This e-book brings together the works presented between March 17 and 23 at the Waterwheel World Water Day Symposium 2014 – 3WDS14. 450 participants, including children, youth, communities, TED talkers, scientists, activists and artists, from 34 countries and five continents, responded to the theme ‘Water Views: Caring and Daring.’

They interacted with audience “live” on the Internet and in 18 physical venues (“nodes”), through Waterwheel, an online platform dedicated to water. The 2014 symposium integrated youth participation and intergenerational dialogue with ‘Voice of the Future.’ Waterwheel’s unique video-conferencing / media-mixing system, the Tap, allowed presenters and audience to be on the same web-page experiencing “liveness” with the potential for creativity. The symposium was free of charge and, being online, saved on travel costs, accommodation and venue, thereby reducing its carbon and water footprints.

Transversal knowledge and multidisciplinarity across cultures and languages shaped the content and structure of the e-book. The nine, richly illustrated sections contain three types of entries, based on the presentation given as part of the Waterwheel World Water Day Symposium 2014: “Splash”– project overview, “Ripple”– detailed project description, and “Wave”– peer-reviewed article on original research. My immense gratitude goes to assistant editor Silvana Tuccio, the associate editors, contributors, reviewers and Inkahoots.

Suzon Fuks

Created in 2011 by an Australian team – Inkahoots, Igneous and Suzon Fuks – Waterwheel responds to the need on a global level to share resources around water awareness, management and celebration. Waterwheel’s international community is growing exponentially every year, as is the Waterwheel World Water Day Symposium, its biggest annual event. The symposium was co-chaired by Amin Hammami (Tunisia) and Suzon Fuks (Australia/Belgium) for three years in a row, from 2012 to 2014.
WATERWHEEL WORLD WATER DAY SYMPOSIA PARTNERS

2012–2013: University of Sousse in Tunisia under the direction of Professor Hichem Rejeb;
2013: Queensland College of Art Galleries of Griffith University (Brisbane) and Five Colleges (Massachusetts);
2014: World Water Museum Installation & Technohoros Gallery (Athens), Cantoalagua (Bogota), Inkahoots & Igneous (Brisbane), CEIArtE—UNTREF, IQlab & Reciclarte (Buenos Aires), Hayward Area Recreation and Park District (California), Boultek (Casablanca), Bonemap & James Cook University (Cairns), Columbia College (Chicago), Bildungsbüro & Aktionstag (Coburg), Ear to the Earth (NY), Lieu Multiple & Espace Mendes (Poitiers), University of Arts, Studio for Transdisciplinary Projects & Research (Poznan), Milk Bar & WEAD—Women Environmental Artists Directory (San Francisco), De Saisset Museum of Art and History (Santa Clara University), Bamboo Curtain Studio (Taipei), Centre of Contemporary Arts (Torun), ESAD—Ecole Supérieure d’Audiovisuel et de Design (Tunis), and Houghton Valley—Lifting the Creek (Wellington).

3WDS14 TEAMS

The Selection Committee was composed of professors, teachers, researchers, scientists and artists: Alejandra Ceriani (Buenos Aires), Amin Hammami (Tunis), D.L. “West” Marrin (San Diego), Dobrila Denegri (Torun), Ian Winters (San Francisco), Irina Novarese (Berlin), Joanna Hoffmann-Dietrich (Poznan / Berlin), Lauren Elder (San Francisco), Leah Barclay (Brisbane), Mary Gardner (Byron Bay), Molly Hankwitz (San Francisco), Paula Vélez (Paris / Medellín), Ricardo Dal Farra (Montreal / Buenos Aires), Silvana Tuccio (Syracuse / Melbourne), Suzon Fuks (Brisbane).

Youth Committee: Liz Bryce (Christchurch), Keti Haliori (Athens), Mariana Carranza & Jasmin Müller-Alefeld (Coburg), Michele Guieu (San Jose), Suzon Fuks (Brisbane).

Technical Guides and Translations Team: Alberto Vazquez & Riccardo Dal Farra (Buenos Aires); James Cunningham & Suzon Fuks (Brisbane); Hedva Eltanani (Tel Aviv); Katarina Djordjevic Urosevic (Belgrade); and Amin Hammami (Tunis).
CONTRIBUTORS

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1. Opening
OPENING – OVERVIEW
by James Cunningham

For the opening session of 3WDS14, performance artist Ulay refers to water as a “time-bomb” and inspires us to “artivism” by recounting his response to the organizers of the Istanbul Biennale who told him “the people of Istanbul have plenty of water and are not concerned about it.” He says he spray-painted throughout the town, under the cloak of privatization of the municipal water supply system, the water quota provisions for each household will be reduced by 50 percent. Saving measures are highly recommended.” The aim was to raise the level of concern about water in a place where the privatization of the water supply is a real imminent possibility. He then read, as a kind of performance poem, the word “water” in 100 languages.

The proceedings were delayed half an hour while the Symposium team troubleshooting the problem on the fly and restarted the server, after which people were able to re-login, with the Tap working normally.

In ‘Last Drop,’ Jason Lim delivered a sparse and delicate performance, powerful in its simplicity. Throughout 25 minutes he poured water from one glass vessel (bottle or glass) to another and back, stacking them on each other, pouring with two hands simultaneously, drinking from two glasses simultaneously, and was joined for a clinking of glasses by his partner, Daniella Beltrani, at the end. The online audience created visually stunning patterns, like weavings, using symbols alone, in the chat column.

‘Little Streams Make Big Rivers’ by Suzon Fuks and her large cast of collaborators—Alberto Vazquez, Annie Abrahams, Christian Bujold, Jaime Del Val, James Cunningham, Katarina Bjordjevic Urosevic, Lila Moore, Lynette Lancini, Mahesh Vinayakram, Miljana Peric, Nicholas Ng, Pascale Barret, Rebecca Youdell, Russell Milledge, and Vicki Smith, with dramaturg: Aafke de Jong—was delivered across three Tap stages, with a handful of performers on each Tap. Whether looking at one Tap at a time, or all three concurrently, audience received the sound meshed together from all three stages simultaneously. The improvised, experimental and ambient nature of the sound lent itself to this format. On one stage, minimal movement, slowing changing lighting, and casual echoing of hand gestures led to overlaying of semi-faded webcam images and collaging of hands, sometimes with the appearance of one person’s fingers attached to another person’s hand. Performers on another stage created a more pragmatic feel, one augmenting his body with long sticks, one pouring water from large clay vessels, and Nicholas Ng playing Chinese lute and cymbals. On the third stage we see beer bottles as props and a spinning colour wheel. Ng plucks some interesting tones from his lute making it sound like an electronic signal, and someone begins to chant while another sounds the word “agua”.

