanuel Kant has elaborated precisely such a conceptual model of action and the material provided by the BIOMOT interviews has surprisingly shown that this model can indeed be observed in concrete cases of environmental action.

One of the basic insights provided by the analysis of the BIOMOT interviews is that the actions of the interviewees, which seem to be contextually determined throughout, manifest the *structure of anticipated certainty*. In the usual, instrumental type of action, the latter is structured as means X for achieving the desired goal Y, whereby the choice of means logically results from the rational analysis of the given situation: this analysis leads to certainty that in order to achieve Y we need to do X. In this type of univocal and consciously intentional action the reality of the situation precedes the action and its certainty. We can say that *this type of action is grounded on an already pre-established cognition*. 

![Image](image-url)
However, in many cases the situation is entirely different and the action creates the conditions and the reality, which retroactively legitimise and ground the actions undertaken (for this reason we speak of action as anticipated certainty). Action here produces the features of the situation for reason of which a person acts at all. We can call this the **performative model of action**. The same logic applies for the motivational structure of action. Action, so to speak, precedes its own motivation and only retrospectively produces its cognitive rationalisation. Motivation as the driving force and guidance of action results only from the process in which action produces consequences in reality and through them retroactively articulates and verifies the reasons and motivates itself.

Knowledge that grounds all our actions can be described as a system of norms, rules, and values. However, there is no rule determining how we should use our knowledge in a good way in our theoretical or practical actions. This is the concern of our power of judgment. In general, Kant understands the power of judgment as a faculty that enables us to subsume a particularity (a case of action, a motive, a driving force) under universality (a law, principle, or rule). Kant, however, distinguishes two types of the power of judgment. In the first case, the determining power of judgment, the universal is already given. This type does not interest us, since it does not cover the actions driven by anticipated certainty and falls under the actions grounded in cognition.

The second kind, the **reflecting** power of judgment, is at work when only the particular is given, that is, when we encounter something that unveils a gap in our knowledge and a lack of a universal concept, law, rule, etc. The task of the reflecting power of judgment is to **invent**, in the process of judging, a universal concept for something that due to its singularity does not fit in any given cognitive box. It must invent a universal rule for that which defies any universal rule and exists as the absence of a rule for the particular in its irreducible particularity, in its singularity.

We are dealing with a singularity, for which we presuppose that it nevertheless possesses some universal validity and value. This universality, however, needs to be constructed. Let us add that the notion of biodiversity is a concrete case of such universality that it needs to be invented, grounded, and justified based on concrete and contextual cases. But to repeat again, this invention is the work of the reflecting power of judgment, which needs to be understood both as a way of thinking and a way of action. Because thinking and action here come together, we can recognise in this structure a specific break from organised demotivation. The importance of this model of action also consists in the fact that it overcomes the multiplicity of motivations by highlighting the structure that drives concrete cases of environmental engagement.

Every action for nature is always-already embedded in a broader socio-political context, whether the actors are aware of it or not, a context in which their actions display engagements to overcome and counteract the mechanisms of demotivations that regulate and help reproduce the established social condition.
Policy recommendations

As we have shown in previous sections, the negative environmental processes are complex but not impossible to understand. They are severe and often irreversible but not inevitable. Humanity has essentially intervened in the stability of the natural system and initiated a dynamic that we cannot entirely control, yet this does not imply that the future is entirely independent of our further actions.

The environmental threats are inevitable and can reach unprecedented dimensions that we cannot think in the frames of our still rather stable world – under the condition that we seek the solutions in only minimal adjustments and improvements that will already be surpassed and out-dated before we actually introduce them.

The accelerated dynamic of environmental change does not take into account the dominating economic arguments, where even the necessary state investments in the introduction of green technologies are adapted to the iron laws of fiscal consolidation. Neither does the accelerated dynamic of environmental change take into account the apparently rational arguments of the global political reality, which demands infinite time for adjustments and infinite space for compromise between states. Finally, the accelerated dynamic of environmental change that we caused ourselves cannot wait for the gradual growth of environmental consciousness in consumers, who are supposed to be the ones making decisions within the market mechanisms whether they will continue to buy products that are harmful to the environment.

