

水寺 Water Temple Storyboard 水寺

Initial Exploration by Malcolm Price



A Storyboard is a record of a process and the documentation of the source materials, events, discussions and thinking that hopefully leads to the making of Water Temples. It is not meant to be a coherent academic treatise, although it is meant to tell a story. It is like a scrapbook or a set of minutes where the ideas are documented progressively in both written and graphic form.

Why Water is Important?

I live in a place on a mountain in the middle of what was once the largest subtropical rainforest in the world, it rains a lot here and being on the mountain, water is an issue, I have to deal with it day to day because the rain unremittently undermines the house I live in and because I have to capture and store water for the dry part of the year in order to drink, cook, clean, grow food and try to grow a new rainforest. When I look around from the top of the mountain I live, sometimes I am in the clouds, sometimes there are rainbows, and sometimes in the morning the mist hangs in the valleys for hours. The evidence of water is everywhere. It has carved the form of the landscape including the valleys that run out to sea.

I am lucky because the place I live I can capture clean water, yet much of the continent I live on is incredibly dry, from space it looks like the driest place on Earth except that from space it is surrounded by water. 70% of the surface of the planet is water, without water there would be no life on Earth. As I sit here roughly 65% of me is water yet today roughly 1 in 9 people in the world do not have access to clean safe water and up to 80% of disease in developing countries is linked to unsafe water. Yet water unlike land we find hard to control and own. Its solid form ice makes for an inhospitable habitat without adding a lot of heat or energy. In its liquid form it will always manage to flow away unless somehow contained, even then it will likely evaporate. It is ephemeral unless frozen.

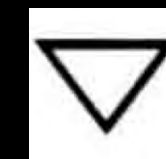
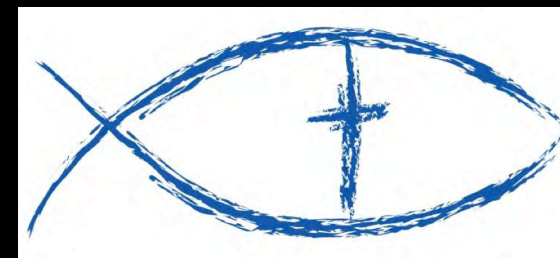
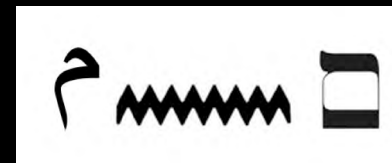
Water has always been important to all cultures in all time, and beyond human culture to all life. Without water our imaginations drift to lifeless balls of rock like Mars and the Moon.

Water also plays an integral and essential role in our psychology. It is fundamental to the chemical processes of our thinking and feeling. Water and our emotions have been intimately associated in virtually all cultures throughout time.

Yet most of us can walk to a tap, turn it on and have no concept of where it comes from, no concept of what bringing it to us costs in terms of energy, in terms what is affected by its absence. Water in my world has become a mundane utility taken for granted, at a time when its use and misuse are more critical to us and our wider natural ecology than at anytime in human history.

I think it is important that we reassess waters scientific qualities and value on one hand and divinity and wonder on the other.

For this reason and more I have decided to develop water temples.



1. Introduction

On about May 22nd 2015 my friend Jim approached me with the suggestion that maybe I should return to an idea I had worked on 20 years ago - Water Temples

Maybe its time has come.

پانی مندر 水寺 المیاه معبد Water Temple



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In 1993 I was finishing my architecture degree in Launceston, Tasmania and I had six months to do a major project of my own devising.

My project was to design a floating water temple and a techno-gypsy village around the site of derelict old church on the banks of the Tamar River.

The themes of this project resonate with me over twenty years later, if anything they feel more important now.

Theme 1 - The Importance of Place

Places are defined by the meaning we attach to them and our biological connection to them. This is derived from a combination of the physical patterns and characteristics, both natural and man-made and the natural and cultural stories attached to them. We tend to attach greater importance to places that have powerful physical characteristics such as gorges, mountain tops, junctions in landscapes where several elements intersect, or where there is a layering of stories providing a deep sense of history. Increasingly we are aware that there is biological connection to our sense of place, it is the reason different life forms evolve in different environments and why humans aren't a uniform coffee colour. There is increasing evidence showing we are largely made up of the microbiota where we reside and that there is a continual subtle interaction of this biota with us at a genetic or epigenetic level. This causes us to change physically from moment to moment related to the places where we are.

