A new theory of motivation to act for nature

An interdisciplinary perspective

BIOMOT reporting output

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Content

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PART I

An interdisciplinary perspective

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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. In Europe the best-known example is the Quest for the Holy Grail, made famous by the Arthur Legend. In that story the Holy Gail stands for a very precious yet mysterious good, whereas the Quest stands for the ultimate devotion to find that good.

What the Grail is or can offer is ambiguous. But Arthur and his knights know that there is no higher purpose in life than the search for the Grail, and that seeking It is as important as finding It. They also know the Grail will only reveal Its secrecy after it is found, and that It only can be found by those who have the right motivation to seek it, and show the right behaviour during their quest. Only a knight with a noble heart and noble behaviour can find the Grail. 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 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 non-Christian quests as well the 'grail' as the overarching narrative differ. In the Gilgamesh Epos, one of the oldest quest-story we know, more than 4000 years old, the 'grail' is a herb that bestows immortality. The overarching story is the query what humanity implies and civilisation means. In the story the City of Ur represents man and civilisation, while everything outside its big city walls represents wilderness and the non-human.

A third aspect of a quest is that it is embedded in an given set of condition, i.e. social norms, habits, routines, which give direction to the quest and ground the narrative. In the case of Holy Grail, only a certain type of noble men, i.e. virgin knights who are pure of heart, are allowed to engage in the Quest, since they will be the only ones that can find It. These knights have to stick to certain norms and behave in prescribed ways, i.e. knightly.

We have used the example of the *quest for meaning* as a motto, because it clearly articulates the central finding of BIOMOT. We found that people motivated to act for a higher good, in this case nature, share that same urge for meaning oriented action, meaningful for themselves and for others and the environment they live in, and the fact that this urge is rooted in and produced by a combination of supportive narratives, experiences, examples and shared rules or norms. Change these conditions and the nature and orientation of the meaning, urge and as a result the motivation will change. Destroy these conditions and motivation (re) produced by them will fade away. Some conditions are better than other to motivate people to act for a common good, or to formulate it otherwise, act non-selfish, in this case: act for nature. If social settings or circumstances, for instance, offers no room for meaningful nature related norms, narratives, experiences and practices, motivations to act for nature will weaken or wither.

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 reasoning or stressing benefit is rather thin when it comes to actually prompt 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.

Based on literature research and discussion (see also BIOMOT D2), we decided that the best method to understand the motivations 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; one in which WP4 took the lead.

We also decided to study first and above all on the motivations of individuals, especially highly motivated individuals. This choice 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 the notion of biodiversity is limited, because of its rather abstract, scientific meaning. It addresses a quite specific topic, framed in rather scientific term. An appeal to biodiversity only motivates a select group of people, most of them highly educated and professionals, active in the field of biodiversity science or protection. Nature is a much broader notion with a strong motivational appeal, reaching from science, via economics and culture to aesthetics and ethics. The group of people motivated to act for nature will include most if not all people willing to act for biodiversity, whereas the group willing to act for biodiversity will not encompass all people motivated to act for nature.

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 the idea that people are motivated by values or interests, and that they act on the basis of a more or less consciousness comparative appraisal or

these interests or values. This offered a good and pragmatic argument to take this perspective as a starting point. We, however, immediately enriched this outlook with the help of a more philosophical line of approach, which makes a distinction between the view that people are motivated to act because of (rationally grounded) reasons and the reverse view that people first and above all are motivated to act because of sentiments, on which reasoning only will have a slight impact or no impact at all (see for more information about this also **Part II en III**)

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 – which is not the same as an urge for finding the Truth – a quest labelled as *Wahrheitsverstehen* (see Gadamer, 1960). People act in a certain way because that 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 a 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[1]. The attentive reader will have seen that this view is strongly linked to the above mentioned idea that sentiments, and only sentiments motivate people, and that sentiments as such cannot be changed by reason, but in the best case only organised. The market is a mechanism to serve sentiments – in that domain called preferences- without trying to transform them.

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 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 evens block the articulation of alternatives.

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

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[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 our ecological behaviour. Current marginal changes in an ecosystem can be tracked by this type of valuation, but future erratic behaviour not. Moreover, 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 even economic 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, has a very strong tendency to crowd out or monetize all other values. Transferring ecological interactions into functions, and translating these functions into services already changes the nature of these interactions and overrules relationships and meanings that are not expressible in functions or services (Spangenberg, 2010). Putting these ecological service's on the market, again fundamentally changes the nature of these services, and overrules and push aside values and meanings that are not expressed or expressible in monetary terms (Sandel, 2010). 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 ecology in ecosystem functions or services, and those 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 (Knights, 2013).

The problem with values

But 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 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 is itself also based on a valuation, on values or a value.

Rationality, procedures, 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 cost-benefit 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' (Anderson1993: 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 (hidden) 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 to be omnipresent. Besides, everything said just before, already assumes that 'being rational' is already accepted as a standard, and in other words is automatically good.

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 shared practices and a shared 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 shared 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 specific, familiar forest more than forests in general. Besides, the distinction between de re and de dicto can easily 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**). Many of our BIOMOT interviewees, motivated to act for nature, are indeed motivated by de re motivations, even in case 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 than not 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 did however, 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 limit.

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 should lead the Catholic Church fits the frame of a contemporary Roman Catholic.

However, the costs of doing this are high, even higher than described above. The obstacle is as clear as it is insurmountable, at least within the logic that has erected this barrier. Everyone and everything with no currency, little currency, or less currency has no or less access to a 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 to the market will be served the best. Installing a market and letting it do 'its job' is in other words not a neutral act. It is a clear political and moral choice: a market is not morally neural or beyond moral categorisation. 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 a 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 and future generations with no access to this market and in fact every market what so-ever. (Now living) humans with access to the market 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 firmly embedding 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 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 but one supported it, and they were also remarkably insensitive for the assumptions and arguments of the other discourses. However, at the same time, according to our research, none of the interviewed non-economists supported the economic valuation discourse, none! (Admiraal, et al., 2015).

Reason, motivation and deliberation

Discourses are noteworthy difficult to reconcile, but this even truer for some discourses, especially when they are dominant. Above we already gave some reasons why economic and more in special monetary valuation and reasoning are so powerful and attractive, and why it is so difficult to rebut the reasoning underlying it. In **Part III** we expound in depth why this is the case, by investigating the philosophical roots of this thinking, and of possible alternatives that promise to offer more space for deliberation.

One of the main problems is for instance that market models of public decision making have been sometimes been grounded on a particular account of motivation according to which individuals as motivated by preferences that are not open for rational individual deliberation and guided by beliefs that are unresponsive to reason and motivationally inert. Market models of governance are defended on the grounds that they most efficiently maximise the satisfaction of these preferences. However, deliberative models of public decision making reject this market view of public choice. Public decisions should be understood not as surrogate markets that aim at the satisfaction of given preferences but rather as a forum through preferences are transformed through reasoned dialogue between citizens. This deliberative model normally starts from a rejection of the model of motivation that grounds market based approaches to governance and in particular the claim that motivational states are not answerable to rational deliberation.

Crowding out

We already discussed in BIOMOT D2 the social-psychological values-model of Schwartz and others. But what we did not yet discuss in depth is their 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 of 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 (hedonism) or become socially and economically successful (achievement and power).

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 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 the we have not quite created 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 off 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. I will use here the slightly reworked version, made by Tim Crompton (2010), who complies several of the 'Grouzet-wheels', into one figure.
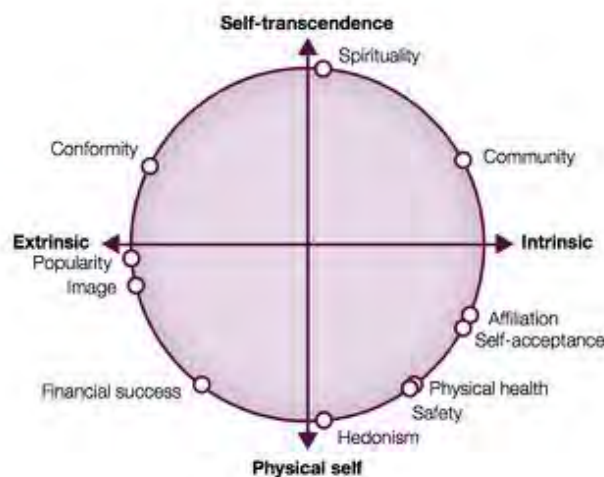
Some similarities between the 'wheels' of Schwartz and Grouzet are striking, although we also seem some remarkable differences, such as the places of hedonism and self-acceptance, and the place of conformity[2]. However, in overall both models show the

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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 on 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

same tendency and – what is even more important – the same pairs of clusters and opposites, certainly when it come 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 only start to do things that transcend her/his self-interest if this 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. And that is precisely what is happening nowadays, almost all over the world (see also Bauman, 2000 and Schatzki, 1996).

