

# **A History of Water**

Volume 3: The World of Water

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Volume 1: Water Control and River Biographies

*Edited by T. Tvedt and E. Jakobsson*

Volume 2: The Political Economy of Water

*Edited by R. Coopey and T. Tvedt*

Volume 3: The World of Water

*Edited by T. Tvedt and T. Oestigaard*

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Edited by  
T. Tvedt and T. Oestigaard

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## Introduction

Terje Tvedt and Terje Oestigaard

### THE CHALLENGE

Not far from the trendiest restaurants of the Seine's west bank in Paris, and to the south of France, one can enter a world where discussions about secular modernity and postmodernism give way to the worship of the 'water of life' and a belief in miracles. A faith affirmed by the actions of millions of people every year. The idea that the worship of water belongs to the past, and to a more 'primitive' society, is mistaken: never before in human history have so many millions of people received holy water, holy baths or received God by being baptized in water.

Every year from three to five million people visit Lourdes at the foot of the Pyrenees. No other place in the Christian world, except Rome, receives so many pilgrims. In this French village with its holy water, in the shops that surround the basilica, commerce is flourishing. Wherever one looks there are both large and small water bottles on display. Some are in the shape of the Virgin Mary, others are like the standard plastic gallon flasks fancied by permanent campers. It is mildly absurd to observe someone strolling down a bustling street with a Marlboro cigarette or the evening edition of *Le Soir* in one hand, and a little Virgin Mary bottle filled with holy water in the other.

In the square in front of the basilica are thousands of people who cannot move unaided. Among the motley multinational crowd, who are driven by their helpers from the holy springs to the holy baths, it is hard not to be moved. Their concentration during the processions, the communal hymns, or the chanted prayers, seems to infuse the entire place. One witnesses a manifestation of the power of faith and prayer, a collective activity practised in aid of the many thousands of people who cling, visibly and intensely, to what might be their ultimate hope: that the holy water will heal them.

At Lourdes, in the country where modern rationalism celebrated

its first victories, water has been resurrected as the 'water of life', both as a religious symbol - as an affirmation of God - and as God's medium. People queue up, filling bottles with holy water to take home, be that Sydney or Zagreb. From the many taps of Lourdes flows the holiest water in Europe.

People come from all over the world to drink and collect the water, just like the Hindus, who for thousands of years have carried water from the Ganges across the Indian subcontinent. Or like the Muslims, who for hundreds of years have carried water from Mecca on their pilgrimages across the African savannah to Mali and Mauritania. Millions believe that this water can work wonders, that its miraculous properties can heal the sick, cleanse the soul, and ensure longer life.

Many attempts to summarize the history of human ideas have presented progress as a linear development, from primitive magic through modern religion to empirical and experimental science. According to this model, primitive societies use rituals in a mechanical and instrumental way. Magic developed as a result of primitive peoples' lack of ability to distinguish between subjective associations and an objective outer reality. The processions at Lourdes, however, embody a mixture of these forms. Scientific attempts have been made to establish the healing capacities of the spring water. At the same time there is an element of magic involved. Sickness has been looked upon as a manifestation of evil. Through history there have been numerous individuals, groups and movements that have treated illness by non-medicinal means and claimed success. Pilgrimages to holy sanctuaries and devotion to sacred objects have frequently played an important part in such healings.

From the earliest times, healing cults have been associated with water sources. Evidence exists of religious worship at numerous springs in western Europe, from the Neolithic period and from the Bronze Age. Thus, when entering the gates of the basilica at Lourdes in the grotto with all the crutches hanging from the ceiling above the sacred fount, one is perhaps part of an extension and a renewal of a fundamental tradition of water cults running through European history?

