Water and Religion

Hans-Curt Flemming
University of Duisburg-Essen, Biofilm Centre
IWW Water Centre
What does water have to do with religion?

- For at least 3-4 billion people on this planet, religion and culture show the way how to deal with water, not scientific knowledge.
- The influence of religion and tradition on use and management of water is underestimated.
- Religious and traditional rites and rules are much more effective than hygienical rules.
- Many religious rites reflect hygienic backgrounds as well as rules for water use.
- 12. Meeting of UN Commission for Sustainable Development (2004) - Statement of World Church Council: „Water is origin and source of life and the most important carrier of religious meaning“
- It appears as if the human brain is wired for the combination between spirituality and water.
Water plays a central role in many religions and beliefs around the world:
- Source of life, it represents (re)birth and fertility
- Water cleans the body, and by extension purifies it
- Water represents border and connection to this world and the other
- **Water is a living and spiritual matter**, working as a mediator between humans and gods.
- **Water: A key element in ceremonies and religious rites.**

- Dramatic example: The Flood, a founding episode in numerous civilisations.
- Among Australia’s Aborigenes, a giant frog is said to have swallowed the Earth’s water to release it only when the other animals, dying with thirst, made it burst out laughing.
- The Flood in a re-creation of the world. One emerges from water in order to be reborn
The Great Flood in world cultures

Flood Traditions

- Partial representation of Biblical idea
- Full representation of Biblical idea

Assyro-Babylonia 1
Assyro-Babylonia 2
Asia Minor
Persia
Syria
Greece
Egypt
Italy
Lithuania
Russia
China
India
Cree (Canada)
Papago (Mexico)
Atecs (Mexico)
Peru
Leeward Islands
Fiji
Hawaii

Man in transgression
Divine destruction
Favored family
Ark provided
Destruction by water
Humans saved
Animals saved
Universal Destruction
Landing on mountain
Birds sent out
Survivors worship
Divine favor on saved

http://nwcreation.net/noahlegends.html
Christianity and Water

- The bible was written in a part of the world where water is scarce
- Water features significantly the lives of people
- Scarceness of water: drought, wrath of God: Jeremiah and Eliiah predict drought as punishment
- Rainfall: Sign for God`s favour and goodness
- Water was associated with danger and death (see Great Flood)
- Polluted and undrinkable water was also very serious: one of the plagues of Egypt was turning the waters of Nile river to blood (probably an algal bloom)
- When the Israelites came to Marah they found the water bitter and complained to Moses. God allowed Moses to perform the miracle of making the water sweet and restored the faith into him
- New Testament: Water is connected with the gift of eternal life, spiritual blessing – Jesus is described him as „living water“
Lucas Cranach (1472 - 1553): John the Baptist and Jesus

Sometimes, it looks violent
Holy water (and pathogens): „Poorly blessed are the immuno-supressed!“

-Holy water is a potential source of cross-infection with various coliform bacteria, including *Aeromonas hydrophila*  
  Jurado et al., 2002

- Patients with widespread burns and other debilitating skin lesions are at risk

- Sterile holy water is one solution to this concern

- **Expiry date for holy water required!**
Pathogens in holy water

Summary

The holy water fonts from the churches of Seville, Spain have a strong bacterial contamination. Coliforms, Enterobacteriaceae and other pathogenic bacteria are widely represented in the fonts investigated. Thirty out of the 37 different species isolated from holy waters are known human pathogens. The high bacterial contamination is related to human skin transmission and, probably, to misuse of the water.