A duet between Mahesh Vinayakram (singer) and Sukanya Ramgopal (gatham) comes like a gift after the long wait that resulted from the order changes caused by the earlier technical delays. Their fine musicality and skill as Carnatic musicians, not to mention their patience in staying on till the end for their part, was appreciated wholeheartedly by the online audience, even during the performance, with comments like “wonderful” “great performance” and “amazing and superb.”

Dr Broekendukker, the clown professor that kept last year’s symposium on time, appears briefly at the end, to draw a raffle winner from the Waterwheel crowd-funding campaign.
OPENING – OVERVIEW
by Liz Bryce

The Waterwheel Tap screen is bright yellow. Intermittent phrases of chat appear in the column on the right. We hear splashing and children’s voices laughing. The third Waterwheel World Water Day Symposium 2014 is beginning a week long festival with a piece by artistivist Ulay, who, in recent years, has concentrated his practice around a concern for water. Ulay is delayed, but James Cunningham on the “stage” in Australia, encourages us to be patient.

I am waiting in my home in New Zealand (it is after midnight!) to join artists and scientists, none of whom I have met, in many different parts of the world. Links between arts, science and technology have developed the Waterwheel platform devised during Suzon Fuks’ Australia Council for the Arts Fellowship. Her “wish list,” which saw possibilities in other platforms, resulted in a collaborative venue with a combination of tools, technology and toys!

Now Ulay appears, on the Tap screen in Slovenia. He explains to Suzon in Australia that the sound loop of splashing and laughter was from his audio installation ‘Water Joy,’ made for World Water Day 2013. It played through the building in The Hague during a United Nations thematic consultation on water.

This year Ulay expresses his concerns by reciting one hundred words for water in one hundred different languages. He speaks them slowly, deliberately, like a tap dripping or water splashing. I find myself listening for familiar words and the similarities between languages. Repetition with variation makes one attentive.

In the next performance, ‘Last Drop’ by Jason Lim from Singapore, I am reminded that our first excited trials of the Tap on Waterwheel were of sharing water—pouring water from a jug in America, trickling down the webcam to the UK and continuing to the bowl in NZ. Jason Lim, alone in his stark environment, slowly pours water from one receptacle to another. He repeats the action, varies the speed—all the while the water’s sound changes its tone according to the action, volume and distance from the pouring vessel to the receiving flask below. It is mesmerising—beautiful, rhythmic and flowing.

This Zen-like performance is in contrast to the next show—a tumultuous dissonance of sound and movement. ‘Little Streams Make Big Rivers’ by Suzon Fuks and guests, ambitiously uses three Taps simultaneously and some of the many tools of the platform. One Tap is dedicated to collaborative movement; another has graphics and drawing resembling text chat, making ‘waves’ and patterns cascade over the screen. The third Tap works with a cacophony of water related “music” from glass, voice, building materials and a Chinese Pipa. Similar backdrops, making their “venue” appear to be the same place, unify the performances. I flick quickly between tabs, usually prompted by the sound from another stage.

Artists pushed the boundaries and capabilities of technology in the dream of “possibility.”
Presentation

“Water does not forget. Work for water to have water work. For the love of water.”

**Earth Water Catalogue** is an artistic initiative that mobilizes artists in the community to raise awareness on issues related to drinking-water and to enhance the appreciation of water. The artistic community addresses ethics through aesthetics, and contributes to building a growing online gallery of artistic works dedicated to this fundamental planetary resource.

**Presenter**

**Ulay** is a pioneer of body and performance art. Uwe Frank Laysiepen, better known within artistic milieus as Ulay, was born on 30th November, 1943, in Solingen, Germany.

After four decades of living and working in Amsterdam, several long-term artistic projects in India, Australia and China, and a professorship of Performance and New Media Art at the Staatliche Hochschule für Gestaltung, Karlsruhe, Germany, Ulay is currently living and working in Ljubljana, Slovenia.

His radically innovative body of work and performances realized in the early 1970’s, his collaboration with Marina Abramovic between 1976 and 1988, his performative photography and monumental Polaroids from the 1990’s and the recent projects, where water replaces the human body, are defining Ulay as one of the most significant artistic personalities of our time.

Ulay’s work, as well as his collaborative work with Marina Abramovic, are featured in many collections of major art institutions all over the world such as: Stedelijk Museum Amsterdam; Van Abbemuseum Eindhoven; Centre Pompidou, Paris; Louisiana Museum, Copenhagen; Moderna Museet Stockholm; Kunstmuseum Bern and the Museum of Modern Art New York.

**Links**

http://www.earthwatercatalogue.net

http://www.earthwatercatalogue.net/artist/ulay/11

http://www.ulay.si/About-Ulay

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4851
1. Opening

- lisit: yes to true sense
  - hi: Thanks for the acknowledgment of first peep
  - note to think of what can bring to the future through understanding

- lisit: we are from South Africa

- lisit: we are from Canada, nice to see you

- lisit: light on caring

- lisit: thank you

- lisit: activist

- lisit: I like this word activist

- lisit: activist. It is a beautiful word to start this symposium. Thank you for that.

- lisit: water sounds like liquid fluid force

- lisit: death rattles fall from tree

- lisit: sanny

- lisit: trans

- lisit: many language

- lisit: 100

- lisit: Simple: Trans!

- lisit: a new IDAIO for the fluid that makes us be connected

- lisit: thank you

- lisit: clap clap clap

- lisit: what is the word?

- lisit: thank you

- lisit: Thank you Ulay

- lisit: thankyou Ulay

- lisit: write big word on the screen

- lisit: water house

- lisit: brilliant

- lisit: the word to make IDAIO of water have a more fluid representation

- lisit: agus

- lisit: A

- lisit: clap clap clap clap clap

- lisit: audience types here

Screen capture: left to right: Ulay and Suzon Fuks.
Presentation

The performance I presented was an extract from ‘Last Drop,’ a performance series started in 2004.

I repeated a series of actions: emptying a full flask of water into an empty flask and subsequently into other drinking glasses. The concentrated, controlled actions and rhythm of pouring water into various vessels generated a soundscape throughout the performance. As my arms became tired from holding the water filled flasks, they trembled and caused the flasks to knock into each other, creating yet another layer of sound.

With the repeated transferral of water from one container to another, I believe that my energy was also transmitted to the water, and caused the water to change. At the end of the performance, the water was shared for drinking.

 Presenter

Jason Lim’s repertoire of works encompasses ceramics, photography, video art, installation art and performance art. He has organized and created various platforms for alternative art practitioners to meet and collaborate. He was co-Artistic Director and Artistic Director of Future of Imagination (an international performance art event held in Singapore since 2004). In 2007, Jason represented Singapore in the 52nd Venice Biennale. Jason’s artistic projects, residencies and travels have been recognized and supported by numerous grants and awards from the National Arts Council since 1994. He currently teaches at School of the Arts, Singapore.

