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6 Transcending water conflicts

An ethics of water cooperation

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Introduction

Philosophical approaches to water ethics have been developed against the backdrop of a broad range of problems. They include shortages in water supply and overall scarcity of water resources, the pollution of water reservoirs, the dangers that water provides by flooding and the need to protect societies from growing sea levels. In particular, ethics addresses the question of how persons should relate to water as a non-renewable and particularly valuable resource (Delli Priscoli et al. 2004; Brown & Schmidt 2010). Due to the broad variety of themes, it is obligatory to narrow down the scope of the investigation first. This contribution focuses on how conflicts that result from multiple use of a limited water resource can be resolved in a peaceful way. It explains ways to transcend resulting conflicts by means of an ethical framework. A common interpretation of how overuse of a scarce resource spurs conflict among various water users is the interpretation of the 'tragedy of the commons' (Hardin 1968) as a necessary outcome. This narrative states that over-exploitation and degradation are the destiny of natural resources, because they are scarce, but lack clear-cut access-barriers. In this chapter, I shall portray constructive alternatives to this interpretation of water conflict. I shall argue that some proposals from water ethics are particularly helpful in transcending water conflicts and in arguing water cooperation as a reliable alternative.

This article has five sections. The first section introduces a paradigm case of conflicts that result from multiple use of a limited water resource. Section two recalls the interpretation of severe water conflicts as the 'tragedy of the commons' – which is a familiar interpretation of water conflicts. In order to address this interpretation thoroughly, two research questions will be distinguished. Section three develops a normative framework for water cooperation. It profits from normative insights that have been reasoned in environmental ethics: the values of environmental conservation, environmental justice in terms of distributive fairness and guidelines of mutual and intercultural respect. Section four argues that an interpretation of cooperation as 'joint agency' is particularly helpful in introducing a concept of cooperation that can be applied to multiple use of a shared natural resource. Different from cooperation as a process of mutual exchange, this

approach favours 'joint action' as a goal-driven activity that is sustained by various actors who are committed to realizing a joint goal. This approach also resonates with a concern of authors in the field of water management (Delli Priscoli & Wolf 2009). They say that an approach to water ethics needs to address joint goals in shaping water resources. In particular, special attention needs to be paid to shared values underlying the formation of goals. In section five, I shall draw a conclusion from this proposal.

1. A scenario of water conflicts

Imagine the following situation. A village is located at the borders of a lake. The lake serves many different interests, including services as a sink for waste. For years, the practice of utilizing the lake as a waste dump has not been questioned. The inputs have been marginal as compared to the vast amount of water in the lake. No one has really taken notice of the problems resulting from polluting the lake. But one day the situation begins to cause trouble. The lake starts to stink; it poisons a river. As a consequence, the practices of using the lake as a waste dump are called into question.¹ At that point, a basic problem in using the lake becomes apparent: even though the lake serves many different interests, it is necessary to coordinate the profit-seeking activities. Moreover, it is necessary to reduce exploitation and to prohibit harmful practices of water use. In order to prevent tipping points beyond which the water is not usable any longer, the villagers come together and discuss the problem and possible solutions.

A first step in developing a solution is an interpretation of the occurring problems. One might argue that the problems that the inhabitants of the village face result from over-exploitation of a shared resource. Yet, this interpretation is only part of a much more complex situation. A lake is a common pool resource. Common pool resources are specified by two characteristics: they do not have effective entrance-barriers; as a consequence, profiteers are free to profit from that resource. Simultaneously, many beneficiaries compete over that resource. In particular, a frequently occurring situation is the following: 'Some of the most serious environmental problems occur when the same resource is used both as a source and as a sink: for example, when the same stretch of river is used both as a water supply and as a sewer' (Jamieson 2008, p. 14). It is not only scarcity of a shared natural resource that spurs conflicts and that might lead to the degradation of that resource. Instead, uncoordinated use of a resource has the effect that some types of usage are made impossible by other types of usage.