Turning our attention to Asia, India is the land of water pilgrims par excellence, not only in terms of tradition but also in scale. Most of the myriads of holy places lie on the banks of the Ganges or along one of the numerous other rivers honoured by the Hindus. The most sacred festival is the Kumbh Mela, which is held every twelve years in Allahabad, on the confluence of Ganges, Yamuna and the mythical, subterranean Saraswati River. The Kumbh Mela is a 42 day pilgrim festival. Although the exact number of

people is uncertain, in 2001 it was estimated that between 50 and 70 million people came to this sacred confluence. On 24 January 2001, some 20–25 million people cleansed themselves of committed sins with holy water from the three rivers. Astrologers had established that this was the best time to bathe in the confluence, and a holy bath at this time would bring the most fortunate merits. The 2001 Kumbh Mela accounted for the largest congregation of human beings ever. They had gathered with a single purpose: to bathe in the confluence of the Ganges, Yamuna, and Saraswati. The holiness of the water in these rivers will erase sins and prepare devotees for death. The water of the joining rivers encapsulates life from the realms before birth to the cosmic consequences after death.

Varanasi (also known as Benares, or Kashi), one of the oldest towns in the world with continuous habitation, is India's most holy location. It lies on the Ganges where the river swings northward before resuming its primarily eastward direction of flow. The city has acquired its status because it is here that the four most important mythical subterranean rivers join the Ganges. It has been said of Varanasi that all the 330 million Hindu gods live there, and that this was the place where cosmos itself was created. Whereas all other places in this world live in a stage of impurity, decay and destruction, Varanasi has – ever since the primordial creation – remained in a permanent stage of purity and perfection. The constant stream of pilgrims arriving at Varanasi emphasizes its central role in Hinduism, and in Varanasi every day is a day whereby cosmos is recreated at this very place. The 70,000 temples and the numerous ascetics only illustrate the holiness of the town. Above all, Varanasi is a place where the Ganges connects this world with the divine world. Hence, the most important Hindu gods immerse themselves daily during prescribed periods of the year.

Early in the morning, groups of worshippers emerge from the narrow streets and descend the steps or ghats into the river. The sadhus walking from the mouth of the Ganges to its source, and holy men coming from the temples of the town, draw water according to prescribed rituals. They carry the water back to their temples in large brass pots. Every drop has the power to wash away sins and impurities, and to bring health and happiness. Common people and devotees, half-naked or dressed in flamboyant saris, also carry with them small ceramic vessels, metal pots or larger buckets filled with the holy Ganges water.

The Brahmins intone their prayers to the Ganges and the other sacred rivers: 'Oh, holy mother Ganges! Oh Yamuna! Oh Godavari! Saraswati! Oh Narmada! Sindhu! Kaveri! May you all have joy from being manifest in this water with which I cleanse myself!' These are

all part of an elaborate system of religious devotions, symbols and ceremonies. The prayers increase in intensity towards the climax at these sacred locations, and justify them as part of an all-encompassing social ritual. The Ganges is the river of life and of heaven. It is the purest of the pure. Those who bathe in the Ganges increase their chances of entering heaven. To see, drink or touch the Ganges, or to speak to the deity as 'Mother Ganga', removes all sin.

In the afternoon, as the sun begins to set over the arid plains beyond the Ganges, one is likely to meet numerous funeral processions in the narrow streets of Varanasi. All are on their way to the river, carrying the dead dressed in colourful clothes. They are heading for the ghats of Manikarnika and Harishchandra, where funeral pyres burn continuously. Varanasi can be described as an enormous cremation ground, watched over by the god Shiva. According to myth, Shiva cremated his wife Parvati at Manikarnika ghat. The original cremation fire from this pyre has been burning ever since. It is believed that if the cremation fires are extinguished and the cremations cease, the world will collapse and a new world order arise.

Some 40,000 corpses are burnt annually. Cremations at the electrical crematorium at Harishchandra have increased tenfold in recent years but the preferred method is cremation on open pyres. Down by the ghats lie huge stacks of grey firewood waiting for the dead. The sound of logs being chopped disturbs the solemn atmosphere. Above the ghats the eternal flame that Shiva cremated Parvati with is still burning, and this primordial fire is used to ignite the pyres. The ritual follows an ancient ceremony. The family carries the stretcher bearing the dead person down to the river, lowers it into the water, opens the mouth of the deceased and pours water from the Ganges into it. With the family watching, the corpse is laid on the pyre, which one of the sons of the deceased then ignites, at the foot-end if it is a woman, at the head-end if a man. When the flames have consumed the corpse, the ashes are scattered into the river. The Hindus believe that everybody cremated here can achieve moksa, and finally be released from the eternal cycle of reincarnation. Once the ashes have been immersed in the Ganges, the divine river will carry the soul to heaven. Hindus come here with their families from all over India to improve their karma and attain eternal life in heaven.