 Links

http://jasonlim4.wix.com/wwwwixcomjasonlim#!last-drop-series

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4854
‘Last Drop’ by and with Jason Lim
Photo: Daniela Beltrani.
LITTLE STREAMS MAKE BIG RIVERS
Suzon Fuks
Brisbane, Australia

With the saying “little streams make big rivers,” I initiated the experimental interactive performance with an online audience for the opening session of Waterwheel World Water Day Symposium, 2014. Dramaturg, Aafke de Jong and I formulated the following text as a way of introducing the idea behind the work to collaborators in the preparatory stage: “The processes of expansion from springs to streams, to rivers, to oceans, are to be evoked throughout the performance, guiding it. The premise is that caring about our little streams influences the health of the oceans. By extension, many drops or streams contribute to forming a voice that expresses what water needs.”

Fifteen performers from around the world improvised from their respective discipline, each remotely via the Internet, utilising their webcam. Prior to the performance, they had chosen to respond with either:

- movements or actions/tasks (performers/dancers),
- sounds made with voice, objects or instruments (musicians/sound artists), or
- words in their own language, reading and responding to the audience type chat, as well as personal writing in the chat (actors/writers/poets).

Three Taps (online venues), where the performances took place, were concurrently accessible. I had assigned a mix of movement–, sound–, and word–performers to each Tap, responding simultaneously to the scores—written guidelines and suggestions that I refined with the help of Aafke. The performers could hear and see each other within their Tap, and also hear, but not see, the other two Taps.

After welcoming the online audience and explaining how to proceed, I invited people to open the three Taps in three tabs, and hop from one to the other, guided either by the sounds or their curiosity. They were encouraged to type comments or responses in the chat, which performers took on, adding them to their streams, rivers and oceans. The performance was structured in three parts, each with a score for their improvisations (see below).

A “backdrop” composed of water textures gave performers the cue to go to the next score and respond to it as soon as possible.

Scores with Cues, Inspirations/Suggestions

PART 1. BACKDROP: DROPS
SCORE 1: solo: take care of your own spring & little stream (webcam on the spot with movement/action within the webcam)

PART 2. BACKDROP: STREAMS
SCORE 2: duet or trio or quartet: connect & interact with one, two or three other streams to make a river (webcams can move within the space of your Tap)

PART 3. BACKDROP: OCEAN
SCORE 3: all together: initiate or respond to each other to make a living ocean—some unison, some break-throughs—everything is possible (use the whole Tap space, webcams can be superimposed, playing with layers, and sounds across the 3 Taps).
Ending in one word or one note, in an open atmosphere where all can start again. Silence and stillness will conclude the performance.

Comments Received by Email from Performers, and Screengrabs

Fig.1  Tap #2 at the beginning of the performance, seen by audience, with Tap #1 and #3 open in the browser in two other tabs (visible on top of the image).

Fig.2  Collage of the type chat in Tap #2, at different moments of the performance. Miljana Peric responding to the score with patterns and words.

— “In front of my laptop in the wee small hours. Mind drifting between sleep and wake. Connections are made and discussions are happening, dreams are returning. Then the first call rings out, drop-by-drop sounds emerge. Aural intertwining, networks connecting, musical trickles build. Colours and sounds merge, windows on the performers show the joy and concentration. Sounds crescendo and then the connection ebbs back receding like the tide. A brief sweet intense communication flooded the performance and carried through the Symposium—and, in remembering, the buoyant feeling remains.” —Vicki Smith (NZ)

— “From the outside in: setting up a tinker shop of sound toys in the inky black deep night, layered in blue. My computer screen becomes buoyant alive with drop-streams-oceans: your score a portal sea connecting. Islands of artists who inter-affect with sensory waves from the littoral fringe.” —Lynette Lancini (AUS)
Fig. 3  Tap #2 stage and type chat.

Fig. 4  Tap #3 stage and type chat.

Fig. 5  Tap #3 seen by a crew member, with Tap #1 & #2 open in the browser in two other tabs (visible on top of the image).
— “As a performer, the experience was unique and moving. To co-create with 17 other artists from around the world, with no one leading; to connect from the heart and soul, voices, instruments, images, words—made sense, not only aesthetically, but emotionally. No egos—complementarity at its best collective expression. Thanks to all.” —Alberto Vazquez (AR)

Fig. 6 Taps #1 & 2 seen by audience member who chose to open them side-by-side. Their type chats are covered by the stages, while Tap #3 is open in the browser in another tab (visible on top of the image).

— “I liked participating, it was a nice experience, especially because it felt as if people really prepared for the experience—there was a good energy. But, for me it was difficult to relate to the other participants, and also difficult to interact and even if we were 12 or maybe even more, I felt quite alone... I wanted to see what others did. Somehow felt ‘jealous’ of the people using sound, since they were all in the same ‘space’.” —Annie Abrahams (F)

Fig. 7 Tap #1, stage and type chat, viewed by a crew member.

— “We took suggestions from each other without speaking—mimicking or responding to things such as placement of the webcam (e.g. making image upside-down), placement of self within webcam, and gestures (close-up movements of hands). I liked the playful and unhurried nature of our interaction.” —James Cunningham (AUS)
— “I’m very curious about a global external view & ear of this experience...” —Pascale Barret (B)

Fig. 8 Performers & initiator on Tap #1 at the end of the improvisations – from top left: Pascale Barret (B), Suzon Fuks (AUS), Annie Abrahams (F), from bottom left: Rebecca Youdell, Russell Milledge and James Cunningham (AUS).

— “I am grateful I was in the audience and was able to watch and hear the beautiful performance you created together. I was impressed by the beauty of the images and really touched by the sounds and music, and the interaction in the third part... I felt a strong connection with the wonderful artists from the world over, we were all together... wonderful. Thank you very much.” —Aafke de Jong (NL)

— “The performance was an exceptional collective and heart-felt experience.” —Lila Moore (IL)

A Performer’s Perspective, by Lila Moore

“In my role as a performer, I was involved in relating to the three other performers within the frame of the webcams on the Tap ‘stage.’ I also maintained a degree of separateness, which the webcam and the Tap enabled, both isolating me as a remote performer somewhere in space-time, and allowing me to closely interact with, and dissolve into, other webcams, which I perceived as other worlds. Each webcam, inhabiting a performer, manifested like a transparent drop of water, reflecting a perplexing narrative of images, movements and sounds. I was aware of the gradual process through which complex connections and meanings were formed. It transpired as an exploration of a language, a mode of communication between distant worlds expressed through the cyber transmission of movement, texture, image and sound.

Across the three stages, there was an emphasis on movement details and aspects of the body; for example, the motif of hands reaching towards one another and moving together, including my own use of arms and hands to reach and relate to other movements and sounds beyond my terrestrial location (see figure 9).