Theme 2 - Need for Secular Ritual Theatres/Community Temples

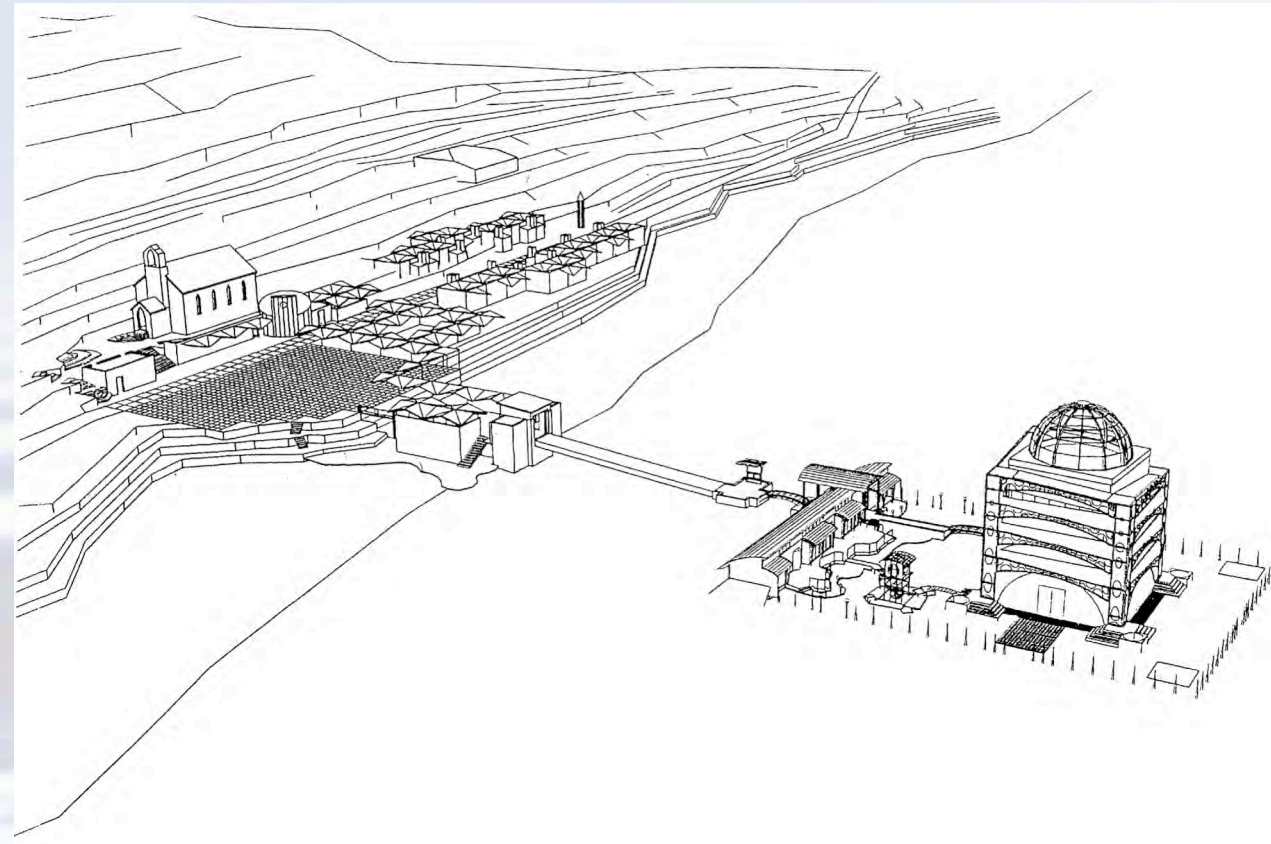
When growing up there were two types of theatres: Churches, which were explicit in creating a sense of place, however their stories were not living stories and to me not particularly relevant to the time I lived; Alternatively there was modern theatre, where the stories were immediate and relevant, however the venue was a black box, or the essence of a no place. I had the strong feeling there needed to be a new type of community temple/theatre that; was attuned and made sense its physical environment; could be a venue for relevant stories/rituals of their time and place; and which imbued qualities in humans such as a sense awe, serenity, curiosity and fitness.

Theme 3 - The Need to Rebalance the Public and Private Realms

Theme 4 - Water

In my original project the idea of a water temple was a response to a location on a powerful tidal river and also an attempt to balance the physical presence of the ruined old church located on the shore. It was also a response to a different way to relate to the Australian landscape where no happen what we as human do our presence, like our Aboriginal forbears will always be ephemeral.