To stand on the grey stone steps, with the golden rays of sunset over the Ganges plain, and to watch the pilgrims, yogis, ascetics and the officiating priests, all deeply involved in their rituals; to smell the smoke drifting from the pyres and see the Indian youths playing cricket nearby: all this gives a glimpse of the importance of water in society and religion. For the initiated, the Ganges represents a kind

of sacred, mythical geography, very real and deeply ontological.

Physical geography describes the Ganges in terms of length and volume. It tells us that its flow is determined by the melting of snow in the Himalayas and by the monsoons. Profane descriptions present quantitative hard facts. The river crosses the Ganges plains, which are threatened by drought during much of the year. The river is highly polluted with chemicals and sewage. It has its source in the Himalayas on the Indian side of the border of Tibet. These empirical descriptions of the Ganges and of other sacred Indian rivers leave out the more complex structure perceived and comprehended by devoted Hindus. For many Hindus the Varanasi that one sees is merely a shadow, a kind of symbol or expression of the genuine but invisible Varanasi situated on the banks of a river, which flows in heaven.

The worlds of water include such religious and cosmological realms but are not limited to these spheres alone. Water does not merely bridge the profane and sacred realms: it transcends these categories and thereby opens up wider understandings of the cultural and the natural world. An example: Mark Twain once made the comment that whisky is for drinking and water is for fighting over. Pessimistic analyses suggest that wars in this century may be fought over water. These matters and controversies in themselves are not the matter for discussion here. However, the ideological responses to the new roles that water is assumed to take on in society are of importance in an analysis of ideas about water. The ways in which water is perceived in a society, structure both the organization of that society and future practices related to water. Thus, water by its very nature dissolves the traditional boundaries in Western cultures between science and religion, facts and beliefs, the sacred and the profane, and questions the scientific method and approaches by which we seek to analyse the world.

## THEORIES

A knowledge of how people have conceived water throughout history helps us to understand the impact of human activity on the worlds of water and, indeed, to comprehend how water has influenced human activity. The fundamental and dual character of water being both culture and nature, and being both essential to life yet also a taker of life through water-borne disease and flooding, meant that people in all societies attached a significance and a complex web of meaning to water that is unmatched by any other element of nature. From everyday activities to religious ceremonies and festivals all over the world, water has always been interwoven in social interaction.

Water is both a natural and a social reality, which challenges traditional understandings in both the natural and social sciences. In nature and society water is not a single phenomenon but has many manifestations and meanings. This volume aims to highlight how water has been understood, conceived and socially constructed. It investigates in what ways, how and to what extent, people have understood, conceptualized, and used different types of water as a social, cultural and religious medium.

Peoples' relation to water has been dependent upon many factors. One aim of this volume is to emphasize how ideas and cultural traditions are seen as 'arising from water' and have been affected by particular water contexts. It is partly this dual character of water as external, as nature, on the one hand, and as internal, as a social good that we need in order to live, and of which we largely consist (60–80 per cent of the human body is water), on the other hand, which gives water a special role in social and cultural constructions of the material world.

The analytical approach of this volume is therefore at odds with the 'constructionist' (sometimes called 'constructivist') approach, while at the same distancing itself from the 'realist' disregard for the history and role of constructivist practices. The debate between the two positions has been sterile, although the dichotomy remains powerfully active as a divisive force within social science research on man-nature relationships.