The philosopher Melissa Lane in her book Eco-Republic (2012) also draws this conclusion. In that book she discusses the best way to reorganize the commitment of individuals, and 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) support as well intrinsic[3] or extrinsic strivings, are adjacent, the cluster of financial values and personal achievement and pleasure still remain 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 stimulates precisely the wrong values to motivate people into action for nature, if only by motivating exactly those values that 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

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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)

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, experts-groups or the market. We in fact live in a society that one the 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

She 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 his 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. That 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 those 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 are 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 in the goal of the undertaking, and the undertaking itself, i.e. in the quest.
According to Lane, the cluster of qualities needed to promote the 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 rights choices and practices; and prudence or wisdom, the capacity to see what will promotes 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 ways 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' (l228a1, 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). (See also Part III).

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 only occur 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 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 bring about the right motivations to get people in action for nature or biodiversity, 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 this all 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, but that 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. The initiator was also asked to do participate in a qualitative life story interview, and a motivational car 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 in WP2 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 in "initiatives whose survival strongly depends on the exploitation of resources", and that 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, processes that support the initiatives always stand central; it is all about interdependence (Popa, et al., 2014). 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.

What we did also a first test, by analysing our WP3-online-survey results, whether specific types of motivations clusters reinforce each other and/or crowd out or weaken specific other (clusters of motivations). We indeed found, via a factors analysis that certain types of motivations link up.

Values. Factor Analyses and Reliability Analyses

Construct	Dimensions	Variable	Factor loading	Cronbach's Alpha
Values	Positive self and relations with others and nature	Val_11 UNITY WITH NATURE	.849	.92
		Val_18 PROTECTING ENVIRONMENT	.833	
		Val_22 HONEST	.824	
		Val_15 SOCIAL JUSTICE	.791	
		Val_24 HELPFUL	.775	
		Val_10 FAMILY SECURITY	.731	
		Val_14 WORLD OF BEAUTY	.713	
		Val_19 HONORING PARENT'S ELDERS	.680	
		Val_8 CREATIVITY	.663	
		Val_3 FREEDOM	.648	
		Val_20 CAPABLE	.612	
		Val_9 RESPECT FOR TRADITION	.541	
		Val_4 SOCIAL ORDER	.536	
		Val_28 FORGIVING	.500	
Values	Power achievement and rigidity	Val_13 AUTHORITY	.812	.75
		Val_1 SOCIAL POWER	.743	
		Val_16 AMBITIOUS	.601	
		Val_6 WEALTH	.568	
		Val_29 SUCCESSFUL	.499	
		Val_23 OBEDIENT	.456	
Values	Pleasure excitement learning	Val_5 EXCITING LIFE	.608	.72
		Val_2 PLEASURE	.601	
		Val_25 ENJOYING LIFE	.493	
		Val_26 DEVOUT	-.490	
		Val_12 VARIED LIFE	.472	
		Val_27 CURIOUS	.461	

We also see that strong 'adherence' to one cluster goes together with lower attachment to central values in other clusters. However, we still have to investigate deeper whether strong adherence to one cluster of values leads to processes of crowding out of central values of the other clusters.

Nonetheless, a conclusion to be drawn thus far is that internal and external motivations can link up and become mutually reinforcing, but that hedonistic, ambition and wealth oriented, or duty or authority based values or sentiments are not the best 'tools' to generate or internalise motivated action for biodiversity or nature.

The survey in fact confirms findings coming out of the qualitative interviews and the so-called card game, also done in WP3, and the social-psychological literature. The combination of autonomy and competence, buoyed by a feeling of belonging, is the strongest possible motivational setting to move an individual into action, not money, not pleasure, nor even duty, as such.

The value of life stories
The aim of WP 3 was to dig into the personal motivations of individuals, who demonstrably had undertaken action for biodiversity/nature) or for other societal

issues. That was done by means of a survey, a specially designed 'card game', and above all in depth life story interviews. About thirty in depth life story interviews were undertaken in each of the seven involved EU-countries, fifteen with highly motivated nature-actors, and fifteen with otherwise motivated actors, i.e. not-nature-oriented actors. Five of the representatives of the first group in each country were also the persons who initiated one of the WP2 cases mentioned-above. In total we did and analysed 207 interviews in seven countries.

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 a 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 interviewee, and find out when and how they were formed, in what period (of their live), who or what influenced them, and what types of main experiences they had. The assumption was that the habitus –the ideas, motivations and routines- of (most) people is 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 (Piaget, 1951).

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 for positive experiences or work out positively. This looked for peak experiences, especially so-called environmental epiphanies, which could have funnelled the interviewees into a certain direction, during one or more of these periods (Maslow, 1964).

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 societal issue, another so-called 'main thing'. The card game contained twenty cards, with on each card on important motivation of people to act. The choice and formulation of these twenty motivations was based on the literature and our own research and discussion. 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, raking from most important to least important. Those motivations that played no role at all, according to the respondents, could be discarded.

Cards: twenty motives

- Anger
- Insecurity
- Desire to end conflict
- Duty
- Religion/spirituality
- Beauty
- Curiosity/learning
- Value in itself
- Connectedness
- Attachment to place

- My children/family
- Future generations
- Recognition
- Control
- Living a worthwhile life
- Destiny/calling
- Social benefit
- Personal benefit
- Pleasure in doing what you are good at
- Pleasure of doing things with others

Below you will find, jus as an example, a figure out of our latest publication (forthcoming), about the main result of the analyses of the card game. You can see that there exist significant differences between the rankings by biodiversity activists and social activists for their main interest (table 2a), although most motivations are ranked similarly high or low between the two groups. More precisely, as shown in figure 1c, *value in itself, beauty* and *religion or spirituality* received significantly lower ratings by the social activists for their main interest than the biodiversity activists. A preliminary conclusion from these data is that for biodiversity activists, the motivations *beauty*, *value in itself* and *religion or spirituality* are more important for their biodiversity-related work than for people who haven't made biodiversity their main interest. (Admiraal, et al., forthcoming).

a. Biodiversity activists motivations

b. Social activists motivations for main interest

c. T values biodiversity activists vs social activists (main interest)
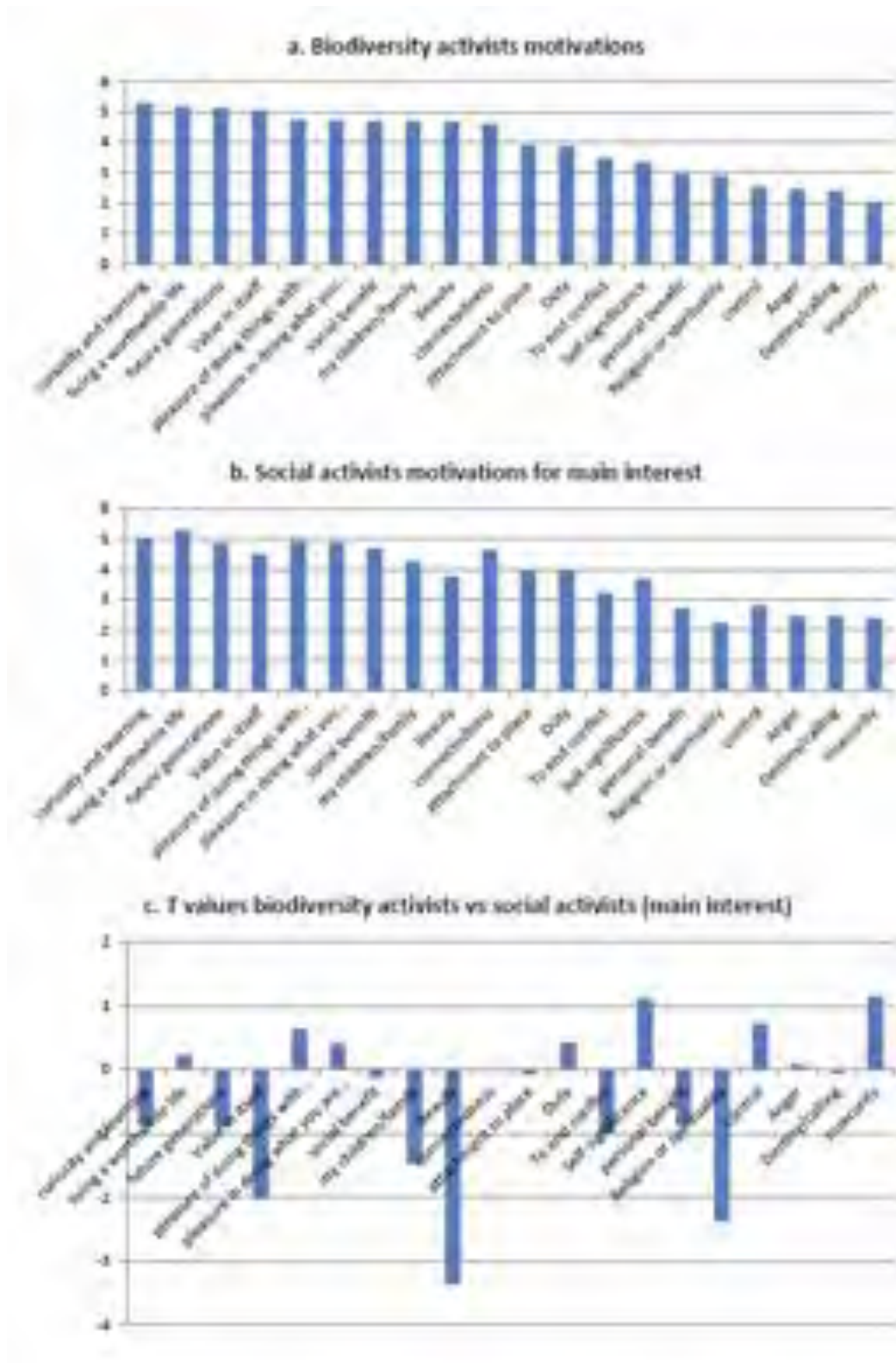
Formation and childhood