In my view, the villagers are well-advised to realize a model of cooperation that forestalls degradation by uncoordinated use of the resource and that coheres with claims of fairness in profiting from the shared resource. This includes a focus on some core values and the attempt to translate them into some basic normative guidelines of water usage. In particular, the water users should act together in order to realize future developments as a practice of 'active codesigning with nature' (Delli Priscoli & Wolf 2009, p. 121). Instead of regarding effects on water resources and types of water usage as given, and instead of regarding effects on

water as side-effects of their activities, they need to regard themselves as authors of rules that shape future practices of water usage. That means that they do not only interpret their shared activities as driven by a distinct vision of the future development, but also that it is based on values that help them to shape and to coordinate activities. Together, they wish to realize a good access-regime that coheres with their values. They also know that in order to succeed in achieving a good situation, they have to work together. They will rely on values of environmental conservation of that resource, on values of a fair distribution of burdens and shares in that resource, and on values of cultural identity that are attached to certain usages of water. In subscribing to an ethos that includes these values, water users form a group. They also develop a shared vision of scenarios that can accommodate the values accordingly.

This proposal for framing 'water cooperation' as a value-based type of joint action is based on two premises. First, it argues that cooperation in terms of 'joint action' is indeed the best model for resolving and transcending water conflicts. Second, it presupposes that there is some common ground regarding basic values that help to shape the decisions of the group members. In particular, this proposal amounts to the following strategy among the villagers:

As a group, the villagers first discuss their shared values that help to shape their goals regarding the common pool resource. Basically, they pay tribute to the fact that they are all in some way dependent on the water resource. Moreover, they also agree that shared goals have priority over private goals. In addition, they also reach consensus about the priority of environmental conservation, about fairness in distributing profits and burdens from water usage, and about respect for various cultural values attached to the water resource. They also figure out which concrete values are best to shape their common action. They then agree about cooperative schemes of water usage that shall be realized.²

A minimal agreement on shared values includes three aspects. *First*, the conservation of the lake is prioritized. All water users agree that heavy pollution and heavy over-exploitation of the lake is a worst-case scenario. They agree that it is reasonable to keep basic eco-systemic functions of the lake intact. They also discuss how resilience of the lake can be supported and how eco-functions that already are under pressure can best be restored. *Second*, the villagers agree that the profit-seeking practices need to be framed and guided by long-term strategies that cohere with claims of fairness. This includes a range of principles of fairness. Water fairness includes at least three aspects: (a) priority to urgent needs; (b) distributive fairness in sharing burdens and profits from the lake; (c) respect for cultural and aesthetic values. *Third*, the villagers agree that they will realize the agenda and achieve the goals as joint actors. This means that each of them subscribes to fair practices of water usage.

Obviously, this proposal for resolving water conflicts is ambitious. It rests on the idea that potential beneficiaries from a natural resource also subscribe to

a set of shared values. Water resources are interpreted as shared resources that deserve environmental protection. Fairness provides a range of restrictions in using water resources. Moreover, the proposed scenario abstracts from many additional conflicts and problems in water supply. In order to focus on one type of conflicts, it abstracts from non-anthropogenic pollution, from extreme scarcity due to climate change, and from water markets, among others. In this chapter, there is not the space to argue each claim in water ethics accordingly.³ Instead, some core ideas regarding an approach to joint action and regarding basic values of a water ethics shall be outlined. Before doing that, it is helpful to contrast an approach to water cooperation with a familiar interpretation of the necessary degradation of natural common-pool resources. This is the ‘tragedy of the commons’.

2. The tragedy of the commons recalled

The usage of a natural common pool resource by various water users has been interpreted as a paradigm case of the ‘tragedy of the commons’ (Hardin 1968). This narrative recalls the necessary degradation of a shared natural resource that is accessible by each beneficiary who wishes to use it. Moreover, the ‘tragedy’ means that a socially desirable goal is not achievable, even though this is not willed, but the outcome of a hazardous situation.