Of course, in principle all improvements are welcome, but if they cannot catch up with the dynamic of processes – the key feature of which is that their visible effects are delayed, but in another sense already present – they can become part of the problem due to their insufficiency. As far as they fabricate the false impression of doing their best, these improvements and their advocates do not recognise that the frames of “doing one’s best” are not absolute but systemically conditioned, they close the space for inventing new strategies of confronting and handling the problem.

To phrase it with an analogy, the accelerated dynamic of environmental changes that we follow in the framework of possibilities that we construct ourselves, places humankind in the position of Achilles, who can never catch up with the turtle and can only approach it asymptotically. But if those animal and plant species to which biologists attribute the extinction debt, i.e. the status of time-delayed but deterministic extinction, can only be regarded through the hope that the dynamic of evolution will save them (which can be unexpectedly rapid in species with a shorter life cycle – see Pearson 2011), whereby they cannot influence the condition of their habitat, humans still have other instruments at their disposal: namely thinking, which enables them to reflect on the situation, the capacity to make decisions that avoid determinism, and rational action that is not merely subject to a temporary egoistic struggle for survival, but proceeds by thinking of the future and out of the box. This is what is crucial here: humans – unlike other animal species – know, or at least should know, that their own future is inseparable from the future of other elements of the system. Man is an Achilles who can no longer catch up with the turtle of environmental processes – but he can overtake them with a model of action that is not instrumental, but still remains rationally grounded: namely grounded in scientific hypotheses that rest on the current knowledge of the intertwining of human and natural systems.
The apparently “realistic” frame of action, which is understood as action according to one’s best capacities and which often silently admits that this action cannot be sufficient, is in our opinion the central systemic reason for the demotivation of great parts of the population as well as those individuals and collectives that are aware of the environmental problematic on some abstract level.

As we already emphasised in the introduction, systemic demotivation stands for the internal obstruction of the entire mechanism that links reasons, motivation, and action and most often amounts to the compromise position of resigned motivation. Differently put, indifference not only signals the direct absence of motivation, but is also a subjective position that results from a systemic problem: hence indifference is the subjective expression of systemic demotivation. As such expression, and this is crucial, this indifferent position is not at all neutral but strictly inert. Merely stating the reasons for action can influence it only indirectly and never directly.

As the analyses of the empirical research of the BIOMOT project have shown, the inertia of demotivation can be locally broken in various ways. The breakthrough can occur as an environmental epiphany or as gradual collective remotivation, but this can be reached also on grounds of reasons that have no direct environmental content. Still, for a global and general break with systemic demotivation it is necessary that local breakthroughs find their equivalent in the broader systemic sphere – on the level of socio-political institutions that create the framework for political and environmental action.

On the systemic level, the model of action that follows anticipated certainty and which was outlined toward the end of the previous section, can be translated into an ethical maxim according to which all key institutional decisions and strategies need to be directed so as to contribute to a more efficient confrontation with environmental problems.

The systemic ecological crisis is undoubtedly already an event in the present that our fidelity needs to follow, namely fidelity to the fact that it has been observed and recognised as an event that restructures our entire world, an event for which it holds, as Naomi Klein claims, that it changes everything. However, because the totality of its effects is not yet actualised in the present, only action in anticipated fidelity can provide an ethical maxim. If the event of ecological crisis can be reduced to only its present signs, it can be relativised and transformed into a partial problem that can be solved with particular goals and compromise measures. But this is not its true nature. We have to be faithful to the future, and we can do so only by recognising the potentially catastrophic effects of the ecological crisis and taking responsibility for their abolition or reversal. Clearly, this fidelity to the catastrophic event is negative – in the sense that it strives to counteract the event rather than to perpetuate it. This simply means that we have to take the negative scenarios seriously and take all the measures necessary for their redirection into better outcomes for all. Only under the condition that we open the space to a register of thinking that is capable of seeing its not yet actualised effects – hence to science, which conducts its research under the guideline sine ira et studio – do we stand a chance of preventing the event of ecological cataclysm.

This ethical maxim is being followed also in the concrete policy recommendations below.
Strengthen the role and the status of basic science in policy making.

Although it would be unjust to claim that policymakers do not have a dialogue with science and remain entirely deaf to scientific conclusions in constructing policies, several indices point to a problematic understanding of this relation. Even in the European Union, for instance, the investment in science ranks among the top priorities, but this general priority status is usually accompanied by an additional accent: the key role is attributed exclusively to science that is directly applicable, while basic science, hence science that is grounded in itself, has to increasingly search for its place and resources within this schema, in which it appears as a nonbinding side product. Due to this principally instrumentalist nature of scientific policies, the scientific conclusions are divided into two groups.