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 also is confirmed by the analyses of more indirect statements. These results are already telling, but not that surprising, since other research has already conformed 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 their childhood (see also Clayton, 2003).

Our interviews showed, however, that sheer contact is not enough. It became very clear that the character of the contact and the nature count, even more than frequency of the contact. Some types of experience are more important than others, and some natural settings are better suited for these experiences. Finding this was the case, 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 that, for that reason, also the natural setting of that quest. We will start with the last aspect.

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 live. 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/places to realise this are brownfields, wastelands at the edge of cities or on deserted industrial sites. They figure prominently in our interviews met people who grew up in cities. Other places 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

But the experiences of our motivated interviewees have even more in common. And here nature experiences really start to diverge from other types of experiences. But we 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 – NB we are talking about the outcome of the analyses of the life story interviews, not about the analysis of the card game - 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, on the own conditions, from early childhood onwards. There is however also another compelling reason for doing this.

The power of stories

Humans are storytelling animals[4]. 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 abstracts '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 people, even people 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 another 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 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

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[4] See Harari, *Sapiens: a brief history of mankind* 2011, 2014, for a recent and very instructive expounding of this idea.

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 have 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; and to stick to the example, also stories of nature that fit into city environments. 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 IV**.

Motivations to act for nature need nature (contact and connection with) to occur and deepen, and nature is the only platform that enables stories transcending (complete) man-made realities and reifications, i.e. offers a possibility to avoid cultural solipsism. That is what all these epiphany-like experiences tell: humans need nature to test, ground, adapt and broaden our man-made meaning.

Mentors

This links up with a second crucial finding based on the analyses of the life stories: that is the role of mentors, i.e. significant others. The majority of our interviewees declared to be influenced by a mentor during their life, mostly in their childhood or adolescence. They found and needed someone who could guide them or show the way. Like compelling stories, mentors stimulate, articulate and combine intrinsic and extrinsic meaning. A mentor is a special type of person, someone who inspires without imposing her or his opinion. This corresponds with the remarks made by our interviewees. Their mentors had an impact because of their example, 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. Typically most mentors neither were direct parents nor 'official' teachers, at least not teachers whose task it was to formally teach the 'capacity to respect or study nature'. This implies that implementing care for nature or mentorship in the formal school curriculum is probably good, but not the only or even best way to promote mentorship.

Mentors were mainly important during childhood or adolescence. In later years more intrinsic, altruistic motivations, i.e. doing something for nature or other people and society became more important.

Meaning of life

Motivations to act for nature are, if we look at our data, 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. Compare it with friendship. The real meaning of friendship is in having friends and living through friendship, not in the utility friendship delivers. (See also Part III). Meaning surpasses 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 epiphanies[5].

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 period between 15-25 years. The group highly motivated actors for nature is characterized by having more *awakening* and *connectedness* epiphanies than the group others. The group others experienced more *aesthetic* epiphanies, and these experiences happened often earlier in their life, during childhood (see for 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 alone motivations to act for nature and biodiversity, even in the cases where this topic is their main object. Nevertheless, this answer, although understandable, falls short if generating or addressing motivation to act for nature or biodiversity is the issue, and if 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; and 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.

Creating the right conditions and environments for motivations to act for nature, implies that the goal and the rules of the game, and in fact the game itself change. We are no longer talking about policy, economic realities and politics in general, or about the undefeatable supremacy of existing political and economic powers, regimes, players and scales. We are talking, and have to talk, about policies and politics that can and will create and promote conditions and environments to foster, diffuse en 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 also answer the question why so

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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. 497).

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 followed thus far. It does not require 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 of 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. We call this in BIOMOT *formation*, i.e. the idea that collective and individual motivational processes are always socially and politically grounded and organised. Systemic demotivation is caused by (1) inadequate but permanently reproduced and reified notions of the relation between nature and culture; (2) ignorance of the fact that human actions are essentially included in natural processes; and (3) 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 on the level of in policymaking. That obstruction is in many cases intimately linked to a real dilemma: an implicit understanding that the old recipes and practices are no longer adequate to address the type and scale of ecological problems we are now facing. We know that we cannot act in the old manner, and that "business as usual" is no longer possible. However, we refrain from drawing the consequence of this insight. i.e. from redefining the entire relation between humans and nature. Instead we 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 V** 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 that 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

But 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. [6]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 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*.

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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.

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 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. 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.

Conclusion

The BIOMOT data and analyses thus far show that it is possible to improve the motivation of people to act for nature. But it also became clear that really motivating people to really act for nature requires quite some effort and time, and more in special other approaches than the ones predominantly undertaken. Emphasizing utility, urgency, or even value, will not do the job. It does not motivate the larger population, and has certainly not motivated the interviewed frontrunners in the field of biodiversity or nature protection. This does, by the way, not imply that the commonly used arguments, focusing on urgency, utility or value, are unsound. It only indicates that this kind of arguments only have limited motivational power, far more limited than often assumed or hoped, certainly by those using or promoting these arguments.

Explaining what really motivates people drove us in the direction of formation, i.e. childhood and adolescence experiences, the quest for meaning and belonging, and the role of sense giving stories. It even stimulated us to positively reassess the possible contribution of the classical virtues. It turns out that people indeed are sense- and sensibility-seeking beings. They look for sense and sensibility in stories and practices that link them to others, connect them to their direct social and physical environment, and concretely relate to their past, i.e. stories and practices that simultaneously embed and connect and confront and challenge them. The expression of Aristotle that the human being is a political animal, who will only find meaning and fulfilment in community, seems to be very appropriate in this context.

This, however, also implies that the 'design' of that community, and the narratives and practices shaping, reproducing and motivating that community, become and should become priority number one for politics and policy - for citizens and civil society, politicians, policy makers, science, intellectuals, the media and business. It also implies that preventing demotivation and counterbalancing the public prevalence of arguments that do not motivate, should become an integral part of that priority.

Moreover it became clear that nature -the presence of nature and connection with nature- is so 'natural' in all human experiences and (hi)stories, so taking for granted, that the profundity of our connection and interaction with that nature is almost invisible, until this 'naturalness' is challenged or broken, like in that Chinese maxim, which says that fish do not talk about the water, at least until it dries up. On the one hand nature is so omnipresent and multifaceted that the notion itself becomes fuzzy. On the other hand it becomes more and more visible that growing parts of 'nature', and our relationship with 'that nature' are under great stress. We have entered an epoch called the Anthropogene, to mark the fact that we, as human beings, now have acquired the power to shape or destroy the world as it is, and are on our way of realizing the last, by doing the first.

The time for doing 'business as usual' is clearly over. We have to rethink our human position, and in fact redefine most of our categories, such as the notion of community, with other people(s) and nature, or the old dichotomy between nature, as a pre-given entity out there made to service us, and culture as something made-by-us and clearly distinct detached from nature. Old arguments, values, norms and practices have become part of the problem, not the solution, especially those developed in the

industrial era. We need new forms, ideas, stories, and practices. Below, in the Parts II until V, we have deepened out this argumentation. All parts can be read independently of each other.