In *Contested Natures*, Macnaghten and Urry define 'realism', and criticize the doctrine in this way:

Realism is '... the claim that the environment is essentially a 'real entity', which, in and of itself and substantially separate from social practices and human experience, has the power to produce unambiguous, observable and rectifiable outcomes.'<sup>1</sup>

[...] '... we argued against the doctrine of environmental realism, in particular claiming that the 'environment' does not simply exist out there but had to be in a sense 'invented'. There is no simple linear process which would inevitably culminate in contemporary environmentalism.'<sup>2</sup>

Whilst on the one hand our approach to understanding people-water relations disagrees with the approach of the constructivists, neither does it fit in with the representation of their opponents. The 'water environment' does not have the power to produce 'outcomes' separate from 'social practices', whether 'rectifiable', 'observable' or not. When constructionists say that there is no such thing as the environment – that it has to be 'invented' or that 'nature no longer

exists' – they have denied the relevance of the physical reality of nature, and of water. This approach is not able to focus on the relationship between different worlds of water or forms of water and how this has affected social and cultural constructions of water. Terms like 'nature' and 'water' belong to complex networks of cultural meanings, which change through time, and they may not be shared across cultural boundaries. Therefore, such terms have been, and are, inherently contestable.

Water and water processes are independent realities and have causal powers both on other natural processes and on societies, social structures and institutions, etc., but to acknowledge this reality makes it even more interesting and important to recognize the role not only of cultural processes (which would be the argument of the contextual constructivists) but also of physical processes in shaping the way those realities are experienced, understood, framed, contested, and so on. It is of paramount importance to study these cultural, discursive processes, whilst not denying the reality of physical or social processes that are also culturally 'constructed' in their various ways. This volume tries to overcome that tradition within the social sciences that suspends any interest in whether the objective circumstances of a physical fact merit the existence of a social problem or not. We ask what have been the effective causes of social phenomena and what has kept religious activities going; but we do not limit our interests to social variables alone: we include physical properties (in this case the concrete water landscapes in which this social activity takes place).

The volume aims to show how culture and nature can be seen as inseparable but still different, as opposing poles, a paradox illuminated by analysing people-water relations from different places and at different times.

Water is in flux, constantly changing form, and it always has the same fundamental properties. Whatever form it takes in the hydrological cycle – in the sea, in rivers or in the atmosphere as rain – or whether it is used for drinking, cooking, flushing toilets or as art in fountains, it is always the same H<sub>2</sub>O. The natural character of water is essentially the same everywhere but its role and form always vary from place to place and time to time. This ever-changing quality of water is a universal: it is common to all people through history. The character of being always the same but still different provides water studies with a unique potential for comparing human societies cross-culturally, regardless of time period or social complexity.

The 'worlds of water' are the numerous life-worlds and webs of significance people have spun around water as natural phenomena. Reflecting the many aspects of human life expressed through water

symbolism and the rich ocean of metaphors, this volume focuses on three main areas of these worlds of water: (a) water as a medium for control and the creation of social hierarchies; (b) water as a medium for understanding and cultural elaboration; and (c) water as a medium for religious and divine interaction.

These spheres are not mutually exclusive but interact and overlap. Analytically, however, they can be seen as separate domains, where the roles of water in history can be studied.

## CONTENTS

Section 1 explores water as a medium for control and the creation of social hierarchies. Controlling nature is a process by which people and societies conquer material restrictions. Since humans need water, control over this life-giving resource is of utmost importance. Those who control water control people and wealth: water is power.

The chapters in this volume highlight these processes through case studies from a wide range of countries in different historical settings. The studies emphasize how ideas about water and its role have changed throughout history, and how legitimating processes and the struggle for control of water should be contextually understood. Donald Worster discusses theoretical aspects of water in the age of imperialism and beyond, in a global perspective. Approaching the topic from another direction, David Gordon analyses how the water tenure system in the Luapula valley of central Africa changed from being regarded as a sacred ownership to a colonial commons subjected to an array of regulations. Kate A. Berry focuses on how narratives of water control and usage in Hawaii have changed over time and how water conflicts have been linked to different ideas about water distribution and rights. Fenda A. Akiwumi continues with an account of conflicts in water use in an African mining economy in Sierra Leone. The mining industry's need for water, and its ideas of how it could be procured and by which means, were dramatically different from those of the local people, who lived and worked within a traditional agricultural perspective.