The first group consists of directly applicable results that can be transferred into technology and linked with economic strategies and interests. In this way, they are integrated into the broader functioning of the system, while their successful integration retrospectively provides an argument for further investment in such scientific products. The second group consists of those scientific findings that have no direct applicable dimension. As far as these results cannot be integrated into the functioning of the market, a general systemic response is lacking as well, and these results thereby remain closed in scientific circles even in those cases when the research addresses the broader systemic problems and offers directives for their solution.

In this scheme, it is therefore not surprising that even the results of environmental research that diagnoses a serious destabilisation of the natural system due to human interventions is often ignored or only selectively accepted. As climatologists warn (Anderson & Bows 2012, see above), this incomplete or distorted acceptance of scientific findings is not innocent, because it simultaneously lays the foundation for strategies that are not only incomplete but de facto wrong and counterproductive.

To underline, at this point environmental science demonstrates a general problem concerning the reception of the basic sciences. If science is accepted as a partner in policy making, then it cannot be subjected to other priorities in this process. In this sense, it should be noted when it is not entirely accepted. It is true that the existing social system cannot be immediately adapted to the binding scientific findings – but it has to accept them entirely on all levels, where this is generally possible, in the first place in forming actually binding strategies. The worst fate that can hit science is the creation of the appearance of its acceptance, while disavowing the fact that it has been accepted in a distorted form. And as environmental science shows, this can have damaging consequences for the entire system.

Revise the already existing strategic documents with the help of science.

In principle, strategic documents rank the preservation of the environment among the declared priorities, yet this ranking often contradicts the directives in other fields, notably as regards the economy. This state, which is to a great extent due to the problematic status of environmental science, precisely because of its warnings, demands the most rapid change possible, as every delay intensifies the actually
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existing problems. For this reason, a revision of existing documents both on the level of the European Union and on the level of its Member States is necessary. This revision should concern the points where these documents lag behind contemporary prognoses regarding the dynamic of environmental processes. In the process of revision it is essential to include independent environmental experts, who need to be transparent, and the object of revision should not be restricted only to the immediate environmental sphere, but should also encompass all the fields for which science assesses that their deregulation contains negative environmental effects. The results of this revision should clearly mark the fields where consensus has not been reached. Only such a transparent presentation of unsolved problems can contribute to the establishment of a different paradigm in which subsequent steps will enable more adequate solutions to be reached.

*Encourage the presence of science and a culture of scientific thinking in the public space.*

In addition to changing the paradigm according to which ecological problems can be solved institutionally, essential progress can be reached only if the scientific results and the culture of scientific thinking find their place in the public space. For this purpose, we can also recommend financial support for media programmes that promote science and existing examples of good practice as regards environmental action. Despite the fact that today every individual has access to all the information, one of the key factors that can contribute to the break with demotivation remains the re-legitimation of scientific thinking in the public discourse. We are convinced that the latter can produce a double effect. On the one hand, it can strengthen the motivation of already motivated individuals and collective initiatives by creating a feeling of inclusion and being heard, and on the other hand, it can contribute to an increase in information among the people who in the democratic process appear to be the bearers of decision-making concerning the key future challenges.

*Introduce the findings of contemporary (environmental) science on all levels of the education system.*

An additional possibility for strengthening environmental consciousness is undoubtedly provided by the introduction of contemporary scientific findings on all levels of education. As the interviews carried out in the BIOMOT project have shown, the entire school system is a surprisingly weak factor in the formation of environmental consciousness. A decisive “no, certainly not” (slo_13), might be the most typical answer to the explicit question of whether the education system has had an impact on such. Even if we cannot avoid the fact that these answers relate to a time when environmental content was in general less present, the fact that many of the interviewees cited individual teachers who encouraged them to undertake environmental action through science (see slo_20) among the strong factors in their personal formation of environmental consciousness, encourages us to conclude that an engaged science can contain strong motivational potential. The task of experts from
this field is to determine the manners in which effects – which are most often left to the initiatives of motivated individuals – can be achieved on the systemic level.
References