I was intrigued by the transformative flow of the physical movements and aspects of the body into cyber forms, and by the body and mind having to navigate this dual state of tangible and disembodied motion. It became experiential when an aspect of my body remained intact whilst another aspect dissolved into a virtual imprint, which was manoeuvred by the
physical body and the mind, moving like a spiritual form within and across the other performers’ space-time (see figure 10). An expansion took place with the vanishing of physical boundaries and reliance on concrete identities. It formally corresponded with the piece’s theme and the processes of disintegration and mutual transformation involved in the making of big rivers from little streams of tiny drop-like worlds.”

The Formal Structure, by Lila Moore

“The choreographic structure of the performance commenced with the suggested movements taking place in four different screens/webcams. The webcams arrangement on the stage formally and metaphorically correlated with the background image of drops of water on the turquoise space of the stage. Each webcam’s position and movement in space was therefore linked to the others in a similar way so that the drops were interrelated and created a pattern. From the start, the movement in the webcams introduced human motion as it meets and merges, and in interaction with the motion of objects and abstract forms and textures. The choreographic links and patterns that developed in and between the webcams were created by the performers, and by each viewer as she/he watched the happening and navigated freely between the stages.
This interactive and open-ended experience of movement and soundscape was reinforced by the viewers entering and exiting three different stages. Thus, the performance utilised the Taps through typical online behaviour, like hopping between websites and webpages, to engage with embodied and conceptual choreographies, links and meanings. The viewer’s transition between the stages involved making connections between movements, images and soundscapes, accessible only during the live performance.”

PERFORMERS
Alberto Vazquez, Annie Abrahams, Christian Bujold, Jaime Del Val, James Cunningham, Katarina Djordjevic Urosevic, Lila Moore, Lynette Lancini, Mahesh Vinayakram, Miljana Peric, Nicholas Ng, Pascale Barret, Rebecca Youdell, Russell Milledge, and Vicki Smith.

BIOGRAPHY
Suzon Fuks is an intermedia artist, choreographer and director exploring the integration and interaction of the body and moving image through performance, screen, installation and online work.

During her Australia Council for the Arts Fellowship (2009–2012), she initiated and co-founded Waterwheel, a collaborative online venue for streaming, mixing and sharing media & ideas about water, as a topic and metaphor. Born in Brussels, trained in dance, theatre & music at Lillian Lambert Academy (1969–1976), she completed her Masters in Visual Arts at La Cambre (1979–1984). Moving to Australia in 1996, she has been co-artistic director of intermedia performance company IGNEOUS since 1997 with James Cunningham.

LINKS
Aafke de Jong http://water-wheel.net/media_items/view/1459
Alberto Vazquez http://reciclarteargentina.com.ar
Annie Abrahams http://www.bram.org
Bonemap: Rebecca Youdell & Russell Milledge http://bonemap.com
Christian Bujold http://www.christianbujold.com
Jaime Del Val http://www.reverso.org/jaimedelval.htm
James Cunningham http://igneous.org.au
Katarina Djordjevic Urosevic http://artskylight.com/
Lila Moore http://mdx.academia.edu/LilaMoore
Lynette Lancini http://en.wikipedia.org/wiki/Lynette_Lancini
Mahesh Vinayakram http://www.maheshvinayakram.com
Miljana Peric http://www.cyposium.net/selected-presentations/peric
Nicholas Ng http://www.nicholasngmusic.com
Pascale Barret http://www.pascalebarret.com
Suzon Fuks http://suzonfuks.net
Vicki Smith http://www.digitalsmith.nz
2. Voice of the Future
VOICE OF THE FUTURE – OVERVIEW
by Suzon Fuks

The launch of ‘Voice of the Future’ marked an important step in including youth participation to this Symposium. Contributions from Brazil, California, Canada, Colombia, Egypt, Iraq, France, Germany, Greece, Kenya, Serbia, and the UK showed how varied water issues are according to each country’s culture, climate, levels of freedom of speech, and access to internet and technology in general.

Creativity & originality sparkled in:

– ‘Haiku,’ the outcome of a three day workshop offered by Le Lieu Multiple’s dynamic team from Poitiers, joined for the occasion by Colombian artist, Paula Vélez. The children’s poetry was enhanced by the use and integration of the streaming technology and by aspects of the Tap interface, including mixing stop-motion animation, sound recordings, drawings, writing and the playful interpretation of what water meant to them.

– A visual campaign about water conservation by Michele Guieu’s primary school students. After visiting a water-plant, they encapsulated their personal and strong messages in a series of posters, and also painted different landscapes of the San Francisco Bay area, with reference to their science class.

– The ‘Bottle Spheres’ performance by a primary school class from Trois Rivieres, Quebec, lead by artist Lorraine Beaulieu, enunciating facts about water & plastic bottle consumption. A striking and sparse bird’s-eye-view revealed children pouring water one by one in a black vessel representing the globe. Then, sitting around it, they moved their empty bottles, as if drifting. Accumulations of green and blue stars and paper boats formed continents, ending with a big sphere of empty plastic bottles.

This sphere was one of the sculptures they made as a response to ‘Ask the Flask,’ a global initiative by curator Keti Haliori from Athens. She offered online workshops for youth from water-scarce countries to collaborate in making art with youth from water-abundant countries. For instance, here, children from Quebec teamed up with a class from Hydra, a Greek island where rainwater, the only drinkable water, is very precious.

This first edition of ‘Voice of the Future’ was a learning curve in terms of programming across time zones, respecting school schedules and youth sleep times. Future sessions would benefit by being timed to pair northern and southern continents. Preliminary meetings on the Tap with educators and facilitators would help develop exciting projects, with exchange of information about resources on water issues, ideas, hints & tips. Online preparatory get-togethers with children and educators would familiarise them with specific tools available on the Tap and streaming technology (e.g. looking at how to prepare sessions according to venues, connections and equipment, and simulating similar conditions as the ones during the symposium).

Lorraine Beaulieu said, “In these live presentations, if visuals are important, sound is even more important. Above all online, for a pleasant result with a maximal and convivial listening with an international audience! Communication has fundamental rules to respect if we want to be heard and understood. I think this is an element to work on for improving children participation.”

Positive aspects of ‘Voice of the Future’ comprised intergenerational dialogue, raising awareness amongst youth on environmental issues and discovering different realities, particularly in session #5. Atefeh Khas,
an Iranian artist, showed part of a durational performance of an ice cube left to melt, while explaining how global warming is affecting the entire planet to children from Nairobi, who get water from the tap once a week. Several very focused classes were brought together—in the Kenyan school library—responded to audience questions after presenting their artwork. A similar intensity was felt when youth had encounters with passers-by while doing a public intervention/performance ‘One Hundred Boats, One Hundred Waters’ in the port of Piraeus in Greece, assisted by artist Lea Petrou.

Participating in ‘Voice of the Future’ empowered youth—giving them feelings of being heard, included and valued in a global event—with hopefully a long lasting impact.