Within all communities those in power must be able to demonstrate and justify their power vis-à-vis the rest of the population. Visualization of power has often proved to be both an effective and dominant way of creating hierarchies: dams, hydroelectricity and hydraulic systems have therefore not been mere technological constructions but also monumental symbols intended to express power, vigour and domination. The various mechanisms by which water has been controlled and manipulated should therefore be

regarded as a means of constructing social hierarchies.

The symbolic importance of such technological constructions lies in their representation of power and dominance, creating notions of superiority and inferiority. Mark Maguire discusses how Ireland was powered by hydroelectricity from 1923 to 1960, and that it should be understood not only as a means to increase electric output but also as a means to increase symbolical capital and manifestations of governmental power. Wong Y. Chii and V. Kallianpur illuminate water as a symbol of power in a historical perspective by focusing on the hydraulic system of Golkonda in Hyderabad (1512-1687 AD) in India, and show how this impacted on society.

Water creates hierarchies, and it works as a structuring principle, which D. D. Tewari emphasizes in an analysis of the evolution of water rights in South Africa. Changes in water rights have been interwoven into the nation's political and economic history and may function as a mirror of other rights. Brian Black focuses on the role of water in the ethics, modernity and technology of the American New Deal. Behind technical landscapes were environmental planning and ethics, making the sciences of ecology and anthropology an intrinsic part of studies of modernism and technological landscapes.

The emphasis on water as a medium for control and social hierarchy involves both macro and micro levels. At an individual level, water is a highly efficacious means by which it is possible to create, express or transcend hierarchies. The caste system is a social organization primarily based upon transactions of water and food. Pure people cannot receive water from impure people. Water and people are one – they are indistinguishable – water has attained a moral and spiritual quality. The fluid character of water enables constructions, which equalize humans with their exteriors. A sinful or polluted person transfers his or her qualities to the water in both positive and negative ways. Hence, it is possible to cleanse oneself but also to pollute others by water. Deepa Joshi and Ben Fawcett illuminate these problems of unequal social order in India through a water perspective. Although the caste system as a social principle is abolished in theory and by law, actual social practices communicated and differentiated by the use of water are long lasting and difficult to change.

Jacobus J. de Vries shows how scientific groundwater hydrology in the Netherlands developed in close association with water management problems. Water management has always been an integral part of life in the Netherlands. A major part of the reclaimed land is man-made – by drainage of marsh land, disposal of surplus water and the perpetual struggle against encroaching seawater and floods. Thus, varying man-water situations stimulated the development of a

particular hydrological research. Too much water or the wrong water is as dangerous as too little water, and it becomes a societal problem that involves engineering, geographical, historical, and social and political issues. In the Irish famine of the nineteenth century, J. C. I. Dooge discusses how drainage and river works influenced society and reduced poverty in times of crises, as impediment to land drainage for agricultural purposes provided more secure crops.

Section 2 explores water as a medium for understanding and cultural elaboration. This entails two approaches. On the one hand, understandings and conceptualizations of water as a cultural and social medium are intrinsic to every society. On the other hand, water in itself is used to express meaning and to define social relations and cultural aspects. By illuminating and demonstrating how people and societies define water and how water defines understandings of humans and social institutions, Section 2 aims to emphasize some of the dialectical roles water plays in the constitution and conceptualization of society and the world.

The pervasive role of water in society as a structuring principle stresses how and why water is such an efficacious metaphor and symbol when people describe and communicate the world they live in to themselves and to the outer world. Water has been, and is, important for everyone, but the elaboration and the explicit meanings are cultural constructions, constantly re-negotiated in a natural and social environment. Water is used to express meaning and can therefore be seen and analysed as text. In many cases the use of water metaphors is a more sensitive, visual and forceful way of arguing than the use of other metaphors. The conceptualization of water is often emphasized and elaborated extensively in literature, art and film. Poets and novelists use water as a framework for interpreting, grasping and explicating ambiguity within their own culture and society. Especially in local lore, water images and understandings of the world through water play a fundamental role, partly because water is intimately interwoven with religion and ritual.