We end this section with vey short policy recommendations; short, because we have inserted also policy recommendation in other parts of this output, especially Part V, and because you can find more extensive policy recommendation in other BIOMOT outputs, better suited for this recommendations. The chief purpose of this output is to reflect on the motivational implications of main BIOMOT findings.

Policy recommendations

- Create the conditions for nature oriented formation (education, experiences, challenge, mentorship, attachments, meaning, training of virtues, deliberation, care, rituals, attachment)
- Create space for meaningful stories and practices (direction, challenge, openness, energy, and mimesis)
- Take away the (re) production settings for systemic demotivation

M = F*S*P /D

Mn = motivation to act (for nature)
F = formation
S = stories
P = practices
D = systemic demotivation

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Part II

Values, motivation and biodiversity

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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 a 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 ecosysem 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 E*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:

E*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 world as being a certain way. Desires are mental states that represent the way we

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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'.

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 a 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 achived 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, unlike normative reasons, therefore, feature in a psychological explanation for human behaviour.

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 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 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, p. 7). 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

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[8] For discussion of Smith's argument see Little (1997), Shafer-Landau (2002, pp. 134-138).

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 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 is 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 biodiversiy 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 alignments 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. 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 perhaps most directly achieve this.

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Part III

Reason, Motivation and Deliberation

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Reason, motivation and deliberation

The Biomot project has been concerned with three related concepts. The first is that which has been at the centre of the Biomot project, that of motivation. A second that was been the focus of work-package 1 is that of valuation. A third that has been particularly important in work-package 2 is that of practical reasoning and particular its role in public deliberation. The aim of this chapter is to explore some of the relationships between these different concepts.

Different accounts of motivation have been used to ground different accounts of practical reasoning and with this, different accounts of the institutions that are appropriate for public decision making and models of governance. Market models of public decision making have sometimes been grounded on a particular account of Humean motivation according to which individuals are (1) motivated by preferences or desires that are not answerable individually to rational deliberation and (2) guided by beliefs that do answer to reason but are motivationally inert. Market models of governance are defended on the grounds that they most efficiently maximise the satisfaction of preferences. Valuation on this view is a matter of ascertaining and measuring the strength of different preferences for the purposes of aggregation. Deliberative models of public decision making reject this market view of public choice and valuation. Public decisions should be understood not as surrogate markets that aim at the satisfaction of given preferences but rather as a forum through which preferences and judgements are transformed through reasoned dialogue between citizens. This deliberative model has normally started from a rejection of the model of motivation that grounds market based approaches to governance and in particular the claim that motivational states are not answerable to rational deliberation. Kantian and Aristotelian accounts of motivation and practical deliberation offer different accounts of the nature of both individual and public deliberation that provide distinct accounts of deliberative institutions. The aim of this chapter is to outline these Humean, Kantian and Aristotelian accounts of motivation and to consider their implications for the nature of practical reasoning and public choice. In doing so it will outline some of the empirical issues raised which are addressed elsewhere in the BIOMOT project.

1. Hume and rational choice theory

Standard economic approaches to the valuation and protection of biodiversity are founded upon rational choice models of human action. According to such models an actor is defined by a set of preferences that motivate and beliefs that direct the actor to the goods that satisfy those preferences. The belief states are presented through probability statements that represent the expected outcomes of different actions. Preferences are represented as orderings between different expected outcomes of action. Preferences are revealed in the choices that individuals make.

One influential view of the theory of motivation that is taken to underpin this account is Humean. Rational choice theory is understood to start from the Hume's assumption that reason only serves the passions (Hume THN II, part II, section III). The standard picture of the Humean model of motivation has Hume as committed to a hydraulic model of motivation. The model looks something like this. Beliefs are cognitive states that represent states of the world. As such they can be true or false. They answer to empirical investigation and reason. However, as such they are motivationally inert. They can direct the actor, but they cannot move the actor. In contrast, desires are non-cognitive states which do motivate the actor. However, desires, since they are not representations cannot be true or false and do not answer to reason[9].

> [R]eason alone can never produce any action, or give rise to volition… Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them... A passion...contains not any representative quality, which renders it a copy of any other existence or modification...`Tis impossible, therefore, that this passion can be opposed by, or be contradictory to truth and reason; since this contradiction consists in the disagreement of ideas, consider'd as copies, with those objects, which they represent. (Hume THN II, Part III, section III)

Since preferences and passions have no truth value, they do not answer to reason. They cannot be rational or irrational: 'Tis not contrary to reason to prefer the destruction of the whole world to the scratching of my finger... `Tis as little contrary to reason to prefer even my own acknowledge'd lesser good to my greater, and have a more ardent affection for the former than the latter...' (Hume THN II, Part III, section III). Practical reason can only address questions about the existence of objects that satisfy preferences, or in finding the means to their satisfaction.[10] The rational choice model

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[9] 'Reason is the discovery of truth or falshood. Truth or falshood consists in an agreement or disagreement either to the real relations of ideas, or to real existence and matter of fact. Whatever, therefore, is not susceptible of this agreement or disagreement, is incapable of being true or false, and can never be an object of our reason. Now 'tis evident our passions, volitions, and actions, are not susceptible of any such agreement or disagreement; being original facts and realities, compleat in themselves, and implying no reference to other passions, volitions, and actions. 'Tis impossible, therefore, they can be pronounced either true or false, and be either contrary or conformable to reason.' (Hume, THN Book III, Part 1, section 1)

[10] 'What may at first occur on this head, is, that as nothing can be contrary to truth or reason, except what has a reference to it, and as the judgments of our understanding only have this reference, it must follow, that passions can be contrary to reason only so far as they are accompany'd with some judgment or opinion. According to this principle, which is so obvious and natural, `tis only in two senses, that any affection can be call'd unreasonable. First, When a passion, such as hope or fear, grief or joy, despair or security, is founded on the supposition or the existence of objects, which really do not exist. Secondly, When in exerting any passion in action, we chuse means insufficient for the design'd end, and deceive ourselves in our judgment of causes and effects. Where a passion is neither founded on false suppositions, nor chuses means insufficient for the end, the understanding can neither justify nor condemn it. `Tis not contrary to reason to prefer the destruction of the whole world to the scratching of my finger... `Tis as little contrary to reason to prefer even my own acknowledge'd lesser good to my greater, and have a more ardent affection for the former than the latter... In short, a passion must be accompany'd with some false judgment in order to its being unreasonable; and even then `tis not the passion, properly speaking, which is unreasonable, but the judgment.' (Hume THN book II, Part III, section III)

on this account operates with a purely instrumental account of practical rationality. Reason is about means but not ends.[11]

On this view questions about ends are placed beyond rational deliberation. The influence of this view in economics is evident in the much-cited passage from Robbins:

> If we disagree about ends it is a case of thy blood or mine—or live and let live according to the importance of the difference, or the relative strength of our opponents. But if we disagree about means, then scientific analysis can often help us resolve our differences. If we disagree about the morality of the taking of interest (and we understand what we are talking about), then there is no room for argument. (Robbins, 1932, p. 53)

Given this account, since rational deliberation about ends is not possible, institutional mechanisms must be such that they do not require such deliberation. Markets and market-mimicking mechanisms such as cost benefit analysis are presented as ways in which conflicting ends can be reconciled in the absence of rational deliberation. Individuals express their preferences in their willingness to pay at the margin for some good or state of affairs. Markets and market-mimicking methods offer a way of efficiently meeting preferences thus expressed.

While on the standard account rational choice on this view starts from a Humean picture of human motivation, the form of Humeanism is moderate (Broome 1993). While, individually preferences cannot be rational or irrational, a rational actor's preferences together must have to have a certain structure. They must meet certain consistency constraints. One consistency constraint is that of transitivity: if option a is preferred to b and b is preferred to c then a must be preferred to c. Another consistency constraint is known as 'contraction consistency' or the Chernoff condition: if a rational agent chooses option x from a set of options S, then the agent will chose option x from any proper subset of S containing that option x: for example, if the agent chooses a from a set of options $\{a, b, c,\}$, then the agent will choose a from the proper subset $\{a, b\}$ (Sen, 1984, p.128). Other formal constraints on preferences include completeness − for any two goods a and b, either a is preferred to b or b is preferred to a or the agent is indifferent between them in the sense that they are equally preferred. These are constraints that are placed on clusters of preferences. However, individual preferences are not open to rational criticism. It is unclear how the introduction of consistency constraints is defensible on Humean grounds. Since preferences can be neither true nor false, they cannot strictly speaking be consistent or inconsistent. There is no logical inconsistency in having preferences revealed in choices that fail transitivity or the Chernoff condition. Moderate Humeanism is an unstable position.