One of my early inspirations was a project designed by Aldo Rossi for the 1979 Venice Biennale of a floating theatre. Wherever it was located it seemed to both fit and make sense of the place it was located, even when being towed through the mist on a river.



Much of my professional life has been a reaction to the modern practice of wiping away or sterilising the natural and cultural features of places and starting again. Many of our modern environments, whether urban, rural or "natural" have a sense of being nowhere in particular, while living on or in these no places creates a sense of being rootless and a lack of being at ease, physically, mentally, emotionally and spiritually.

2. Origin of My Story

I finished my architecture degree at the University of Tasmania in 1993, in the last 6 months of my degree I had a chance to state my position in architecture through a design project. The project I devised was a Techno-Gypsy village located near the ruin of a church on the banks of the Tamar River, and on the river I designed a water temple (a type of contemporary secular ritual theatre).

پانی مندر 水寺 المیاه م عبد Water Temple

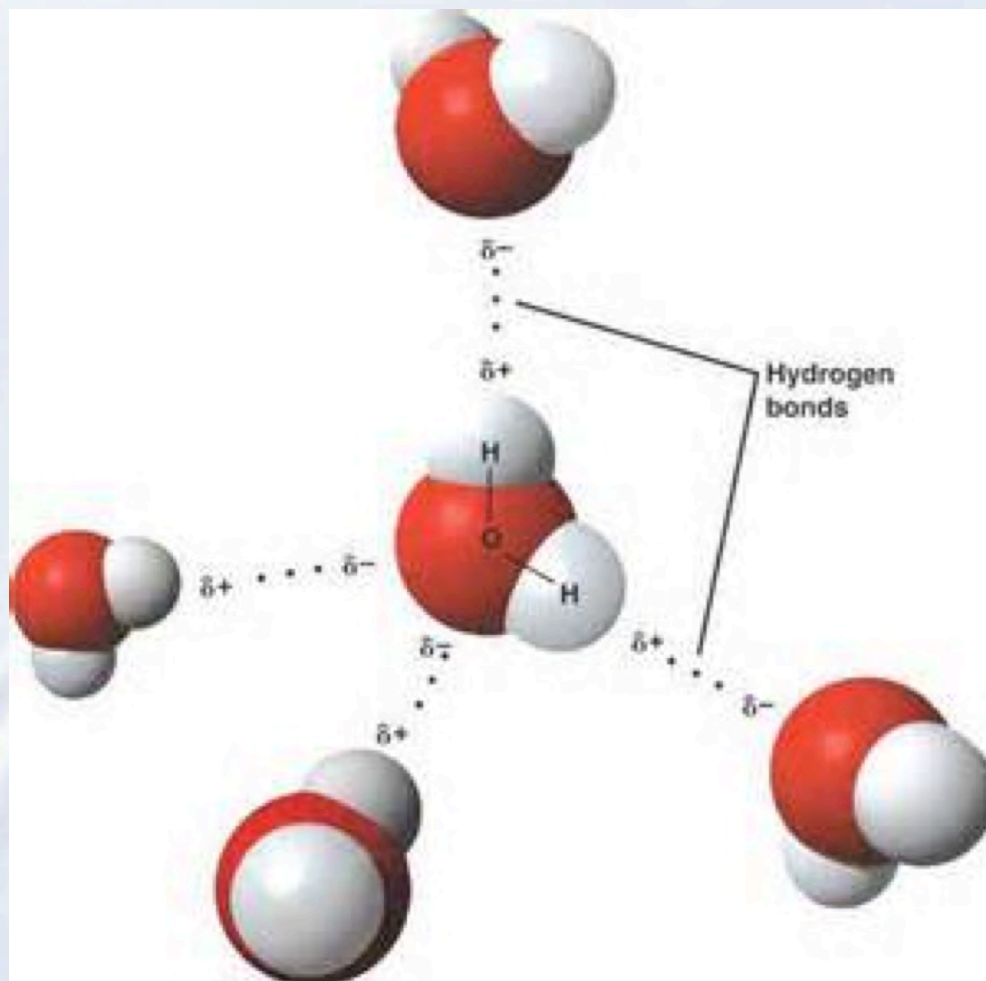
"There is nothing softer and weaker than water, and yet there is nothing better for attacking hard and strong things." Lao Tzu

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What is Water?