Some audience said that ‘Voice of the Future’ brought together “wisdom and enthusiasm, past and future” and responded to a “need to talk to each other more.” Lorraine Beaulieu commented “Waterwheel is an interesting and extraordinary platform for communication. This was one of the greatest experiences for me as it was the first time I worked on such a performance, experimenting with a new medium of expression. The children I worked with loved it! Definitely an experience I wish to repeat.”

YOUTH PERSPECTIVE – OVERVIEW
by Liz Bryce

A lot of preparation and thought has gone into ‘Voice of the Future’ to include a youth perspective to the Waterwheel Symposium. The curatorial committee wanted to provide an avenue for those who will shape our world to express their care for our planet’s water.

I am entranced when we connect with St. Clement Orthodox Primary School in Nairobi, Kenya. Teacher Virginia Gathoni presents ‘Five Precious Letters’ with children who tell us about their ways of managing with scarcity of water by prudent use and reuse of bore water. They show their performance of a traditional dance to encourage more water (rain). I feel prickles of nostalgia when I hear their voices and I think I can smell the dry climate.

The reality of this apparent close contact makes me think it is worthwhile: the accents of the children; the proximity of a real-time link; the children’s shyness; their teacher’s enthusiasm. Surely we need more of this kind of thing so that all children can become more confident and familiar with communication technology.

In stark contrast to the minimal background of the Kenyan school is ‘One Hundred Boats, One Hundred Waters’ by Lea Petrou in Greece.

The class from the International School of Piraeus handed out glasses of sparkling drinking water to passers by. This is an artistic project and the glasses and folded boats carry designs made in collaboration with the children endorsing their plea for water quality preservation. This project is also beautifully documented at http://www.leapetrou.info

NOTE: other youth works can be found in the following chapters:
5. HYDROLOGY – PATTERNS & CYCLES: The Art of A.R.T.’ (Adapting to Rising Tides) by Lauren Elder (p. 252)

7. CARE & DARE – NEEDS AND TRENDS: ‘Acqua, Luce, Ortigia: The Culture of Water Environments – Overview’ by Silvana Tuccio (p. 403)
ASK THE FLASK
Keti Haliori
Athens, Greece

This presentation was hosted at Technohoros Gallery in Athens – Greek node.

‘Ask the Flask’ was an online workshop curated by Keti Haliori. It started in October 2013 and completed in January 2014. The project was carried out with students from countries facing water scarcity, as well as from countries with an abundance of water. Participants came from Brazil, Canada, Colombia, Egypt, Greece (5 classes), Iraq, Kenya (2 classes) and the United Kingdom (2 classes).

The students were grouped according to their educational level: primary schools, high schools and university undergraduates. Groups were then partnered with another group within their level of education.

Every group from a region with water scarcity was working with a group from a region with abundance of water. They communicated with each other and exchanged views on their relationship with water in everyday life, how scarcity or abundance of water shapes their lives and how young people learn to manage water in such different conditions.

Communication took place via Skype discussion groups, where they exchanged views and experiences, submitted their ideas and proposed research methods, materials and ways to develop their artwork.

Eventually, each group created a visual artwork (an installation or a performance) that took place at their school, or university, or any other place accessible to the public (e.g. town square, city hall, street, gallery etc.). The goal for each group was to ensure that each resulting artwork would bear the “stamp” of cooperation between the two groups.

‘Ask The Flask’ aimed to foster relationships between the youth of societies accustomed to an abundance of water, on the one hand, and the youth of societies facing water scarcity, on the other. By asking questions and forming opinions, the project aimed to create a bridge between these different groups, so that participants could communicate, gain experience, knowledge, understanding and set common goals. It therefore aimed to facilitate experiences of unity and friendship between groups through the common medium of water.
Fig. 2  Group pairings.

Fig. 3  Each group created a visual artwork.

KETI HALIORI STATEMENT

“By making art, I express my restless effort to gain knowledge and self-awareness. I explore the limitations of societies, of the ‘I’ (us) and the ‘others,’ the invasion of forbidden places, the value of life.

On the one hand, I find myself in the field of interdisciplinary approaches and, on the other hand, in the social space. I use digital impressions, semiological and conceptual connections between nature, science and technology, theories and symbolic references, experimental attempts in the field of biotechnology, suggestions for the theoretical repositioning of man in the animal kingdom, journey-artworks, with visual art activities and installations.”
Fig. 4 From top left to right: Katerina Fanouraki & Despina Economopoulou, bottom left to right: Florina Fine Art School: Irene Morou, Helen Niska, Kalianthi Vogdopoulou, and Vassiliki Xifteri, the interpreter.

BIOGRAPHY

Keti Haliori is a new media artist living and working in Athens, Greece. She creates interdisciplinary projects concerning evolution, the divine, cosmic information and consciousness. She also addresses humanitarian and environmental issues. Between 2008 and 2010, she created public actions and installations, and protested at the entrance gates-host for refugees who survived or were killed in shipwrecks or minefields. In 2011, she founded the World Water Museum. She creates and curates water projects.

LINKS

Keti Haliori http://keti-haliori.com
Project page http://keti-haliori.com/?page_id=1333

Video announcement of the project:
http://water-wheel.net/media_items/view/3597

Excerpt http://water-wheel.net/media_items/view/4456

Screen recording of the Tap presentation parts 1 & 2:
http://water-wheel.net/media_items/view/4950
http://water-wheel.net/media_items/view/4982
HAIKU WORKSHOP ON WATER, WITH ANIMATION FOR CHILDREN 9–11 YEARS OLD, 19–22 MARCH 2014

Patrick Tréguer
Manager, Lieu Multiple, digital creative hub of the Mendès France scientific culture centre, Poitiers

For over 10 years, Poitiers’ Lieu Multiple has worked to bring digital cultures to the public. Utilising traditional learning methods, it has provided the means for exploring digital literacy and created transliteracy projects that take into account the cultural context and its multiplicity of dimensions. Field-based projects include labs, workshops, artistic happenings, and meetings with artists on digital cultures. They are transdisciplinary in scope, allowing them to exist alongside contemporary art, science and research, sound design, digital design, biotechnologies, bio-art, theatre, dance, literature, comics, fanzines and so on.

In October 2012, Espace Mendès France organized a regional forum on water, with conferences, scientific cafés, exhibitions, labs, events, artistic journeys, workshops, projections, etc. The issues discussed were as much global as they were local, and brought together both scientific and technical expertise, as well as economic and cultural expertise. Associations and citizens were invited to take part in activities and debates on water.

In order to take part in the Waterwheel World Water Day Symposium, a number of issues had to be addressed. The first being the reluctance of the French education system to be open to international opportunities, and the second, the obstacle of language and the time difference.

The Lieu Multiple teams debated over the writing of a clear proposal to be submitted to the National Education Board. It was decided to focus on the development of an animation workshop, which Lieu Multiple had been organising for many years. The theme of the workshop was water and the medium utilised was haiku, a short codified form of Japanese poetry, based on sonorities, emotion and forms of immediacy. Lieu Multiple also decided to involve Paula Vélez to liaise with the Waterwheel team. Her connections, as well as her energy, proved to be invaluable.