One interpretation of this narrative states that natural resources will necessarily be over-exploited by uncoordinated behaviour. As common pool resources, lakes, rivers and groundwater reservoirs do not possess natural entrance-barriers (Buck 1998; Kaul et al. 1999). Simultaneously, competition over water reservoirs is high. As life-sustaining and simultaneously multi-functional goods, many diverse users are interested in optimizing their profits from a common pool resource. One immediate consequence is that over-exploitation is likely to occur. As for water reservoirs, the overall situation is worsened by climate change that contributes to desertification and to growing scarcity of water supply, even in formerly water-rich regions of the world (Feldman 2007). The situation is also worsened by the additional problem of long-term effects of profit-seeking behaviour and by an exponential growth of need in some areas of the world that suffer from over-exploitation, in particular in megacities.⁴ In addition to over-exploitation, in-pool pollution is another threat to common-pool resources. Due to the quality of water as a cohesive medium, one disastrous incident of pollution can set the whole natural resource at risk. Moreover, uncoordinated interests contribute to practices which are not mutually compatible: a natural resource cannot simultaneously be used as a sink and as a resource for life-supporting activities (Jamieson 2008, pp. 14–22). As long as access to natural common pool resources is not restricted, conflicting interests result in the destruction of that resource.

The proposal to frame multiple use of a water resource as water cooperation rejects this narrative of a ‘tragedy’. The degradation of water resources is not regarded as a necessary and as a tragic event which results from competition and a lack of entrance-barriers. Even in circumstances in which institutions that

regulate access have not been established yet, it is possible to develop regimes of fair access that cohere with conservation of that resource. As for the theoretical resources the biggest difference between water cooperation and the ‘tragedy of the commons’ is the following: whereas the background idea of the interpretation as a ‘tragedy of the commons’ is basically a concept of profit-seeking behaviour of self-interested individuals, the interpretation of water cooperation builds on capacities to negotiate and to realize joint goals. In particular, it regards it as possible for individuals and for groups of people to act together against the background of a set of shared values.

In the reminder of this chapter, I wish to argue in favour of water cooperation as a reliable alternative to the alleged tragedy. Therefore, I start with rendering explicit some justificatory burdens. The story of the ‘tragedy of the commons’ helps to highlight the burdens of proof of a theory of water cooperation. I shall formulate them as two critical questions that the theoretical approach to water cooperation has to answer:

- 1 Are there any shared values that persons will be willing to subscribe to in water cooperation?
- 2 Why will people act together in profiting from water resources?

The first question is debated in ethics. Normative claims need to be justified. In particular, in order to frame cooperation, it does not suffice to portray and to examine values from a philosopher’s point of view. Instead, they need to be related to the ‘real will’ of persons. Following John Rawls (2005), philosophy serves at portraying and justifying basic principles of justice. Yet, in answering severe reservations of Jürgen Habermas regarding the connectedness of this philosophical enterprise with the real will of the people, democratic procedures are obligatory in order to get the necessary reassurance that the principles are really willed by the people (Habermas 1996; Rawls 1996). Philosophers cannot realize the step from theory to practice. But they can argue that the proposed values are good enough to pass a basic contractual test: basic normative principles need to be good enough to be accepted for reasons that each person can subscribe to. In my view, the debate on ‘environmental justice’ can be seen in this light. Justice is a very basic concept in ethical terms. It can be spelled out in a range of principles of fairness that can be accepted by each person.

The second question about the motivation to cooperation has another twist. It addresses the very basic issue of *homo economicus* on the one side and persons endowed with a will to cooperate on the other side. Moreover, it also calls into question whether or not cooperation is possible at all. Instead of getting into a debate on the foundations of ethics, recent approaches to ‘joint action’ in social philosophy demonstrate that persons are not only willing to cooperate in order to achieve a shared goal, but also capable of realizing shared goals by working together (Bratman 2014; Gilbert 2003; Tuomela 2010). Authors in the field of social philosophy argue that ‘collective action’ is not as problematic a notion as also recalled in the narrative of the ‘tragedy of the commons’. Instead, it is a

usual state of acting in societies. An explanation of these facts can be applied to an interpretation of environmental cooperation, too.