Water molecules are H_2O , therefore they consist of one atom of oxygen and two atoms of hydrogen. The hydrogen atoms are attached to the oxygen atom by a covalent bond, in which the hydrogen atom shares an electron with the oxygen atom.



A has no net charge because the number of positively charged protons in a water molecule equals the number of negatively charged electrons, therefore it has no net charge. It is called a polar molecule because the hydrogen ends of the molecule have a positive charge and the oxygen end has negative charge. These slight negative and positive charges mean water molecules are attracted to each other. They form a hydrogen bond, which is about twenty times weaker than the covalent bonds within the molecule.

The Surprisingly Strange Physics of Water by Natalie Wolchover

(Ref. <http://www.livescience.com/33505-water-strange-physics.html>)

1. The exact origin of our planet's water, which covers about 70 percent of Earth's surface, is still a mystery to scientists. They suspect that any water that conglomerated on the surface of the planet as it formed 4.5 billion years ago would have evaporated off from the intense heat of the young, blazing sun. That means the water we have now must have gotten here later.
2. As the saying goes, "no two snowflakes are alike." Indeed, in the entire history of snow, every single one of these beautiful structures has been completely unique. Here's why: A snowflake starts out as a simple hexagonal prism. As each freezing flake falls, it bumps into a unique range of shape-changing conditions, including different temperatures, humidity levels and air pressures. That's enough variables that the crystal formation never happens in the same way twice.
3. Though the solid form of almost every substance is denser than its liquid form, due to the fact that atoms in solids normally pack tightly together, this does not hold true for H_2O . When water freezes, its volume increases by about 8 percent. This is the strange behavior that allows ice cubes, and even gargantuan icebergs, to float.
4. When there's a huge temperature gradient between water and the outside air say, when a pot of boiling water measuring 212 degrees Fahrenheit (100 C) is splashed into air measuring minus 30 F (-34 C) a surprising effect occurs. The boiling water will instantly turn to snow, and blow away.
5. Sometimes water seems to defy the laws of physics, holding together despite the attempts of gravity or even the pressure of heavy objects to break it apart. This is the power of surface tension, a property that makes the outer layer of a body of water (and some other liquids) act like a flexible membrane.
6. When a drop of water lands on a surface much hotter than its boiling point, it can skitter across the surface for much longer than you'd expect. Called the Leidenfrost effect, this occurs because, when the bottom layer of the drop vaporizes, the gaseous water molecules in that layer have nowhere to escape, so their presence insulates the rest of the droplet and prevents it from touching the hot surface below. The droplet thus survives for several seconds without boiling away.
7. On Earth, boiling water creates thousands of tiny vapor bubbles. In space, on the other hand, it produces one giant undulating bubble. Fluid dynamics are so complex that physicists didn't know what would happen to boiling water in zero-gravity conditions until the experiment was finally performed on board a space shuttle in 1992.
8. A century and a half of scientific inquiry has yet to determine why ice can make you fall down. Scientists agree that a thin layer of liquid water on top of solid ice causes its slipperiness, and that a fluid's mobility makes it difficult to walk on, even if the layer is thin. But there's no consensus as to why ice, unlike most other solids, has such a layer.
9. A logical person might assume that it would take longer for hot water to plunge down the temperature scale to 32 degrees Fahrenheit (0 degrees Celsius) and freeze than would cold water. But oddly enough, this is not always the case. As was first observed by a Tanzanian high school student, Erasto Mpemba, in 1963, hot water actually freezes faster than cold water when the two bodies of water are exposed to the same subzero surroundings.