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[11] Whether Hume held such an instrumental account of rationality has been contested. For example Korsgaard 1997. and Millgram 1995 suggest that Hume rejects practical rationality as such, including instrumental conceptions of practical rationality. This question is not one that will be pursued further in this paper.

The problem with rational choice theory is not simply that it is not Humean, but that under the Humean interpretation it is not coherent (O'Neill, 1994, Sugden, 1991). Consider a set of conflicting preferences: 'I prefer **a** to **b**', 'I prefer **b** to **c**' and 'I prefer **c** to **a**'. If these expressions of preferences are interpreted as expressions of non-cognitive states - they express attitudes or desires not beliefs or judgements - then they cannot strictly speaking be inconsistent. They may conflict in the sense that in a choice they cannot all be satisfied. They may leave the agent open to Dutch auctions in which the agent is bound to lose. However, they do not contradict each other. On the other hand, if they are strictly inconsistent then they need to be interpreted as expressions of cognitive states. They might for example be taken to be expression of beliefs about the relative goodness of different states under some covering value. 'I prefer **a** to **b**' expresses a judgement '**a** is better than **b**'. Under a cognitivist interpretation of statements about betterness as such they could be understood to be true or false. Given the further assumption that the relation 'better than' is logically transitive − if **a** is better than **b** and **b** is better than **c** then **a** is better than **c** - then it will follow that intransitive preferences are strictly inconsistent. However, this cognitivist account of preference statements opens up a wider role for reason. If we are in the domain of sentences that can be true or false, then not only do preferences answer to constraints of consistency between preferences, potentially wider resources of rational argument can tell for or against preferences.

Given this problem, there are a variety of responses that might be made. One is to move to an unreconstructed Humeanism: one might remove rationality constraints on preferences and start instead, possibly underpinned by behavioural economics, with the preferences individuals are observed to actually have (Sugden, 2006). Another is to revise or reject elements of the Humean model of motivation that is often taken to underpin economic explanations of human action The Humean model of motivation has three components: the claim that beliefs are motivationally inert; the claim that that preferences and desires are non-cognitive states; and the claim that preferences and desires are not open to rational deliberation. Criticism or revision of Humean rational choice models of motivation can take different forms depending which of these assumptions are rejected. One might reject the claim that beliefs are motivationally inert. This is the central move made in the Kantian traditions. This move underpins one strand of deliberative political theory in ways outlined below. One might reject the claim that desires are non-cognitive states. Wider accounts of emotions as motivational states are to be found in the Aristotelian tradition, which underpins a second distinct strand of deliberative political theory which will be discussed below. Finally one might retain a non-cognitivist account of preferences but to reject the view of reason that underpins the Humean view. This would allow for rationality constraints, but the scope of reason would need to be extended to statements expressing non-cognitive attitudes in ways that Hume himself did not allow.[12] One might also of course reject a number or all components of the Humean

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[12] Recent versions of non-cognitivist accounts of ethical utterances have tended to make this move. See for example Hare, 1952, 1963, Blackburn 1984, 1993 and Gibbard 1990.

position. In the following we outline some of these different responses in more detail and consider their implications for the nature of practical reason and forms of private and public deliberation about environmental goods.

2. Questioning the Humean model of motivation and practical reason

One response to the Humean model that is taken to underpin rational choice theory is to reject the view that beliefs are motivationally inert. This view underpins some Kantian responses to the Humean model of motivation. Kant's ethics can be understood to share the Humean assumption that desires, inclinations and passions are non-cognitive states that do not answer to reason. In particular, for Kant, passions are capacities for psychological sensations of pleasure or pain, which, although they may sometimes accompany cognitive states, are themselves without any cognitive dimension (Kant, 1964, 210-11).[13] Since the passions are non-cognitive states, reasoned discourse cannot appeal to them. Since appeals to the passions and emotions move an agent without engaging our judgements, such appeals are not consistent with respect for autonomy. To be an autonomous agent is to be governed by self- imposed laws formulated as a rational agent. To be moved by non-rational desires and inclinations is to be governed by something independent of one's own reason and judgement. Kant's account of autonomous action involves a rejection of the Humean claim that cognitive states cannot motivate. Insofar as one is acting as an autonomous moral agent one is moved by reason alone.

Autonomous action is action that answers laws imposed on oneself as a rational agent. Those laws take the form of categorical imperatives. Categorical imperatives are contrasted with hypothetical imperatives. Hypothetical imperatives state principles of instrumental action, action that is a means to some end: if you want X then do Y. Categorical imperatives state principles governing actions that are ends in themselves (Kant 1948 p.78 [414-415]). The basic form of the categorical imperative is this: 'Act only on that maxim through which you can at the same time will that it should become a universal law'. (Kant 1948 p.84 [421]). 'Maxims' are, roughly speaking, principles of action. Categorical imperatives are taken by Kant to be derivable from reason alone. Any rational agent is committed to acting according to the categorical imperative. The argument for that claim runs in outline something as follows. Rationality requires consistency - if I am rational then I should act on principles that I would apply in the same way to any situation of the same kind. Reasons are impersonal - if a principle gives me a good reason to act on some occasion it gives a good reason to anyone else to act in the same way in the same situation. Hence a rational agent should act on only those principles she can universalise for all other rational agents acting in the same situation. Hence the rational agent will act only on those principles that she can treat as universal laws. This principle of universalisability

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[13] For a discussion see Sherman 1997 pp.178-9 and passim.

Kant takes to be able to generate determinate moral principles.[14] The principle of universalisability is also taken to generate a second formulation of the principle, that we should treat all rational agents as ends in themselves and never merely as means. The argument in outline runs as follows: Every rational agent is necessarily committed to treating himself or herself as a rational agent who governs themselves by their own reason – i.e. treating themselves as 'ends in themselves'. Since reasons are impersonal every rational agent recognises that all other rational agents are also committed to treating themselves as ends in themselves. Hence, all rational agents are committed to treating other rational agents as ends in themselves (Kant 1948 p.91 [429]). The Kantian response to the Humean view is to reject the claim that cognitive states cannot motivate and defends the claim that motivational states do answer to reason.

A second response to the Humean account of rational choice is to reject the claim that motivational states such as desires and passions are non-cognitive states that are not open to rational deliberation. One could do this in one of two different ways. First one might retain the claim that they are non-cognitive states, but reject Hume's claim that since such states have no 'representative quality' they cannot be governed by norms of reason. This would be one way of sustaining the moderate Humean form of rational choice theory. While intransitive preferences are not strictly inconsistent, they fail some weaker set of norms of reason. Similarly, a central move in most recent non-cognitivist accounts of ethical statements has been to suggest this view does not rule out the application of norms of reason to them (Blackburn, 1984, 1993; Gibbard, 1990; Hare, 1952, 1963). Alternatively, one might reject the claim that motivational states such as desires and passions are non-cognitive states. Desires and emotional states that motivate are cognitive states or at least have a cognitive component and as such are open to rational deliberation. This second line of argument is associated with Aristotle.

For Aristotle, emotions are both motivational states and are partly constituted by cognitive states. The view departs from the claim shared by Hume and Kant that emotional states lack cognitive content. Consider Aristotle's definitions of anger and pity:

> Anger may be defined as an impulse accompanied by pain, to the conspicuous revenge for a conspicuous slight directed without justification towards what concerns oneself or towards what concerns one's friends...Pity may be defined as a feeling of pain caused by the sight of some evil, destructive or painful, which

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[14] Take one of his examples, borrowing money promising to repay but without the intention of doing so. The maxim is this: 'Whenever I believe myself short of money I will borrow it and promise to pay it back though I know this will never be done'. The maxim of the action universalised is this: 'Whenever persons believe themselves short of money they will borrow it and promise to pay it back though they know this will never be done'. Kant claims that no rational agent could will this maxim. The maxim is 'inconsistent' or 'self-contradictory' since it undermines the whole practice of 'promising': 'it would make promising and the very purpose of promising in itself impossible, since no one would believe he was being promised anything but would laugh at utterances of this kind as empty shams.' (Kant 1948 p.85 [422]). The whole institution of promising would be undermined.