Once the project was established, it was necessary to find workshop participants. Thanks to the Lieu Multiple network, the choice fell on a mixed CM1 and CM2 class, with children ranging from nine to eleven years of age, from the Jacques Brel School in the three cities district of Poitiers. The neighbourhood is considered to be amongst the disadvantaged neighbourhoods in Poitiers, however its cultural and social independence overrides the disparity. Following meetings with the schoolteacher, a two day program for the twenty-four students was established, divided into four stages.

– The first stage was dedicated to writing a haiku on the theme of water. The poem worked as a “lever” for the creation of sounds and visuals.

– The second stage involved the screening of films about water, which provided scientific and cultural information that informed the creation of audio-visuals for the student’s animation or music clips.

– The third stage was dedicated to introducing the making of animation films: how is the animate obtained from the inanimate? This involved creating storyboards with small groups of two or three children using their haikus, and noting the sounds to be recorded.
Finally, the animation workshop took place, bringing together images and sounds. This involved recording the poems and sounds, and making short animation sequences using different materials such as paper, paint and objects chosen by the children.

On the fourth day, the children presented what they had created on the Tap. A cinema school from Tunisia was also present, with a conversation taking place between the Tunisian teachers and students, and the teachers and students from the Jacques Brel School.

On Saturday the 22nd of March, parents were invited to Espace Mendès France to view and hear about the work of the children. On this occasion, the commitment of the young workshop participants was evident, along with the team from the Jacques Brel School.

It is important to note that this initiative, despite its complexity, was able to deliver the following results in favour of the children:

– to discover a place within their community, namely Lieu Multiple, and bring them into contact with its team, who were open to listen to their projects;
Fig. 3 Interacting with a school of cinema in Tunis.

– to discover the spirit behind the creation of animation, (which we like to define as the school of patience, but which also includes the spirit of “do it yourself”), which involves the use of one’s imagination, learning rigorous cinema techniques, the meaning of a soundtrack, of aesthetics, of movement and teamwork;

– to understand the issues around water;

– to participate in an international project such as Waterwheel and use a digital audio-visual, graphic intercommunication tool, such as the Tap.

Fig. 4 Mixing traditional learning methods and exploring digital literacy.

In conclusion, the project has been an enriching experience throughout each stage, with a focus on discovery. The time frame available proved to be a challenge, with too little time to organise the different stages of the project. It is important to keep in mind that the initial preparative stage of such a project requires adequate time in order to capture the complexity of participating in the Waterwheel project and to meet the educational challenges. The children, in fact, needed time to absorb the theme of water and the international nature of the Waterwheel context, along with the cultural and artistic proposal—that of the creation of animation videos.
Nevertheless, the Lieu Multiple team, in liaison with Waterwheel, managed to reach its goals, all the while keeping the children in mind. The children were at the centre of the process, and were encouraged to play with their creativity in relation to the artistic environment, which was “empowering” as each was able to uniquely own their experience of it.

Fig.5 Presenting their haiku, live on the Tap, in an international project.

In conclusion, here is a comment from the children’s schoolteacher, Céline Houdelot, and from the young participants, whose written comments on the project convinced us of the value of this type of initiative and the challenges it poses.

Céline Houdelot wrote, “Sometimes teaching is a privilege since it provides absolutely magical moments; the Waterwheel project was one of them. For two days, students reflected, wrote, tried, tweaked, restarted, communicated, exchanged and learnt in such a lively way! The conditions for the project proved to be ideal, both on a practical level, as well as from a personal point view. It was a moving experience to follow the children through their exploration of the digital creative world; they have such an intuitive grasp that it seems to belong to them already. A big thank you to Espace Mendès France in Poitiers, to Marika and all her team!”

Fig.6 From left: Paula Vélez & Marika Boutou in Poitiers, Le Lieu Multiple and, Amin Hamamami on the right in Tunis at Ecole Supérieure d’Audiovisuel et de Design
THE TEAM

Marika Boutou: workshop coordinator, responsible for the animation workshop
Paula Vélez: digital artist
Olivier Naudin: audio-visual director and sound designer
Michael Canuel: programming code and Scratch workshops
Patrick Tréguer: manager of Lieu Multiple, director, musician

And most importantly, the children of Jacques Brel School, from the Three Cities in Poitiers (CM1 and CM2) and their teacher Céline Houdelot. Thank you also to Francis Réveillère.

LINKS

Espace Mendès France
http://emf.fr/index.php?s=waterwheel
Documentation, screen recordings of the presentations:
Part 1 http://water-wheel.net/media_items/view/4943
Part 2 http://water-wheel.net/media_items/view/4945
Interaction between Tunis and Poitiers
http://water-wheel.net/media_items/view/4947
Coburg and Poitiers nodes, excerpts of animations & haikus
http://water-wheel.net/media_items/view/4959
Part 4 http://water-wheel.net/media_items/view/4962

VERSION FRANÇAISE

ATELIER HAIKU SUR L’EAU, EN FILM D’ANIMATION AVEC DES ENFANTS DE 9 À 11 ANS DU 19 AU 22 MARS 2014

Patrick Tréguer
Responsable du Lieu Multiple, pôle de création numérique du centre de culture scientifique Mendès France de Poitiers.

Depuis plus de 10 ans, le Lieu Multiple de Poitiers s’est attaché à mettre en place un travail de médiation en direction des publics, en prêtant une attention particulière aux potentialités des cultures numériques. Il s’agit d’un travail de fond qui se nourrit tout à la fois d’une pédagogie traditionnelle et de la volonté d’explorer la littératie numérique, ainsi que des projets de translittération qui amènent à prendre en compte l’environnement culturel ainsi que les multiples dimensions qui définissent cette identité culturelle. Ce socle se traduit ensuite par des propositions de terrain qui comprennent des ateliers, des workshops, des diffusions artistiques et des rencontres avec les artistes autour de ces cultures numériques dont le périmètre se veut transdisciplinaire et permet de côtoyer tout à la fois l’art contemporain, l’évolution des sciences et de la recherche, la création sonore, la création numérique, les biotechnologies, le bio-art, le théâtre, la danse, la littérature, la bande dessinée, le fanzine...

Le Centre Mendès France avait d’ailleurs déjà organisé un forum régional autour de l’eau en octobre 2012. Ce forum proposait, dans ses locaux et ailleurs dans l’agglomération, différents rendez-vous ouverts et accessibles : conférences, cafés des sciences, expositions, ateliers, animations, parcours artistiques, workshops artistiques, projections, etc. Les problématiques abordées étaient aussi bien mondiales que locales en réunissant des compétences scientifiques et techniques mais également économiques et culturelles. Les associations et les citoyens étaient conviés à participer activement aux activités et aux débats sur ce bien commun précieux et vital.