As for water resources, another theoretical line of thought can be added. If there is any truth in the narrative of the 'tragedy of the commons' it is the following. A loss of water resources will indeed be a tragic event. Living beings on planet Earth need water to survive. Since ancient times, civilizations have been dependent on water resources. The approach to water cooperation does not only highlight the very need to develop distributive schemes that contribute to protecting a valuable shared natural resource. It also argues that it is time to first render the effects of our current lifestyles on water resources visible; it is then necessary to get beyond schemes of distribution and types of usage that privilege some and that remain uncoordinated. Water resources are part of the common heritage of mankind; they are the most basic natural common pool resources we have. Therefore, it is obligatory to address these resources not only as jointly possessed goods, but also as goods that need to be protected from further damage.

3. A framework for water cooperation

Following theories of joint agency, cooperation does neither have to be paralleled with a voluntary exchange of assets, nor is it congruent with a social contract.⁵ Instead, cooperation is a goal-directed activity of various persons who contribute to realizing a shared goal. The group of persons that acts together realizes a shared goal jointly. Before spelling out this model of joint action more thoroughly, I shall first discuss the space for introducing values in cooperation and some most basic values that underpin shared agency in terms of 'water cooperation'.

Following Tuomela, joint action rests on a scenario in which persons form a group and subscribe to a shared goal (Tuomela 2010). What holds the group of persons together, and what gives reason to realize steps towards the realization of that goal, is not only the attractiveness of the goal. Instead, various persons are related to that goal via a shared 'ethos'. A group is literally constituted by the commitment of all group members to a shared ethos, whereby the ethos contains 'constitutive goals, values, beliefs, norms and standards collectively accepted by the members acting' (Tuomela 2010, p. 44). This ethos represents a joint commitment. Moreover, it provides persons with reasons to act in a certain way, even when acting as individual persons.

Theories of joint action explain the importance of a shared set of values, an ethos, both in forming a group and in realizing a shared goal. They regard this as a fact. Now, ethics can supply ideas of which values in which scenarios matter. In order to justify a range of values that people can subscribe to, it is important not to choose particularly controversial values, but basic values such as the worth of a resource as deliverer of eco-services or the value of fairness. This approach to cooperation is much more modest than the claim that persons are endowed with a sense of justice and therefore tend to cooperate as fair partners (Rawls 1996, pp. 19, 74–75). Instead, it rests on an interpretation of cooperation that motivates

the willingness to contribute to a cooperative scheme in a distinct setting. As for the content of the values in water cooperation, this includes the value of integrity of the natural resource, fairness in distributing profits and burdens among water users, and respect for various cultures in using water (Kallhoff 2014). Even though distributive schemes have been debated in terms of water markets, the distribution of access to water is also a matter of highly developed cultural practices. This also needs to be taken into account when shaping access-conditions to shared water resources.

In the reminder of this section, I shall highlight the content of the three groups of values that water cooperation includes: environmental conservation and the value of integrity of natural resources, distributive fairness and respect for culture.

Environmental conservation and integrity of natural resources

Conservation of the shared resource and restoration of basic eco-functions if already forestalled are basic issues in water cooperation. Obviously, the health and the resilience of natural goods resonate with conditions of good practices in using that resource. In particular, resilience of water systems is limited. As for distinguishing various good practices from bad practices of water usage, not only the quality of the emissions into a lake, but also the quantity and the types of usage can be distinguished as – taken together – either beneficial *or* neutral *or* detrimental to the basic eco-functions of the resource. As for long-term goals in cooperation, it is reasonable for each participant of cooperation to subscribe to environmental conservation as a prioritized goal.⁶ The underlying rationale is that multiple use of water can only be guaranteed when basic eco-functions that enable this multiple use are all kept intact. A lake or river that in contrast is under severe stress or that suffers from incidents of pollution and scarcity delivers only a restricted range of eco-functions (Ripl 2003). Basically, it is the option to multiple use that profiteers should be interested in. The underlying rationale is comparable to what Rawls (1996) argues in terms of a 'veil of ignorance': since future beneficiaries will not now which eco-functions they will need or desire, the best possible future scenario is a broad range of eco-functions. In addition, it is reasonable to restore eco-functions that have already been lost. In subscribing to conservation as a core value, some of the mechanisms that lead to the tragedy of the commons can already be overcome. As supporters of conservation of the resource, water users do not act as self-interested profiteers any longer. As a minimum, they comply with conservationist goals.