> befalls one who does not deserve it. (Aristotle 1946 Book ii ch. 2 1378a 31-33 and ch. 8 1885b 12-15)

Whether or not these accounts of 'anger' or 'pity' are adequate to the use of the terms in the modern sense, they do point to the ways in which beliefs are constitutive of the emotions. Part of what it is for an emotion to be that of pity is that it is directed towards a person of whom it is believed undeserved harm has fallen. Because emotions have beliefs constitutive of them, they are open to appraisal by reason. They can be appropriate or inappropriate, felt at the right time, of the right things, for the right reasons or not (Aristotle 1985 book II ch. 6 1106b 18-23). Emotions can be rational or irrational. If I feel anger because a distant second cousin forgets my birthday you might reasonably question the rationality of the emotion. The belief that there is any 'conspicuous slight' is unwarranted. If I feel anger at the arbitrary dismissal of a colleague the anger is quite rational, warranted by the belief that the person has been intentionally harmed without justification. This Aristotelian account of the emotions contrasts with that found in Kant. For Kant, since the emotions do not answer to reason, to move an agent by appeal to emotions is to render them unfree. These different views on the rationality of the emotions make for different views of the nature of public deliberation.

The Aristotelian tradition also offers a different account of the nature of practical reason than that found in either the Humean or Kantian tradition. At first glance Aristotle appears to have had a straightforward instrumental account of practical reason, that rational deliberation is concerned only with means not the ends themselves: 'We deliberate not about ends, but about what promotes ends' (Aristotle 1985 book III.3.11, 1112b). However, an important distinction in subsequent interpretations of Aristotle and in the Aristotelian tradition is a distinction between two ways in something might be said to promote an end. The first is that something is an external causal means to an end. The second is that something is constitutive of that end (Wiggins, 1980). Take a well-worked example, the claim that friendship is necessary for a good life. There are two ways in which that might be understood. The first is that friendship is a causally necessary means to a good life, for example that friends will bring you support in hard times and the pleasures of conversation in all times. More recently social relationships like friendship have been described as forms of 'social capital' with the benefits these bring – better employment possibilities, higher incomes, better physical and mental health and so on. All these facts about the causal impact of friendships on life might be true. However, if this was all that there was to the contribution of friendship to a good life it might look as if something was awry. It makes friendship look like an insurance contract with additional benefits. We don't merely value relationships of friendship as an external causal means to other goods. We value our friends and our relationships with our friends as ends in themselves. Friendships are part of what makes a good life. They are one of its constituents. They are constitutive of the good life. One might say then that friendship is not just a means to a good life in the sense of a being a causal *determinant* but a 'means' in the sense that is a central *constituent* of the good life.

With this distinction between determinants and constituents of a good life in place, we can understand better Aristotle's account of deliberation. Deliberation is not just about

determining the causal means to an independently specified end. It is rather a matter of specifying what the constituents of that end are. So take again the end of living a good life. Deliberation is about a specification of what the constituents of a good life are. Having specified those constituents, for example satisfying work, the constitutive features of those goods in turn will often need further specifications. Any such specifications will be prior to the discovery of the causal means to their realisation. The point is made well by David Wiggins:

> I shall characteristically have an extremely vague description of something I want—a good life, a satisfying profession, an interesting holiday, an amusing evening—and the problem is not to see what will be causally efficacious in bringing this about but to see what really qualifies as an adequate and practically realizable specification of what would satisfy this want. Deliberation is…a search, but it is not primarily a search for means. It is a search for the best specification. Till the specification is available there is no room for means. When this specification is reached, means-end deliberation can start, but difficulties that turn up in this means-end deliberation may send me back a finite number of times to the problem of a better or more practicable specification of the end, and the whole interest and difficulty of the matter is in the search for adequate specifications, not in the technical means-end sequel or sequels. (Wiggins, 1980, p.228)

This specificationist account of practical deliberation is clearly distinct from the concept of practical reason that informs standard economic models of instrumental rationality.[15] As we shall see, it makes a difference to how we should understand the role of nature and particular natural goods such as biodiversity in human life. They are not simply causal means to some end as the concept of ecosystem services suggests. Rather they are constituents of a good life and matter as such.

3. From motivation to public deliberation

Both Kantian and Aristotelian perspectives on reason and motivation allow, for different reasons, that motivational states are open to being guided by reasoned debates. As such, both have been used to ground deliberative as against market-based approaches to public institutions. Both have been appealed to in the recent revival of deliberative models of democracy. Deliberative models of democracy are premised on the assumption that judgements and preferences are open to change through reasoned debate. Democracy should be understood as a forum through which judgements and preferences are transformed through reasoned dialogue between free and equal citizens (Bohman 1996; Chambers 1997; Cohen 1989; Dryzek 1990, 2000; Elster

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[15] As Wiggins notes it serves to 'dissociate Aristotle's whole theory of deliberation from that pseudo-rationalistic irrationalism, insidiously propagated nowadays by technocratic persons, which holds that reason has nothing to do with the ends of human life, its only sphere being the efficient realization of specific goals in whose determination or modification argument plays no substantive part' (Wiggins, 1980, p.227) For development of a specificationist account of practical reason see Richardson 1990, 1994.

1986, 1998c; Habermas 1996; Rawls, 1996; Smith, 2003). The forum is contrasted with the market in which preferences are simply given, and with market models of democracy in which democracy in understood as a means for aggregating and effectively meeting given preferences (Elster, 1986).

The deliberative and market models offer two contrasting models of democratic institutions: a deliberative model democracy according to which democracy is a forum through which judgements and preferences are transformed through reasoned dialogue between free and equal citizens; an economic model of democracy according to which democracy is a procedure for aggregating and effectively meeting the given preferences of individuals. Through votes individuals are able to record their preferences. In formal policy practice the deliberative model has informed the development of a variety of 'new' formal deliberative institutions which have been introduced alongside 'older' democratic institutions and which are often presented as experiments in deliberative democracy such as citizens' juries, citizens' panels, consensus conferences, and round-tables.

Kant's work on public reason has been the principal theoretical source of recent deliberative democratic theory (Rawls 1996; Habermas, 1975, 1996). In Kant's political writings the enlightenment project is defined in terms of the emergence of maturity:

> *Enlightenment is man's emergence from his self-incurred immaturity. Immaturity* is the inability to use one's own understanding without the guidance of another. The immaturity is *self-incurred* if its cause is not lack of understanding, but lack of resolution and courage to use it without the guidance of another. The motto of the enlightenment is therefore: *Sapere aude*! Have courage to use your *own* understanding...For enlightenment of this kind, all that is needed is *freedom*. And the freedom in question is the most innocuous form of all - freedom to make *public use* of one's reason in all matters (Kant (1784b) pp.54-55).

This political ideal of maturity is closely related to that of autonomy. To be an autonomous agent for Kant to be guided by reason: 'For reason has no dictatorial authority; its verdict is always simply the agreement of free citizens, of whom each one must be permitted to express, without let or hindrance, his objections or even his veto.' (Kant (1933) A738/B766.) Hence, the freedom to make 'public use of one's reason in all matters' is a condition for the realisation of mature autonomous citizens. Rational moral principles must meet 'the formal attribute of publicness': 'All actions affecting the rights of other human beings are wrong if their maxim is not compatible with their being made public' (Kant 1795 Appendix, II). Reasons must be able to survive being made public. Public reason is also a condition for the exercise of judgement. The exercise of individual judgement requires comparison of judgements with those of others in order to 'escape the illusion that arises from the ease of mistaking subjective and private conditions for objective ones, an illusion that would have prejudicial influence on the judgement.' (Kant 1987 293-4). The central maxim that defines maturity, 'think for oneself', is itself dependent upon a prior maxim 'think

from the standpoint of everyone else'. (Kant 1987 294-5; cf. Kant 1933 A820-821/B848-9).

Kant's account of public reason has informed recent theories of deliberative democracy. Consider for example Habermas's account of public reason that has been important in much recent deliberative democratic theory:

> dialogue is rational to the extent it is free from the exercise of power and strategic action, such that the judgements of participants converge only under the authority of the good argument - 'no force except that of the better argument is exercised' (Habermas, 1975, p.108).

The account involves a restatement of the ideal of public reason grounded in 'the agreement of free citizens' that underpins Kant's account of enlightenment.

This deliberative model of governance has been particularly influential in the environmental sphere. There are at least two theoretical reasons for this influence. The first is that it allows that choices about the environment are not mere expressions of preferences, but expressions of judgement that answer to reasoned deliberation. An influential development of this view is that of Sagoff who develops the point in terms of a distinction between the motivations individuals have as consumers and their motivations as citizens. As consumers individuals express preferences that do not need to answer to public reason. As citizens they express judgements that do need to answer to public reason.