Il a fallu, certes, un temps de préparation afin de se mettre d’accord entre l’équipe de Waterwheel et
celle du Lieu Multiple afin de bien comprendre les enjeux communs et donc d’adapter une méthodologie cohérente pour faire fonctionner de manière cohérente cette proposition de convergence. Cela a été possible grâce à cet outil devenu indispensable pour des équipes qui travaillent à distance, en l’occurrence Skype. Mais, il s’est agi de trouver un terrain d’entente, une plate-forme commune qui puisse être à la fois au service du projet artistique et également acceptable au niveau de la médiation culturelle en direction des groupes d’enfants.

Globalement, la proposition Waterwheel comportait différents niveaux, plutôt complexes et en tout cas inhabituels dans le système éducatif institutionnel français plutôt inerte et peu enclin ces dernières années à des ouvertures internationales. Un des premiers obstacles concernait justement cette approche internationale qui peut devenir difficile à gérer si l’on s’en tient uniquement aux critères linguistiques. Outre les problématiques de décalage horaire qui ont imposé de travailler avec des interlocuteurs situés sur le même fuseaux horaires, il a fallu adapter cette approche linguistique, puisque la France n’est pas réputée pour être un pays remarquable au niveau du multilinguisme.

Un autre niveau, qui a été âprement discuté au sein des équipes du Lieu Multiple, a été de mettre en place une proposition lisible afin de pouvoirs la transmettre dans les réseaux de l’Education Nationale. Le choix s’est donc porté sur la mise en place d’ateliers de films d’animation, ateliers que le Lieu Multiple pratique maintenant depuis neuf ans, sur le thème de l’eau et sous la forme de haïku, petite poésie japonaise codifiée très courte basée sur des sonorités, une émotion et une forme d’instantanéité. Un autre point important décidé dans cette phase de préparation fut d’impliquer Paula (Vélez) dans ces ateliers afin de coordonner avec l’équipe de Waterwheel. La connaissance de ce réseau, ainsi que la fraîcheur et l’énergie de Paula ont été des éléments décisifs dans ce choix qui s’est avéré, par la suite, particulièrement judicieux.

Enfin, une fois cette phase de préparation correctement élaborée, il a fallu trouver les participants. Grâce au réseau du Lieu Multiple, le choix s’est porté assez rapidement sur une classe mixte CM1 et CM2 avec des enfants de neuf à onze ans de l’école Jacques Brel du quartier des trois cités de Poitiers. Ce quartier est considéré comme faisant partie des quartiers défavorisés de Poitiers, mais il bénéficie globalement d’une énergie sociale et culturelle qui lui permettent d’estomper ces disparités économiques et sociales. Suite à deux réunions avec l’enseignante de cette classe mixte, un programme de deux jours pour 24 élèves a été mis en place.

Ce programme se décomposait en quatre temps :

Une première phase concernant l’écriture des haïkus ayant pour thème l’eau: cette écriture poétique courte a été un « levier » pour la création sonore et visuelle, et a permis, dans le contexte du projet Waterwheel, de travailler à partir de l’écriture des enfants dans un laps de temps assez court.

La seconde étape, a concerné des séances de visionnages de films autour de l’eau liant pédagogie scientifique et culturelle ainsi que création audiovisuelle dans le domaine du cinéma d’animation ou des clips musicaux, dans le respect également du plaisir et de la volonté des élèves.
Le troisième point a été dédié à l’initiation à la réalisation de films d’animation : comment créer l’animé à partir de l’inanimé ? La création de story board avec des petits groupes de deux ou trois enfants autour de leur haïku, puis écriture des sons à enregistrer.

![Fig.8 Création de storyboard par petits groupes de deux ou trois.](image)

Enfin, dans le cadre des ateliers à proprement parler, la réalisation des images et des sons : l’enregistrement des poèmes, des sons, réalisation de courtes séquences en cinéma d’animation en utilisant des matières différentes comme le papier, la peinture, des objets choisis par les enfants eux-mêmes.

Lors de la quatrième journée, les enfants ont présenté leurs créations sur le Tap avec une école de cinéma tunisienne. Un dialogue a pu s’instaurer entre des professeurs et des étudiants tunisiens et les enfants de l’école Jacques Brel de Poitiers.

![Fig.9 Paula Vélez, artiste numérique, pendant l’une des présentations en ligne.](image)


Il est important de noter que ce genre de proposition complexe, de manière initiale, a permis d’organiser une proposition sur plusieurs niveaux:

– Permettre aux enfants de découvrir un autre lieu, en l’occurrence le Lieu Multiple, ainsi que des équipes disponibles et à l’écoute de leurs projets.
– Découvrir l'esprit qui préside à la réalisation de films d'animation, que nous avons coutume de définir comme étant l'école de la patience, mais qui propose également l'esprit du « faites-le vous-même », la possibilité de concrétiser son imaginaire, de découvrir des techniques de cinéma amusantes et à la fois extrêmement rigoureuses, ainsi que le sens d'une bande-son, de l'esthétique, du mouvement, et de travailler en équipe

– De comprendre les enjeux situés autour de l'eau

– De participer à un projet international comme Waterwheel et d'utiliser un outil d'intercommunication graphique, visuel et sonore, numérique comme le Tap.

Au final, il s'agit donc d'une opération d'une grande richesse (certains pourront penser peut-être profuse) basée sur la découverte. La véritable difficulté réside principalement dans l'organisation de la ligne de temps, fondamentalement toujours trop courte, pour organiser les différentes phases de ce projet. Il est donc important de ne pas minimiser la phase initiale de préparation qui doit s'adapter à la complexité de l'organisation générale du projet Waterwheel, mais également aux enjeux pédagogiques proposés à des enfants de neuf à onze ans qui doivent s'approprier à la fois une thématique : l'eau, une proposition internationale : Waterwheel, une proposition culturelle et artistique : le film d'animation.

Dans le cas de la proposition à Poitiers, je pense que l'équipe du Lieu Multiple, en relation avec celle Waterwheel a réussi à tenir ses objectifs d'une manière concentrée mais ceux-ci sont restés à tout moment acceptables pour les enfants.

Il s'agissait pour notre équipe de l'enjeu principal : mettre les enfants au centre du dispositif, leur permettre de jouer avec leur créativité en relation avec un environnement artistique stimulant, une thématique d'environnement « responsabilisante », et donc de s'approprier chacun à sa façon cette belle proposition internationale.

En toute logique, la conclusion de cette présentation sera portée par la parole à l'enseignante, Céline Houdelot, ainsi que par celles des jeunes participants dont les témoignages écrits, reçus il y a quelques jours, nous ont convaincu de l'importance de ce type d'action et des enjeux qu'ils représentent :

“Enseigner c'est parfois avoir le privilège de vivre des moments absolument magiques; le projet Waterwheel était l'un d'entre eux. Pendant deux jours, les élèves ont réfléchi, écrit, essayé, bidouillé, recommencé, communiqué, échangé... et appris de façon tellement vivante ! Les conditions de mise en œuvre du projet étaient vraiment idéales, d'un point de vue matériel autant que humain. Il y avait quelque chose de très émouvant à les accompagner dans le monde de la création numérique, dans le monde de demain, dans ce monde qu'ils ont compris de façon si intuitive que finalement il leur appartient déjà sans doute plus qu'à nous...