Distributive fairness

As for fairness in water cooperation, two basic moral insights play an important role. First, water is a common and a critical good. It has life-sustaining qualities. As such, each person has a right to access-conditions that meet basic needs. Recently, this intuition has been enshrined in a right to water (Gleick 1998;

Scanlon et al. 2004). At least, the right of each person to receive sufficient supply of clean water within a reasonable reach – among other things – is fair to claim. This first claim has already severe implications, particularly so in situations of scarcity. As for the scenario of cooperation that focuses on a shared resource, it defines one important area of fairness. It defines a fair share that each person as endowed with human rights deserves. Yet, two more spheres of justice need to be addressed.

Second, fairness in access to a common-pool resource also includes a fair share of profits from that resource and of costs in protecting that resource for the future as also for remedies. The allocation of ‘fair share’ of burdens and of profits in environmental goods is a complex matter. Climate ethics has been particularly engaged in debating principles of fairness regarding a natural common pool resource (Gardiner 2004; Kallhoff 2015). As for water cooperation, three principles are of particular importance:

- The *polluter pays principle* says that actors who are responsible for environmental hazards are also reliable for remedying that damage. Regarding natural resources that cannot easily be repaired and regarding which responsibility is often unevenly distributed, it is sometimes difficult to qualify the polluters. Yet, as a principle that supports cautious practices in using water, the polluter pays principle is helpful.
- The *beneficiary pays principle* says that persons who profit from a resource should also pay for it. In cooperative schemes over natural resources, the beneficiary pays principle has been interpreted in two different ways: first, it says that persons who profit from practices that have contributed to damage should now also pay for that damage. Different from that concept of restitutive justice, the beneficiary pays principle can secondly also be framed more directly: persons who profit from a resource should pay for environmental protection, too. This second claim can be translated into a scheme that helps to integrate environmental costs into water usage. Whereas the former principle addresses moral fault in the past that now contributes to benefits of profiteers from a resource, the second is suited for spurring fair schemes of water cooperation.
- The *ability-to-pay principle* claims that burdens should be allocated according to the capacity to contribute to environmental protection. As for the natural commons, it is important to first acknowledge that each person needs water and air. As a consequence, it is also fair to claim that each person contributes something to support fair access-conditions and a fair share of the burdens resulting from environmental protection. Yet, in order to allocate burdens in accordance with capacities, the principle also says that the most rich and economically potent profiteers should contribute significantly more.

Overall, water fairness means two things: each person should receive a fair share in a natural resource that is life-supporting. Following theories of sustainability, this also includes a fair share for future generations (Feldman 2007). As a consequence, natural common goods such as water reservoirs need to be protected

from destruction and instead be procured for future generations. And the burdens from environmental protection, from remedies for environmental hazard and the burdens from building new protective institutions, need to be shouldered according to principles of fairness.

Respect for culture

A third important pillar of basic values in water cooperation is respect for culture and various cultural needs. Water is also part of a web of cultural practices and religious rites (Gyawali 2009; Macauley 2010). In particular, some water reservoirs are also part of the web of goods that deserve the status of the common heritage of mankind. Respect for cultural identity does not mean that each type of water practice needs to be accepted. Yet, sometimes it is particularly difficult to integrate or even transform cultural values towards a culture of mutual respect. Examples are given in a study on water values in Nigeria: ritual procedures and religious values might support a view of water as a religious and even saintly good which claims that water reservoirs should not be transformed in any way (Akpabio 2011). Sometimes, conflicts arising around the categorization of water as saintly are deep, as examples from Hinduism demonstrate (Gyawali 2009, pp. 13–17).

Authors in the field of water ethics have claimed a culture of respect for water. In particular, an approach to water ethics does not have to accept these approaches straight away. Instead, a minimum requirement is that ‘... a new ethic, even in our advanced technological age, should be based on finding a new balance of the sacred and utilitarian in water’ (Delli Priscoli & Wolf 2009, p. 121). An ethos that supports group action includes respect for values of cultural heritage and for aesthetic values in addressing water. In particular, the diversity of values needs to be respected. As a consequence, there might be reasons to spare a segment of a river or a lake from usage. Perhaps, it is also necessary to prevent certain types of action from happening. Overall, it is important to regard cultural heritage as an important aspect of water cooperation.