> We have…two approaches to social regulation before us. The welfare-economic approach assumes that political and economic decisions about the environment are justified in roughly the same way, which is, in relation to subjective preferences individual express or would express in their consumer and, possible, their voting behavior….The Kantian approach, on the other hand, asserts that policy recommendations in general are to be judged on the basis of reasons, rather than wants. (Sagoff 2008 p.41)

These two different approaches to social regulation entail different institutional approaches to policy making. The forum not the market is required where conflicts involve an opposition of ideas and beliefs rather than an opposition of interests and preferences (Ibid, pp28-29).

A second related argument is that the Kantian publicness condition on reasons is taken to allow the goods non-human nature and future generations to be better represented in decision-making. The publicness condition forces participants in deliberation to offer reasons that can withstand public justification. As such it forces them to appeal to general rather particular private interests. The persuasiveness of arguments that simply appeal to private interests could not survive publicity (Elster, 1998a and Rawls, 1996, pp.66-71). Publicness forces participants to appeal to wider constituencies of interest. Hence the interests of future generations and non-humans

are more likely to be represented in public deliberation than they are in private market based methods for expressing preferences where the appeal to general interests is not required (Goodin, 1996, 2003).

Although the publicness condition of reason is not a principle that was developed within the Aristotelian tradition, nothing in the Aristotelian account of deliberation and motivation is inconsistent with the publicness condition. Where the Aristotelian and Kantian approaches do clearly differ is in their views of the nature of practical reason and their views about the role that appeals to emotion can play in rational deliberation.

4. Reason, emotion and rhetoric

The role of the emotions is particularly important in considering the role of public deliberation and its relationship to motivation to action. For Kant since emotions are not cognitive states they are not open to reasoned deliberation. Hence appeal to the emotions is inconsistent with respect for rationality and autonomy of participants in public dialogue. Aristotle's position is different. While he allows that non-rational appeals to the emotions can be a defect of public deliberation, since emotions have a cognitive dimension not all appeals to the emotions need be such. They can be rational and hence can be subject of rational appeals. The difference between the two traditions is apparent in their different views of the nature and role of rhetoric in public deliberation (O'Neill, 2002, 2007).

Kant's views on rhetoric belong to an anti-rhetorical tradition that goes back to Plato. For Kant rhetoric has a role in the arts where no truth claims are made. However, where truth claims are at stake it becomes an art of deceit which aims to persuade an audience without addressing their rational judgements. As such it is inconsistent with respect for the autonomy of the hearer.

> Poetry plays with illusion, which it produces at will, and yet without using illusion to deceive us, for poetry tells us that its pursuit is mere play...Oratory [on the other hand], insofar as this is taken to mean the art of persuasion (ars oratoria), i.e. of deceiving by beautiful illusion, rather than excellence of speech (eloquence and style), is a dialectic that borrows from poetry only as much as the speaker needs in order to win over people's minds for his own advantage before they can judge for themselves, and so make their judgement unfree. (Kant 1987 section 53 p.197)

The influence of Kant's view that rhetoric and reasoned public deliberation are not compatible is apparent in more recent Kantian accounts of deliberative democracy (Habermas 1987) and Rawls (1996, p.220).

This view contrasts with that found in Aristotle. While rhetoric is characterised as the art of persuasion - 'the faculty of observing in any given case the available means of persuasion' (Aristotle 1946 Book I.2) - Aristotle rejects the claim that it necessarily

involves persuasion without appeals to reason. Rhetoric is defined as the art of persuading through words. It has three dimensions: providing arguments that are themselves persuasive; exhibiting the authoritative and virtuous character of the speaker; moving the emotions of the audience (Aristotle 1946 1356a 1-20). All three dimensions, not just the first, are taken to be consistent with the appeal to reason and open to reasoned appraisal. In particular because the emotions themselves are not non-cognitive states, but are constituted and individuated by beliefs, they can both answer to reason and be open to rational as well as non-rational modes of persuasion.

Consider again Aristotle's characterisation of anger and pity. Both are intentional states that are constituted by beliefs. Anger is directed towards those responsible for unjustified harm on persons or beings one has reason to care about. Pity ii directed towards those who are the object of unjustified harm. I cannot rationally feel pity for a person whose life I believe is in every way flourishing or anger at someone on the grounds she does good for those who I have reason to care about. Since emotions are constituted by beliefs they are open to being addressed though reasoned argument. You might feel anger at some peasants who have destroyed a valuable habitat of high biodiversity, but if I then show you that the peasants who have destroyed that habitat do so in the context of grinding poverty that has been the result of the loss of commons on which they depended, your anger may then reasonably be replaced by pity for these individuals. Your anger may then be properly redirected to those who are responsible for the loss of the commons that placed those peasants in poverty. I address your emotions by addressing beliefs that are in part constitutive of those emotions. This kind of argument is central to everyday conversation and to public debate. On the Aristotelian view they form a rational mode of rhetoric. Rhetoric need not involve attempts to influence the emotions in an irrational or arational way. Rather it can involve giving grounds for beliefs constitutive of emotions and can be rationally appraised in virtue of doing so. The Kantian opposition of rhetoric and the public use of reason is rejected.

The point is important also in understanding the motivational force of emotions. The role of the emotions in motivating action is not simply a case of it supplying a non-rational drive or impulse to movement. Emotions can involve perceptions and judgements about what matters in particular cases. The pity directed at the peasant community involves the perception of the suffering involved and judgements for example that this is undeserved. It is perceptions and judgement that move us to act against those responsible for the peasants' condition. On this account individuals moved by emotions are moved in the sense of being impelled by some non-rational impulse to act. At the same time, the education of the emotions involves the development of cognitive capacities of perception and judgement, not simply behavioural dispositions to action. None of this is to deny the dangers of appeals to emotions in public discourse. Appeals can involve attempts to move actors irrationally through false beliefs and the use of modes of persuasion that do not appeal to judgement. Public discourse is particularly vulnerable to such appeals. However, such irrationalism is not a necessary feature of public argument that moves action through beliefs that are partially constitutive of emotions.

We noted at the outset that standard economic approaches to the valuation and protection of biodiversity are founded upon rational choice models of human action according to which an actor is characterised by a set of preferences that motivate the actor and beliefs that direct the actor to those goods most likely to lead to their satisfaction. Where beliefs are open to rational appraisal, preferences individually are not, although 'consistency' constraints are put on the structure of preferences taken together. Since preferences are taken as given and are not open to deliberation, markets or market-mimicking procedures rather the discursive deliberative institutions offer the appropriate mechanism for their aggregation. These assumptions about rational action are open to contestation, both in terms of their internal coherence and in terms of the defensibility. Kantian and Aristotelian approaches offer different and competing accounts of both motivation and practical reason. Both offer distinct and sometimes competing reasons for and characterisations of forms of deliberative institutions that are appropriate for social and environmental choices. The next section will draw out some of the implications these might have for deliberation about environmental goods.

5. Practical reason and nature: means, constituents and ends

Mainstream economic approaches to environmental goods are founded upon an instrumental account of reason we noted at the outset. Biodiversity and natural goods more generally are understood as forms of 'natural capital'. They are valued for the ecosystem services they provide for human well-being. They are valued as a means for human well-being. In standard models, well-being itself is characterised in terms of preference satisfaction. Hence one can provide valuations of ecosystem services by ascertaining how strong people's preferences are for them. This can be done through the 'measuring rod of money' by ascertaining how much individuals would be willing to pay at the margin for the satisfaction of those preferences. What is wrong with that account?

One problem is that it fails to capture the way natural goods matter to human well-being and hence why individuals are motivated to protect them. A useful starting point here is to consider again the idea of friends as a form of 'social capital': if you have strong friendships your health, income and employment prospects will improve. They provide services and an economist might even attempt to put a monetary value on some of those services. It might be true that strong friendships improve your health, income and employment prospects, but if you valued friends simply as social capital you would have poor friendships. We value our friends and our relationships with our friends for their own sake, not simply as a means to something else. They are constituents of a good life, part of what makes for good human existence. Correspondingly practical reason is in part concerned with the specification of the goods that make for a good human existence.

Similar points apply to our relations to the environments in which we live. To think of the natural environments and goods merely as 'natural capital' is to mischaracterise their role in human lives. It is to understand them only as external causal means to human well-being. This is precisely the role that they are assigned in talk of 'ecosystem services'. However this account misunderstands their role in the lives of people and communities.