<table>
<thead>
<tr>
<th>Specimen</th>
<th>Total viable count (cfu/L)</th>
<th>Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$1.3 \times 10^3$</td>
<td>Candida parapsilosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Candida famata</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Candida humicola</td>
</tr>
<tr>
<td>5</td>
<td>$6.0 \times 10^3$</td>
<td>Candida glabrata</td>
</tr>
</tbody>
</table>

➢ In some communes: Salt added to holy water for preservation
Christianity: Long way to cleanliness

- St. Benedict: „Those who are well, and especially to the young, bathing shall seldom be permitted“
- St. Agnes an early Christian martyr in Rome, died unwashed with 13
- St. Jerome rebuked his followers for keeping themselves too clean
- St. Francis of Assisi listed dirtiness amongst the virtues of holiness

- Cleanliness became a virtue after cholera claimed 30,000 souls in Victorian England (14,000 alone in 1849 in London)
- Rev. Charles Kingsley promoted the water closet as new saviour for health and hygiene
- Rev. Henry Moule: „Cleanliness is next to Godliness“ and invented the earth closet, the first in-door toilet
The bathing house in medivial times: a source of joy (and a sink of sin)

Significant improvement in morals!
Detailed report from Hieronymus Bosch (1450 -1516):

„In the gardens of lust“

Question:
Which sins and how many are depicted here?
Cistercians settled in wet areas

Drainage of swamps, creation of arable land

Water wheel as major technological performance in medivian age

Collection and treatment of wastewater

Problem today: humidity in buildings: painted glass corroded by fungi
Water and miracles

particularly popular:

Transforming water into wine
Walking on water

Not everybody can do it: St. Peter saved from drowning
Islam: „Cleanliness is half of faith“

The ablution "wudu"
“Believers, when you prepare for prayer wash your face and your hands up to the elbows, and wipe your heads and wash your feet up to the ankles” (Quran 5:6)

Water in Islam

- The Prophet Mohammad very sensibly forbade urination in proximity of water,
- and advised to guard against three practices, "evacuating one's bowels near water sources, by the roadside and in the shade" (Al-Sheikh 1996).
- Fecal material is “najassa”, impure, and contact has to be limited.
The washing process of the Holy Kaaba involves the inside only.

It is washed with water from the Zamzam Well that is mixed with rose water or flower perfume.

The washing includes the four interior walls and the floor of the Holy Kaaba.

The inside is then dried with an incense prepared specially for the occasion.
Conflict between religion and hygiene in Islam

„Daily Mail”, February 27, 2008:

- In at least three large British cities, female hospital staff refuses to apply the hygienic rules
- These require to roll up the sleeves during hand washing and to thoroughly clean the lower arm before assisting surgery
- Muslim medical students in Alder Hey Childrens hospital in Liverpool refused to „roll up their sleeves and expose their lower arms because this is indecent“
- Similar incidents have been reported from Leicester University and Sheffield University
- The “Islamic Medical Association” declared that exposure of the lower arm is clearly not tolerable
- No report about the solution of the problem so far
Exodus of the Chosen People of Israel

- Israelites escape from the Egypt army because the sea was parting
- While the Israelites could walk safely to the dry land, the Egyptians drowned as the sea came together again
- Water here is an instrument of God for punishment (for the Egyptians) and blessing (for the Israelites).
The Mikveh: a ritual bath

- A mikveh is a Jewish ritual bath used for cleansing after contact with a dead body or after menstruation.
- It can also be used for immersing vessels and as part of the initiation ceremony for converts.
- Only water that has not previously been drawn into a container can be used, and there must be no leakages.
- The mikveh has its origins in Ancient times when people had to be purified in a mikveh before they could enter the Temple area. Here, water is important for cleansing properties.

Contemporary mikveh

Judenbad, Mikvah (or mikveh) (Hebrew: mikveh; Tiberian Miqwāh, Standard Hebrew Miqva) (plural, mikvaot) in Speyer, first mentioned in the year 1128. The bath was forgotten and built over, and only recently re-discovered and made accessible to the public. This is one of the best preserved medieval mikvaot.
Hindhis worship Jhulelal, God of Water (Jaldev).

It is so because ancient Sindhis use to rely on water for business.