To sum up, I have argued so far that a range of values serve as a yardstick in water cooperation. They include priority to environmental protection, environmental fairness and respect for diversity in cultural values. These values are part of the ethos of members of a group in water cooperation. They also contribute to shape the goals of cooperation in developing schemes of cooperation in addressing water as a shared resource.⁷ I shall now explain what I mean by ‘cooperation’ and for this draw on theories of joint action that have been debated in social philosophy.

4. Theories of joint action as a theoretical background

In philosophy, goal-directed action has primarily been explored as events that are caused by single actors. Recently, authors in social philosophy explain that actions by single actors are only one mode of acting. They highlight another

mode of acting, which explains the very basics of living together in societies in another light. Authors in social philosophy argue that acting together is a rather usual thing to happen. Indeed, without acting together on a daily basis, neither single persons nor societies would survive. Approaches to what has been called 'shared agency' explain how individuals come to 'work together', how they act collectively and what the processes of group formation and of collective agency imply (Gilbert 1996; 2003; List & Pettit 2011; Tuomela 2010). Some of these theories subscribe to collective agency as exemplifying all critical characteristics of an action undertaken by a single person: a group is considered as having intentions and a single goal. It is able to realize that goal, and therefore it also exemplifies the motive and wish to realize that goal (Searle 1995). Yet, different from a metaphysically thick concept of collective agency, authors also discuss the phenomenon of acting in a group as different from acting as a single person (Tuomela 2010, 2012). These debates have also contributed to a new interpretation of 'cooperation'.

Whereas cooperation has often been reduced to a market-like type of exchange, theories of shared agency regard cooperation as a collective, goal-driven and mutual enterprise. In this section, I wish to draw some lessons from theories of joint action for water cooperation. In my view, a model of joint action is helpful in explaining necessary elements in an approach to water cooperation. I shall restrict the discussion to some basic insights that allows us to apply joint agency to an approach of water cooperation.

In profiting from a shared resource, persons are already in a situation in which they interact in one way or another. In particular, not only acts of pollution or of spoiling have effects on other participants in the same situation. Instead, intricate water supply systems and irrigation systems as well as complicated rules of allocating rights of access in profiting from waterways demonstrate that profiting from water necessarily has an impact on the usage by other persons. In addressing a shared natural resource, two options are available: either not developing explicit schemes of cooperation, but simply letting things take their own course, or developing and negotiating schemes of cooperation that serve the interests of all parties. In such a situation, it is better to negotiate distributive schemes instead of not doing so.⁸ The first lesson that can be learned from theories of joint action can be termed 'explicitness'. In order to develop fair schemes of cooperation, it is necessary to name the conflicts and to explore fair schemes of distribution and of access to a shared resource.

Theories of joint action state that 'joint action' has a structure that differs both from the behaviour of swarms and from acting as one single actor. In acting together, each person is mutually responsive to what other persons do; in particular, persons contribute to realizing a shared goal by each doing his or her part. In modelling conditions for best practices of environmental cooperation, this is an important insight. Successful irrigation systems and water supply systems work like that: they have feedback mechanisms that restructure profit-seeking behaviour at various points (Ostrom & Gardner 1993). Yet, this practical dimension needs to be supplemented by a normative one. In addition to the approach of 'governance' favoured by Elinor Ostrom (2003), it is possible to transcend conflicts not only by

rules that groups of profiteers from a shared resource develop from the scratch, but by a shared commitment to some basic values. The second lesson from approaches to joint agency says that group action is favoured by a shared 'ethos'.

Following Tuomela (2010), acting as a group member differs from other types of cooperation in terms of a shared 'ethos'. As members of a group – that is not necessarily a long-lasting or natural group, but might also be a temporary task group (Tuomela 2010, p. 164) – persons engage in *we*-attitudes. They start reasoning and intending as group members. Moreover, a shared goal resonating with *we*-intentions is also action-guiding for group members – at least in a situation in which the goal is tied to an ethos that participants of the group subscribe to. 'In this case of collectively intentional collective cooperative action, the group members, in effect, has a collective intention expressible by 'We will cooperate to achieve goal G. . . . The group will at least try to bring it about that G is satisfied or promoted in accordance with its ethos' (Tuomela 2010, p. 166). The ethos gives expression to a collective commitment. As for water cooperation, the ethos of conservation, distributive fairness and respect for culture serves as a proposal for a shared ethos of profiteers from a water resource.