The understanding and conceptualization of water, therefore, take numerous forms, which necessitates contextual case studies of these world views. Jean Manore analyses rivers as texts and he investigates the change from pre-modern to postmodern understandings of development, technology and the environment in Canada and abroad. Essential in people's perceptions of water is their conceptualization of safe and pure water. Owen Roberts discusses how the myth of purity was constructed regarding the marketing of Welsh water from 1750–2000. In contrast, Eva M. Rinne analyses the perceptions of safe water in rural Yoruba communities in Nigeria.

These approaches to the meanings of water and to water as

meaning, help to highlight the pervasive roles of water in society. But water also has other potentials. The wide range of nuances and the numerous facets of which water is the essential and integral part, give authors and poets a rich base from which metaphors, metonymies and reveries express social matters or aspects of life. The diversity of qualities creates the material and constructions by which it is possible to express social relations and problems. Stagnant water is silent but flowing rivers are like thunder; water may represent death or life. Through the use of water metaphors it is possible to express human processes and political criticism in efficacious but subtle ways, since human lives have many aspects which have their parallels in the properties of water.

V. I. Khasandi-Telewa analyses water in the life of the Kabras of western Kenya as it is portrayed in their folklore. Fibian K. Lukalo focuses on cultural interpretations of water in a rural community. Water images are an integral part of most perceptions and conceptualizations of the world, regardless of where and when. Donald C. Jackson emphasizes images of dams and the riparian landscape in an analysis of the pastoral, the monumental and what lies in between in the USA. Finally, Jon Askeland and Alvaro Ramirez show how and why water images have had a crucial role in Latin American cinema, with special emphasis on Fernando Solanas.

The final two parts of the volume explore water as a medium of religious and divine interaction. On the one hand, water is life and represents the future but, on the other hand, water is also death. This dichotomy enables unique ontological expressions, and the symbolism of water often implies both death and rebirth. In baptism the initiates symbolically die in the water by immersion and arise from it as reborn in the kingdom of God. Rivers are commonly used to symbolize the crossing-point between the living and the dead. Violent waters are attributed with destructive and negative capacities whereas life-giving waters are the essence of humanity and further life. Water is essential to all life. In its various stages, water symbolizes the whole of human life from the womb to the tomb. We are born from water, and water in its original form is procreative. Metaphors of creation and cosmogony get their strength and rationale in aquatic symbols because water is a pro-creative force and the essence of all kinds of life.

The religious and cultural uses of water, which express essential truths of humanity and the relation between people and gods, differ within world religions, traditional folklores and tribal religions. In any study of water in religion it is crucial, therefore, to conceptualize the different variables and types of water which people give importance to in their daily life. Water images and metaphors in

worship depend upon, but are not restricted to, the physical environment that people inhabit and cultivate. The physical environment is often a holy and cosmological landscape invested with divine meanings, and the profane and economic spheres are interwoven with the sacred and religious spheres. Peoples' world views of themselves and their gods can be analysed as a product of this relation between nature, society and water.

The chapters dealing with the religious role of water show how and why people with different world views use holy water in devotional worship. Different types of water are associated with various attributes, behaviour, and genders. Rain, rivers, ponds, lakes, hailstorms, snow and glaciers are some of the forms water may take. These phenomena of nature are incorporated and interpreted into cultural and religious contexts and spheres. Water nourishes life and rain fertilizes fields. In the erotic symbolism of the primordial creation the sky embraces and fertilizes the earth with rain. Gods and goddesses may also take abode in, embody, or materialize themselves in water rather than in a statue or a temple. Thus, the water in itself might be a divinity. Divine water is neither neutral nor passive: it entails powers and capacities to transform this world, annihilate sins and create holiness. Water carries away sin and pollution, and it purifies both physically and symbolically. Depending upon the religion (and apart from being a god or goddess in itself), water may also be seen as a living and spiritual substance working and mediating between humans and gods or the divine realms.