4. A Strange Substance

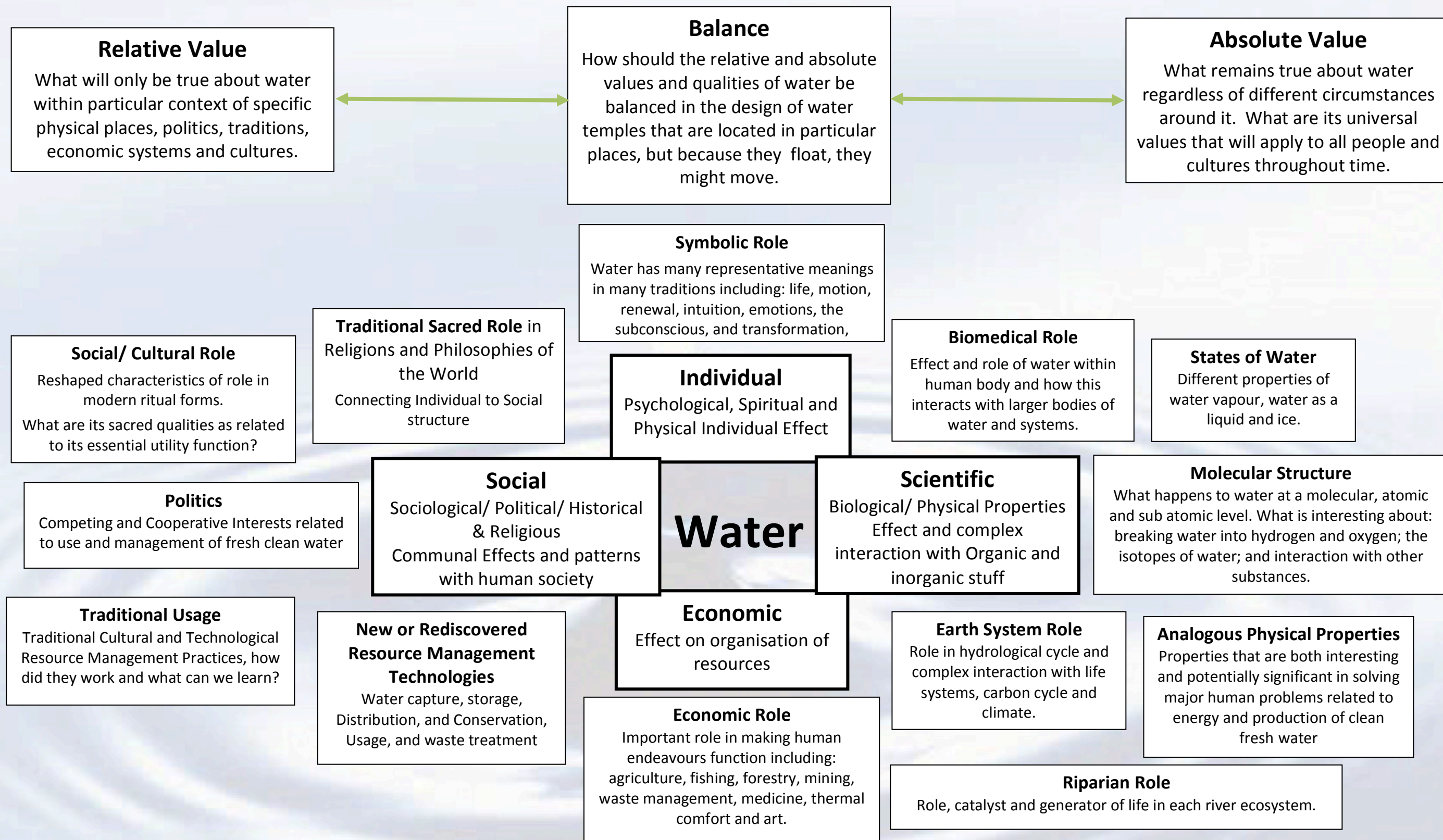
Did you know that water inside a nanotube will flow at up to 900 times the speed of normal water flow. This property of super flow has intriguing potential uses.

"Water is the most important material in nature," says physicist Marcia Barbosa

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5. Framework for Water

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The Mystery of Water - film

Professor Bernd Kroplin (Institute for Statics and Dynamics for Aerospace, Stuttgart University) and colleagues are exploring memory in water by taking photos of drops that come into contact with people and substances. When seen under a microscope they appear to retain a visual memory. For example the droplets of two flowers retain the coloured impression of the flower. It also records memories of processes, an example showed three slides of a person before, during and after being x-rayed, where there was a definite reflection of the stages. John Kanzius of Pennsylvania which doing cancer research exposed salt water to high frequency radio waves and produced a 1500 degree flame. It appears he was burning hydrogen. Professor Eshel Ben Jacob of the University of Tel Aviv also confirmed through use of bacteria that water retains memory, theorising what this means water will accumulate memories as it that travels from the top of catchments down rivers, and eventually ending in oceans. Oceans really might be the repository of our planetary knowledge in an intrinsic way. Otmar Grober a German engineer following in the footsteps of Naturalist and forester Victor Shalberger studies the dynamic flow of natural water courses. It is the natural spiralling flow into the bed of the river that protects the banks. Johann Grander from Tyrol who has had his idea of revitalising water applied is a variety of circumstances including large industrial processes, where the use of Grandess revitalising technology has resulted in a huge decrease in the rust in pipes and sediment build up.