In addition, joint action depends on a clear expression of joint goals. A theory of shared agency does not presuppose that each single person realizes the same goal. Following the proposal of Bratman of a 'planning theory of joint action' (2014), persons act together when they try to realize a goal that fulfils two presuppositions: the goal itself is a joint action; and the goal cannot be achieved without realizing it together. In order to constitute a collective of persons acting together, it suffices to identify a group of persons who are related to each other in terms of 'modest sociability' (Bratman 2014, pp. 92ff.). Yet, it is obligatory to interpret the single actions as parts of that endeavour to realize a shared goal. As for water cooperation, it is necessary to envision a situation that all possible actors can subscribe to. As for this goal, the ethos supports goals that serve the group as a whole, not single actors alone. In particular, it is helpful to envision concrete patterns of exchange that resonate with the group ethos.

A final important comment addresses the problem of 'defection'. People even if convinced of a shared ethos are not saints. Instead, they might still try to cheat on co-operators; they may also still prefer a behaviour of free-riding. And what if a 'big polluter' is not willing to join the group of co-operators altogether? In my view, these aspects do not speak against a model of cooperation in terms of joint action. Instead, it speaks in favour of institutional instruments to reduce defection and to provide incentives for cooperation. Different from theories that address cooperation in a rather loose sense, a concept of joint environmental action highlights that both the goals and the moral commitments which support cooperation can be spelled out within a theoretical and philosophical framework. Instead of profiting from a shared resource from a single-minded point of view and instead of giving water politics into the hands of power politics, for which examples are plenty (Radkau 2002), I have argued for goal-driven and value-framed cooperation. This is not to say that conflicts do no longer arise. But it is to say that the values which should guide solutions of those conflicts can be regarded as basically reasonable values in addressing a resource jointly.

Conclusion

This chapter started with the example of a village that is situated at the banks of a lake. It has explored an approach to water cooperation that helps the villagers to develop ideas for future-looking types of water usage. In particular, environmental conservation needs to be prioritized, distributive schemes need to resonate with principles of fairness, and practices of water usage should pay tribute to cultural values attached to water usage. If successful, villagers will form a joint agency; they will shape their practices of water usage according to this 'ethos'. At the end of this contribution, I wish to highlight two consequences of this approach and also address as a third point the issue of a 'global common good'.

First, it is important to understand that water cooperation will not succeed unless actors also subscribe to a range of basic values. Different from patterns of market-style exchange, joint action is goal-driven; it is about processes that have been termed 'active co-designing with nature'. Yet, shaping the goals presupposes commitment to some basic values, including environmental integrity of that resource, principles of distributive fairness and respect for various cultural types of usage. The current exploitation of water reservoirs is far from fair; in particular, as long as it rests on either uncoordinated or purely pragmatically justified practices, such exploitation will continue to spur the 'tragedy of the commons'. Without a shared ethos, an alternative to over-exploitation and destruction will not be developed.

Second, the model of joint action I have proposed in this chapter is based on some very basic insights into how people succeed in acting together. In order to achieve a shared goal, people need to be clear about their common goals. They need to understand in which ways the shared goal resonates with values they have or they are willing to invest in. Following proposals from Tuomela, groups do not have to be pre-existent, instead they can develop as answers to shared sets of values. In particular, persons and institutions that subscribe to shared sets of values can form collective actors that address joint goals. Yet, in order to succeed, it is necessary to understand the very nature of the collective enterprise. As a first step, the shared goals need to be made explicit. As a second step, it is necessary to design institutions that spur collective action and that contribute to preserving natural common pool resources from being exploited by single and self-interested actors. This is of course one of the most challenging aspects of this theoretical approach, which would need much more space to unfold in terms of institutional settings that resonate with the normative proposals. This chapter has had the much more modest goal of outlining an alternative to random exploitation.