It is undoubtedly true that environments can offer a variety of goods that are causal conditions for the life and livelihoods of human beings. But as the interviews with individuals motivated to protect nature in the BIOMOT study have shown, these goods are not necessarily just the external causal means to livelihood. Relationships to the non-human world are valued for their own sakes. They are constituents of a good life.[16] This is a recurring theme in the interviews and the relationships to particular places and environment that motivate them.

There is an important link here with a distinction noted elsewhere in the Biomot reports between de re and de dicto valuations (Knights et al 2013, ch.6). Consider Hare's Zsa Zsa Gabor illustration of *de dicto* and *de re* modes of valuation. Hare offers the following mildly funny joke about the distinction:

> **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!" (C. Hare 2007: 514)

The joke turns on an ambiguity between *de re* and *de dicto* valuations. When Zsa Zsa says she does good in finding a way to keep her husband young and healthy we expect her to be concerned about a particular person who is her husband. However, it transpires that Zsa Zsa is only concerned that whoever turns out to fall under the description 'my husband' that he be young and healthy. We expect her to value the person *de re*, to be valuing a particular object. It turns out that she is valuing *de dicto*: she values whoever happens to fall under the description of being her husband. An initial way of capturing the distinction is in terms of the scope of quanitifiers:

> *De re* reading: $\exists x$ (x is the husband of ZZG and ZZG values the health of x).
> *De dicto* reading: ZZG values $\exists x$ (x is the husband of ZZG and x is healthy).

The distinction is important in understanding one way in which talk of ecosystem services fails to capture important dimensions of human valuations of biodiversity and the natural world. To say that one values objects and states for the services they provide is to value them purely *de dicto*. Any object or state that provides the same services will do. However, people value particular places and other environmental goods *de re*. They value them as particulars.

Why is *de re* valuation often appropriate? Consider the case of human persons first. Why are *de re* valuations required when we are concerned with persons? To answer

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[16] Compare James, forthcoming

that question, start with a prior question. What would be wrong with valuing a person simply for the services they provide? One answer that might be offered is a Kantian answer that appeals to the moral attitudes required. We are morally required from the Kantian perspective to value persons not simply as means but as ends in themselves. We should not value persons simply for the services they provide us but as autonomous rational persons. The Kantian reasons for holding this view were outlined earlier: since each rational agent is necessarily committed to treating himself or herself as rational autonomous persons who are ends in themselves and since every rational agent recognises that all other rational agents are similarly committed to treating themselves as ends in themselves, it follows that all rational agents are committed to treating other rational agents as ends in themselves (Kant 1948 p.91 [429]). Whether this argument is a good one or not we will not consider here. It would follow from this view that we should not value persons simply as a means. However, the arguments it offers are impartial. They are reasons that require a particular attitude of moral respect for any rational person whoever he or she it. They do not give reasons for valuing a particular person. As such they don't offer a strong ground for *de re* valuations as such – although moral respect will always be owed in the end to particular persons.

Stronger grounds for understanding the appropriateness of *de re* attitudes to particular persons is to be found in the Aristotelian account of practical reasoning about the good life. Relationships to particular others are constituents of what it is to lead a good human life. So when we reason about the goods of life, friendships and other close relationships to particular lives are central constituents of a good. Those relationships are again not purely instrumental. We do not value friends simply for the services they provide, but for their own sake. However, friendships and such relationships are themselves constituted by involving care and love for a particular person as a particular person and not by relationships in general. They necessarily involve *de re* attitudes and values. We are concerned with the health of particular individuals, not simply with the fact that whoever happens to be a friend is healthy in Zsa Zsa Gabor fashion.

Similar points apply to considerations about valuing the non-human world. An objection to understanding the value of the natural world through the concept of ecosystem services is that it values environmental goods purely instrumentally for the services they provide. What is the source of the objection? One possible response is one that follows the broadly Kantian route. One implication of Kant's account is of the attitudes owed to persons in saying that they are ends in themselves and not to be treated merely as a means is that they have a moral standing as such. They are said to have 'intrinsic value' in the sense of being morally considerable. A central move in much environmental ethics has been to extend moral standing beyond persons to include non-human beings and states – be this all sentient beings, all living things or even collectives such as ecosystems. Non-humans are said to have intrinsic value in

this moral sense.[17] If this is the case then they cannot be treated merely as a means – so that to treat them as simply providers of ecosystems services is to fail to recognise their value. Whether some non-humans can be said to have intrinsic value in this moral sense, and if they can, how far intrinsic value extends, raises large questions which cannot be pursued here. However, again it does not give strong grounds for *de re* valuations as such being important. The grounds for appropriate ethical attitudes are impartial. If sentient beings have moral standing they have it in virtue of falling under the description of being sentient beings, not in virtue of being this or that individual sentient being.

Appeals to intrinsic value in this moral sense do not capture why particular places and people matter to individuals and as such are non-substitutable. Again an Aristotelian account captures this dimension of human values more adequately. As the interviews in the BIOMOT project show relationships to particular places and beings matter to individuals. It is these relationships to particulars that form the starting point to more general moral motivations. Relationships to particular places and particular non-human beings and environments are constitutive of the good life. These relationships involve *de re* attitudes and values. Hence while they are conditions for human well-being they are not conditions in the sense of being external causal means for independently specified ends. Rather they are constitutive of well-being. They are valued not simply for services they provide. Rather, they are valued for their own sake. As such they do not have substitutes in other objects with the same causal properties. The loss of particular places matters as such.

Concluding remarks

The central aim of this chapter has been to provide in outline some of the ways in which the issues of valuation addressed in work-package 1, deliberation and governance addressed in work-package 2 and motivation addressed in Biomot as a whole and in work-package 3 in particular are related to each other. The standard accounts of economic valuation discussed in work-package 1 assume a particular view of the motivation of individuals and the nature of practical reason. A central empirical finding of the Biomot project is that the account of valuation and motivations assumed by these economic models fail to do justice to the way that individuals value nature and biodiversity and are motivated to protect them. This chapter has attempted to draw out how these finding link to a rich philosophical literature about the nature of moral motivation and practical reasoning which offer grounds for a different and more plausible account of both – and in doing so provide grounds for a more deliberative perspective on environmental governance and a better understanding of

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[17] Kantian arguments of this kind are developed by Regan (1988) to extend moral considerability to all sentient beings and by Taylor (1986) to argue that all living things have intrinsic value in this Kantian sense. Singer (1986) develops consequentialist arguments to extend moral considerability to sentient beings and Attfield (1987) similarly argues on consequentialist grounds for moral considerability to be extended to all living things. These views extend intrinsic moral value to individual sentient or living beings. They do not give grounds for intrinsic value in this sense to be extended to species still less to biodiversity be this diversity of genetic kinds, species or habitats. For a critical discussion of these attempts see O'Neill et al. 1988 ch. 6.

the ways in which the non-human natural world both is and ought to be properly valued.

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Part IV

How stories help to understand how the world matters to us

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How stories help to understand how the world matters to us

The BIOMOT project aims to find out what is the secret behind the motivations 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

But why should the finding that something is rational automatically prompt a motivation to act? Taylor does not ask that question. And 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 calls 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 exists 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 f or 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 tell 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 them on decided to devote their lives for nature protection. Very often what they discovered is experienced as a re-discovery of something that implicitly they already knew earlier in their earlier 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 often 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 at 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 of 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. Through life stories are themselves quests for meanings, in which people attempt to find the connection between was 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 means of explaining 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 that the world through the story about the world, as told by others and by ourselves. In other words, the moral meaning of 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 means 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, that 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 an 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 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 or 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 of 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 some to 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 his 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 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 a 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 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 so 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 the 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 person's 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 these 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 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 hadn't 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 ecosystem services it provides, 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 also stressed. At first instance, this conservationist and rewilder 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 like '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.

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 exists in and through the medium of language - having the experience of nature as meaningful context is dependent on the presentation or interpretation of that 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.

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Part V

Systemic Demotivation

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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 be but 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 are seldom trained to engage with policymaking (…). Policymaking is necessarily a messy process. Scientists, however, often assume that the most effective way of engaging is by presenting evidence, without daringto venture, at least explicitly, broader academic 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. 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 relicts (...). 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 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.[18] 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

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[18] 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.

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 its parts, we need to be less afraid of making 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 groundhog day if they wish. The world is moving on and we need to have the audacity to think differently and conceive of alternative futures. (Anderson & Bows 2012: 640)

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 CO_2 in the atmosphere might be, did not transform into an immense CO_2 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 CO_2-induced warming already present on our planet – the cumulative result of past emissions – is irreversible, any further increase in CO_2-induced warming is entirely the result of current CO_2 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 CO_2 for many decades. It is this dependence on CO_2-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 CO_2-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*.

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 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.

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