Comment: This film catalogues an extraordinary range of phenomena without necessarily explaining them scientifically, therefore needs to be viewed with a sceptical yet open mind.



Ted Talk – The Future of Water - Dr Kalanity Vairavamoorthy

(https://www.youtube.com/watch?v=-ZzSx_43ueU)

Dr Vairavamoorthy is a civil engineer who in this talk provides a split perspective of water, as a Western trained engineer he explains how he is trained to view it as a mundane utility, but as an Indian where supply was and is not guaranteed, and where by necessity water has to be reused three or four times he views it as a precious, almost sacred substance.

“We treat it as a precious resource whether we have it in abundance or not.”

“We are the custodians of water”

Comment: His perspective is that the profession of engineering has created a psychological barrier to our understanding of the precious nature of water, particularly in the Western World. This suggests that within the Western World there maybe a role for something that reinforms a new understanding of water, in both a sacred and scientific sense.

It also points to a range of services relating to water that might be provided without going down the fully utilitarian engineering route within the “developing world”



Poptech - “Bali’s Water Temples” - Steve Lansing

(<https://www.youtube.com/watch?v=h9ozS8BKUFI>)

This talk traces the premodern development of the Subak (water temples) from the 12th century to modern times as a self-organising complex adaptive system for the water resources, agriculture and culture of Bali.

He begins by showing that the Balinese system had parallels in other premodern societies such as in Ankor Wat in Cambodia, but that it

is still a living system in Bali, despite the terrible damage that “Green Revolution” technologies wrought after their introduction in the 1960’s and 70’s.

The landscape of Bali is defined by the extraordinary layered terracing of the rice fields, the regulation of the water and pest management of this system is no mistake, it is regulated through the Subak.

Subaks are a hierarchy of temples, from local village temples, to regional and the main temple located on the crater lake, which is the home of the water goddess. The activities of the temples facilitate rituals, festival and decision making process to regulate the flow and use of water, as well as maintenance of infrastructure. The Subak are the only Balinese cultural institution which has a completely democratic structures, everyone has an equal say. Why is ritual so important? Balinese see the rituals of the Subak as aligning inner world or emotions with the outer world.



The result is a coordinated system of water sharing across the catchment that is also used to synchronise the control of pests. It is an incredibly subtle and sophisticated method of resource and ecological management that has held together for 800 years.

Comment: It points to a type of coordinating and education role of resource and catchment management that water temples could play. However, how this concept fits within its cultural context is crucial, it may not even look and feel like or even be called a temple in some contexts.

6. Research 1

پانی مندر 水寺 المیاه معبد Water Temple



Argument for Temples

There is a cultural resistance to both the idea of a temple and for a new type of temple delivering services in a new way. A friend Garth, in the following email, articulated this.

"I think the reason the Water temple idea didn't excite me was because I think it doesn't seem to fit into current ways of doing things. I know that new innovative approaches can be great but I wonder if just doing existing things better might not achieve more as these existing things are often there because they fit our culture. For example if we want to provide services for homeless people what about somewhere they currently hang out. Or if it is about educating people about water why not activities repairing current water catchments?"

My Response

"...Some churches where there is a "good pastor" still provide sanctuary, but the historical cultural idea of sanctuary in churches has pretty much disappeared in secular developed countries. Most of the commons have been sold into private hands or are highly regulated or locked up public spaces, you can't sleep in your van in Byron Bay much of the time; community halls generally are public if you have a key and can pay a fee. Unused Crown lands have vastly reduced in size and often now only located in fairly unusable or inhospitable places. I find it interesting that many of our caravan parks on the North Coast had their origin in depression era squatting. So my idea of a secular temple is based strongly on this idea of a right to access some part of the commons. Part of the reason I started with Water Temples is that we do not draw lines on, or survey boundaries or apply ownership or planning regulation on water to anywhere near the extent as we do on land, unfortunately we also don't apply stewardship for rivers and bodies of water to the same extent as land either. So in a world where the seas will rise to swamp coastal areas and access to fresh clean water is diminishing, I think the idea of a secular water temple makes sense."

Historical Meanings of the Word Temple

Temple is a loaded word within our culture, however it is the closest term to what I am trying to approach.

The virtue of the term temple, compared to other similar words is that it is not defined by any specific religious or belief structure as other similar words are, it can even be secular.