Third, as for water as a global commons, two comments help to apply the proposals to global agendas. Even though water conflicts are always shaped by many local factors, and even though water conflicts do not result from uncoordinated patterns of exploitation and from pollution alone, but also from environmental problems that affect water systems, a worldwide commitment to a water ethics approach would be helpful in two respects. Charters are not so much about really designing and channelling institutional change, but they contribute to empowering

actors in supporting commitment to shared values. It makes a big difference when persons who invest in cooperative and fair schemes of water supply can fall back on a shared commitment or they need to defend their endeavours from scratch. Moreover, raising the issues of fairness and of justice is particularly important in addressing natural commons right now. Yet, instead of using justice like a sword that divides people in groups that are worse off and in groups that need to make good on former harm, it is helpful to integrate justice into a framework on which people can act jointly.

Overall, theories of joint action demonstrate that there is an alternative to a competitive model that rests on a concept of the purely self-interested *homo economicus* and to random exploitative patterns. As compared to theories of individual action, this research shifts the focus of attention in several respects. In particular, it opens new fields of research that are of eminent importance for re-thinking environmental cooperation. In addition, and different from social choice theory, processes of team formation – even comprising 'team reasoning' (Sugden 2003; Tuomela 2012) – are addressed as critical elements in working out shared agendas of joint action. It also needs to be studied in which ways the processes of forming groups includes the transformation of individual preferences along the lines of collective preferences (Poteete & Janssen 2010; Seemann 2009). Another remarkable new focus is the debate on the responsibility of groups and normative constraints of group agency likewise (List & Pettit 2011, pp. 153–169; Miller 2010). Overall, the role of shared goals is strengthened. Basically, water reservoirs need to be procured and to be protected from degradation and over-exploitation. I have argued that water ethics contributes to this shift of attention in that it contributes an analysis of basic values underlying the formation of joint goals.

Notes

- 1 I have chosen an example that is very close to the example of Peter Singer (2002, p. 27). Whereas Singer speaks of a 'giant sink' and compares this to the atmosphere as a waste dump for greenhouse gases, I shall take the lake as a literal example of a joint natural resource.
- 2 This claim is, of course, a rather challenging one. Yet, regarding water resources, there has always been some backing both in the theory of water laws and in the practices of sharing water resources. For examples, see Ripl (2003), Rose (1990), Sadoff and Grey (2002), Naff and Dellapenna (2002). Falkenmark and Folke (2002) go so far as to claim that their investigation on water conflicts 'clearly showed that at the international level, water appears to pose a reason for transboundary co-operation rather than for war, often preventing escalation instead of causing it' (p. 140).
- 3 For a more comprehensive approach to water ethics, see Kallhoff (2012, 2014, 2015).
- 4 This interpretation is particularly important in the context of climate ethics. For this 'real tragedy of the commons', see Gardiner (2001, 2011); for an interpretation of climate change as resulting to a significant degree from a comprehensive collective-action problem, see Jamieson (2014, p. 64).
- 5 The debate on collective action and on joint agency in particular is a vast debate in social philosophy. For the goals of this contribution, it suffices to select basic concepts and to

go back to the most basic contributions in that field of research: see Bratman (1993) and Gilbert (1996).

- 6 An example of an approach to restrict over-exploitation of groundwater use is given by Llamas and Martinez-Cortina (2009, pp. 193f) regarding a Spain Water Law of 1985 that restricts groundwater use.
- 7 Overall, this framework stands in stark contrast to normative guidelines in terms of 'precaution' and 'risk-averse behaviour'. Even though it is also necessary to evaluate future scenarios against the background of risks, precautionary principles are not particularly helpful in defining future goals of cooperation.
- 8 In water supply, the frequently favoured alternative to governance structures that allow for normative constraints is the 'water market'. Yet, examples demonstrate that even though markets serve the goal to set incentives for economizing water supply, they do not support, per se, environmental goals (Bernsen 2011). Nor do they have positive effects on communal values. For further discussion, see the conclusion of this chapter.

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Part II

Global water ethics, local cases and a diversity of perspectives