They use to mostly trade using the water routes.
Hindu religion and water

- God Shiva made Ganges
- Ganges flows from his head down into the world below.
- It has power to elevate the dead soul towards heaven

Water is used in different steps (16) for worshipping god such as
  - Inviting god
  - Washing feet and hands
  - For rinsing his mouth
  - For bathing god etc.
The Ganges river

- 1.000 million cubic metres of waste water go into the Ganges each day
- Water samples contained fecal coliform counts of about 50,000 bacteria per 100 ml of water, 10,000% higher than the government standard for safe river bathing
- Water borne diseases related to the Ganges include cholera, hepatitis, typhoid and amoebic dysentery
- Hazardous waste include mercury, other heavy metals, bleaches and dyes, pesticides, and PCB’s
- Runoff from farms such as manure, fertilizers and pesticides such as DDT enter the river
- Fecal-oral circle closed

Oleg Altergott, BSc Water Science
Holy water and creative solutions

- Holy water is taken from river Ganges
- Very doubtful hygienic quality

- Creative application of holy water concept:
  - Fact is that people in developing areas frequently distrust „European“ cures
  - Hindu priests offered instead of traditional holy water blessed drops that immunize against polio
  - The people were not offended because they trust in the priests
  - This „water“ was the real blessing for the children

Oleg Altergott, BSc Water Science
The largest human gathering ever has been photographed from space by a high resolution imaging satellite.

Over 70 million people are expected to attend a Hindu spiritual event in northern India called the Maha Kumbh Mela.

The pilgrims gather at a sacred location on the Ganges River, 15 kilometres from Allahabad, for more than a month of bathing rituals.

The activities are intended to wash away their sins and hasten the Hindu people's progress toward nirvana.

The one-metre resolution image was collected by Space Imaging's IKONOS satellite, travelling at over 6 km s\(^{-1}\), 677 kilometres above the Earth.

It shows red-robed bathers at the confluence of the Ganges, Yamuna and mythical Saraswati rivers.
Kumbh Mela

The sadhus are coming
Buddhism

- For Buddhists symbolism and ritual is pointless because they seek spiritual enlightenment that comes from seeing the reality of unreality.

- Water does however feature in Buddhist funerals where water is poured into a bowl placed before the monks and the dead body.

- As it fills and pours over the edge, the monks recite "As the rains fill the rivers and overflow into the ocean, so likewise may what is given here reach the departed."
Conflict between religion and water treatment

The Bagmati River in front of the Pashupatinath temple, Kathmandu, was so highly polluted before 2002 that it could not be used for religious purposes.

- This was a major problem for the devotees, and the solution was to build a cleaning station just above the temple which treated the sewage before it was channeled back into the river again.
- But then the problem was whether the water was holy or only clean since humans had interfered in the sacred river and created a “pure” river by technological means.
- This caused huge debates among priests, laymen and holy men, but since then there were no real options it has been accepted somehow as holy water.

IWHA discussion site, contribution of Terje Oestigaard (Jan. 2006)
Water and Religion – a strong relationship

- *Water is an element in every religion*. All religions and traditions anticipate the purity of rivers and wells – water is the icon of purity.

- All religions originated from periods with much less population and, thus, much less waste water.

- *Treatment of waste water (neither re-use) is no issue in any religion – waste water is considered impure*.

- Science’s interest in waste water:
  - disruption of fecal-oral circle
  - conservation of nutrients
  - protection of the environment

- Science tends to introduce new concepts and modifies behaviour.

- Religion, however, preserves old beliefs and maintains traditions and requires obedience to rituals.

- Protecting water because it is sacred is more motivating than protecting it because of the water prize.

- Those who are responsible for water should seek cooperation with those who are responsible for the soul.  
  *Meet on grass root level.*
Bonus track: Water and sins
Questions, not yet properly addressed

If water washes away sins: what happens to all these sins in water?

- Only water soluble sins are washed away – what about sticky, hydrophobic or insoluble sins?
- Do sins accumulate, e.g., on sediments or in biofilms?
- Do sins have to be reduced or oxidized? What is the endproduct?
- Are sins biodegradable? And if so, by whom?
- Are volatile sins emitted into the atmosphere? Is there photodegradation? Do they contribute to the greenhouse effect?
- Is there sustainable sin management possible?
- If sins are completely oxidized, can they be used as road paving material – and if so, for the road to heaven or the road to hell?