Temple - definition

Oxford Dictionary

Origen - Old English *templ*, *tempel*, reinforced in Middle English by Old French *temple*, both from Latin *templum* 'open or consecrated space'

Definitions

- A building devoted to the worship of a god or gods.
 - A place devoted to or seen as the centre of a particular activity or interest: *a temple of science*
- Wikipedia - A **temple** (from the Latin word *templum*) is a structure reserved for religious or spiritual activities such as prayer and sacrifice.

The word temple does not fully encompass the meaning and value of what I am proposing for a floating water temple, other important values include:

Commons

A place that is part of the commons, therefore access is not restricted by commercial, philosophical or religious values but rather defined by respect and reverence.

"The **commons** is the cultural and natural resources accessible to all members of a society, including natural materials such as air, water, and a habitable earth."

Sanctuary

Origin - Middle English from Old French *sanctuaire*, from Latin *sanctuarium*, from *sanctus* 'holy'. Early use in reference to a church or other sacred place where a fugitive was immune, by the law of the medieval Church, from arrest.

So traditionally it is a place of refuge or safety, this was also to a secure place for holy relics.

Draft Redefinition of Water Temple

This water temple could/should be:

- A living embodiment of water;
- A floating structure devoted to understanding the inner nature and the complex interactions of water in all its states and role in wider natural systems;
- A sanctuary accessible to all people without restriction;
- A ritual theatre to help explain, understand and make decisions about the management of water including a contemporary understanding;

Implicit to its role as a temple it needs to be beautiful, awe inspiring and promote contemplation of the deepest aspects of our inner nature and connection to outer nature.

While there are no universal symbolic values attached to water across cultures and time there are many consistent themes the temple should embrace including fertility, purity, healing, cleansing, life and death.

Depending on the location of the temple it may provide useful services, such as provision of clean potable water.

Additionally it will should adapt its content and form to be consistent with its physical location and its cultural context including the spiritual/religious beliefs of local people.

Comment: Most of our understanding of existing temples is through the lens of traditions that have changed and evolved over time, many of those traditions may now be old and atrophied with little connection to the spark that led to the creation and use of a temple originally. In making a contemporary temple it is important to examine the past, but not necessarily the artefact, but rather the manner in which it was originally conceived, designed and built. Most important to a contemporary temple is a purpose of deep importance and then the exercise of imagination, love and humility in the design and making of the temple in the present to reveal that purpose.

As to Garth's reservation there is only one way to truly test this assumption, and that is build one.

8. Templeness

Water Temple 水寺 المي اه معبد پانی من در



There are certain things that a temple has to do in order to give you the freedom to release the demons that you have. It has to have a certain type of beauty. It has to be so beautiful, and now we are talking about the philosophy of art. It has to be so beautiful that you are about to give up the thing that has been haunting you most of your life. – David Best (artist and Burning Man temple builder)

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Rainbow Temple Rosebank NNSW

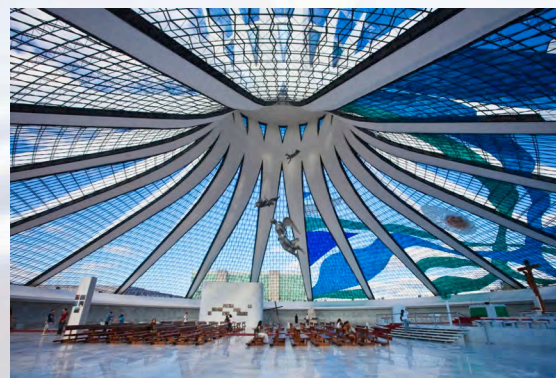
The temple is a gathering place where like-minded souls can share with each other their dreams and aspirations. We are living at a time of great change and therefore need a place where we can collectively and individually grow to a greater understanding of life...and to celebrate the many, many gifts that life on Earth offers. - Guy

This is a place that is an open sanctuary, all are welcome and it 's creation is ongoing.