Good water is praised and bad water is banned. The procurement and control of water is not only a realm for humans but also a divine project. In many religions, cosmos is created from water. Cosmogony, the continuous re-creation of cosmos, gods and humans, is dependent upon water. The gods create, maintain and guarantee human life and prosperity by the presence of sufficient and good water on earth. This intimate relation between gods and humans is seen in rainmaking rituals. Humans are dependent upon water, and if seasonal rain does not come when it should, the gods are invoked to modify nature for the creation of life-giving water. Turning absence into presence is an enterprise that necessitates all cosmic forces. Rainmaking rituals are rites in which humans sacrifice to the gods for the return of water in order to secure a good harvest and further life. The almighty and supreme powers of the gods are expressed by the divine control of water, which guarantees people's well-being and their life and death by presence or absence of water.

Water rights are often seen as given and legitimated by religion and gods. Adrian Armstrong and Margaret Armstrong discuss water and water rights within Christianity, the biblical references to water

and the consequences for Western European countries, whereas Joisea Joseph Kodiyankal highlights river cults and management practices in ancient India.

Everything good and pro-creative has commonly been seen as holy. Clear and fresh water is good and has therefore been regarded (and still is regarded) as a divine or a godly gift, since water from rivers and rain gives fertile fields and prosperity for mankind. Impure water has been conceived as dangerous, whether due to ritual pollution or physical contamination. Holy water has throughout history been seen as a force that cleanses the devotee of sin, whether a Hindu pilgrim at a sacred river, a Christian devotee in baptism, or a Muslim at his daily ablution. The rituals might differ but the essence is fundamentally the same. Water carries away both physical and symbolic impurity. The transformative character whereby sin and pollution are cleansed is a process which includes cosmos and divine realms. Therefore water as a working agent is often worshipped as a god or goddess because it possesses divine capabilities.

Water is a universal medium inscribed with human character, conceived as a social matter and a spiritual substance. Simultaneously it belongs to the realm of nature as a changing substance, passing from solid matter to liquid and finally to gas. The water in the ocean evaporates into the air and rains over a distant place; it flows via the river into the fields and becomes cultivated, and the chain is endlessly and continuously repeated. The same water divides into different waters, but it will always return to its original form. The hydrological cycle in nature is paralleled by the endless social cycle of water, and both cycles have helped to produce powerful cultural and religious constructions.

Human attempts to modify the weather are not solely a religious task, and even technical and scientific views on water have led to ambitious experiments aiming to change rainfall patterns in Western countries. Steve Matthewman shows how weather modification and rainmaking experiments were a part of the natural sciences in USA in the twentieth century. In Nepal, Terje Oestigaard illuminates how death rituals are an integral part of the hydrological cycle, where the aim is to create life-giving waters for descendants and future society. Water culture, and particularly religious beliefs surrounding water, were crucial in the construction of political authority in the pre-colonial period. Meredith McKittrick puts emphasis on rain, rulers and religion in the Cuvelai floodplain as the driving forces which create wealth of nations. Finally, Charles M. Namafe emphasizes the Lozi flood tradition in Zimbabwe, showing how and why this tradition has created and structured the Lozi people's identity as a group in numerous ways.

This volume is an attempt to present the complex picture of how water has been conceptualized as a medium for control and social hierarchy, for understanding and cultural elaboration, and for religious and divine interaction, all interdependent spheres, each necessitating the other. Water is both nature and culture, and its profound character makes the substance unique in the context of social construction, having epistemological and ontological consequences for both the social and natural sciences. The chapters aim to convey the idea that with water as a point of departure it is possible to re-work dominant conceptual legacies about nature and society and 'realism' and 'constructivism', and to overcome the nature-society dualism in traditional analyses. Humans live in worlds of water: water is used to define human life-worlds and the worlds are sustained through water.

## NOTES

1. Macnaghten, P. and Urry, J. (1998), *Contested Natures* (London: Sage), p. 1.
2. Op. cit., p.32.