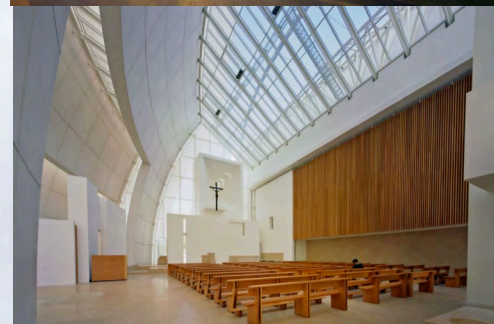
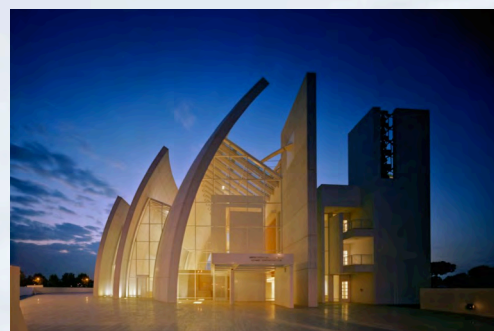


Sagrado Familia, Barcelona

This church is interesting in that its construction process relates to a medieval precept of not compromising and it will be built when it is finished. It has taken more than a century thus far.



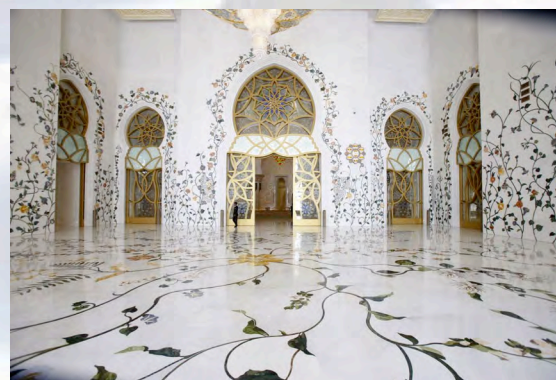
Cathedral of Brasilia



Jubilee Church, Rome



White Temple, Thailand



Sheikh Zayd, Grand Mosque

There are many beautiful modern churches, mosques and temples where cost was not an issue, they have exquisite detail and craftsmanship, the spaces are designed and built with near flawless use of light, proportion and scale. Yet something feels like it is missing, at least to me. Maybe is the commercial way they are built. Or maybe they are disconnected with their original inspiration. They become vessels for individual people's perceptions of their religious dogma rather than something that truly unifies people in a place.

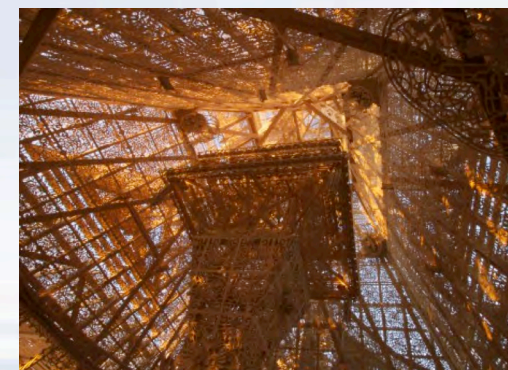
Burning Man Temples

These are temples built each year as part of the Burning Man festival, each temple has a different theme, they are fabricated off site, assembled over a short period leading up to the festival and then serve as quiet sanctuary and repository of written messages during the week of the festival, before being burnt on the final evening. These temples are a redefinition of what a temple might be, particularly because of their ephemeral nature.

Temple as embodiment of catharsis.



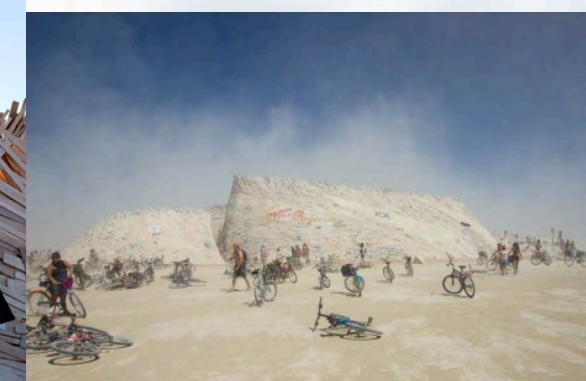
Temple Grace 2014



Temple of Juno 2012 Burning Man



Temple Dawn 2009



Temple of Flux 2010

9. Modern Temples

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“I *know* what makes a temple. The crew has to be sacred. The people you work with have to be honoured. And if they’re sacred they’ll build a sacred structure. It doesn’t matter what the temple looks like, it’s the intent. With Juno I had two parents working on it whose daughters had fallen off the same cliff. One time, during a meeting with the crew, I was speaking to this guy, he was there with his son. They both had mohawks. He said, ‘I’ve tried to kill myself three times and my wife, his mother, OD’d.’ What it takes to make a temple is humility.” David Best

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