Un grand merci à l'Espace Mendès France de Poitiers, à Marika et à toute son équipe !”
L’ÉQUIPE

Marika Boutou : coordinatrice des ateliers et responsable atelier film d’animation
Paula Vélez : artiste numérique
Olivier Naudin : réalisateur audiovisuel et créateur sonore
Michel Canuel : programmation code et ateliers Scratch
Patrick Tréguer : responsable du Lieu Multiple, réalisateur, musicien

Et surtout, les enfants de l’école Jacques Brel des Trois Cités à Poitiers (CM1 et CM2) et Céline Houdelot enseignante. Merci également à Francis Réveillère.

LIENS

Voir version anglaise ci-dessus.
For the collective project ‘Ask the Flask,’ Lorraine Beaulieu joined forces with a group of students from 6th grade. With the teacher, Annie Ladouceur, they coordinated the making of two spheres created from empty water bottles, one representing Greece and the other Canada.

They shared their concerns facing water scarcity with people living in other parts of the world. The ‘Ask the Flask’ project was for them an opportunity to be aware of the unequal distribution of drinking water in the world, and their privilege of having so much available water.

They compared their relationship to water with children of Hydra in Greece, where rainwater is a very valuable resource since there is no source of drinking water on the island. Given the North American climate and the abundance of drinking water, they reflected on plastic containers, which accumulate very quickly. Children brought empty water bottles to school to make sculptures. The children reflected on how empty plastic bottles are a waste product that take a long time to break down, often found abandoned in the environment, probably throughout the entire world. Yet, this bottle contains water, an essential element for human survival.
Experience and Opinion

With the children of a 6th grade class, I led the making of two spheres from empty water bottles, in the context of the international collaborative project ‘Ask the Flask.’ This project began in October 2013 and ended in March 2014 with the presentation of a live performance during the Waterwheel Symposium.

We started the project with the collection of empty plastic water bottles. Since 2002, as part of my artistic practice, I have been considering the plastic water bottle as a symbol of human mobility and our consumer society.

The plastic water bottle is both the container of an essential element to life and a material that ends up as waste on the planet. It is an artefact of our time.

I asked the participating youth to collect empty water bottles in their immediate area, which made them aware of the significant and rapid accumulation of plastic in the environment.

We held discussions with them and then gathered information on the value of water in the human body, in nature and the consequences of the accumulation of plastic to humanity.

We made comparisons with the experience of the children on the island of Hydra in Greece, and found that the abundance or lack of water meant that our everyday activities and our relationship to water are different.

![Fig.3 Getting ready for the performance.](image)

The project culminated in a performance with the children that was streamed live on the Waterwheel Tap. The project and the live stream proved to be a good opportunity to experiment with this new medium of communication and expression, especially with children.

While social networks are effective, the Waterwheel Symposium provided greater possibilities for connecting with the world. The Waterwheel project brings together the concerns, interests and passions of a multitude of people from all disciplines on water. And the music, dance, science, image, sound and words produced about water are available to share at an international level.
BIOGRAPHY

Lorraine Beaulieu lives and works in Québec, Canada. She completed her M.F.A. in 2009 at Laval University. Since 2002, her multidisciplinary artworks have involved our relationship with the environment. For her sculptures or site specific installations, she removes everyday man-made materials from their life cycle, such as empty water bottles, umbrellas and newspapers, and gives them new life. For her environmental involvement, in 2007, she took part in an artistic residency in Antarctica. She has exhibited in Canada, France, United Kingdom, Argentina, Mexico, Cuba and Colombia.

LINKS

Screen recording of the Tap presentation, and video of the performance:
http://water-wheel.net/media_items/view/4879
http://water-wheel.net/media_items/view/5080

Lorraine Beaulieu http://lorrainebeaulieu.com

Fig.4 Getting ready for the performance. Lorraine et ses élèves se préparent.

VERSION FRANCAISE

SPHERES EN BOUTEILLE

Lorraine Beaulieu
Trois Rivières, Québec, Canada

Résumé

Pour le projet collectif ‘Ask the Flask’, Lorraine Beaulieu s’est associée avec un groupe d’élèves de 6ième année du primaire. Avec l’enseignante, Annie Ladouceur, ils ont coordonné la réalisation de deux sphères faites de bouteilles d’eau vides, l’une des sphères représentant la Grèce et l’autre le Canada. Ils ont partagé les inquiétudes des habitants des autres régions du globe face au manque d’eau et le projet ‘Ask the Flask’ a été pour eux l’occasion de prendre conscience de l’inégalité de la répartition en eau potable dans le monde, et de leur privilège d’avoir toute cette eau à leur disposition.

Ils ont voulu réfléchir à ce fléau de la bouteille en plastique vide, qui constitue un déchet qui met très longtemps à se détruire et que l’on retrouve trop souvent dans l’environnement, et probablement dans le monde entier. Cette bouteille qui contient pourtant cet élément essentiel à la survie de tous les humains, l’eau.

EXPERIENCE & OPINION

Avec les enfants d’une classe de 6ème année du primaire, j’ai dirigé la réalisation de deux sphères faites de bouteilles d’eau vides dans le cadre du projet participatif international ‘Ask the Flask.’ Cette réalisation, commencé en octobre 2013 s’est terminée en mars 2014 avec la présentation d’une performance en direct durant le symposium en ligne de Waterwheel.

L’expérience a débuté avec une collecte de bouteilles d’eau vides en plastique. Ce matériau est connecté à ma production artistique depuis 2002 car je le considère comme un symbole de mobilité des humains et de notre société de consommation. La bouteille d’eau en plastique est à la fois contenant d’un élément essentiel à la vie, constitué d’une matière qui finit par empoisonner notre planète. C’est un artefact de notre époque. J’ai demandé à ces jeunes de faire une collecte de bouteilles d’eau vides dans leur entourage immédiat ce qui leur a fait prendre conscience de l’accumulation importante et rapide du plastique dans l’environnement. Avec les enfants, on a réfléchi et on s’est documenté sur la valeur de l’eau dans le corps humain, dans la nature et les conséquences de l’accumulation de cette matière plastique sur l’humanité entière. On a comparé et constaté que l’abondance et l’absence de cet élément entraînent des différences dans nos habitudes quotidiennes et notre rapport à l’EAU avec des enfants de l’île de Hydra en Grèce.

L’aboutissement du projet fut la réalisation d’une performance télématique avec les enfants. Une expérience des plus heureuses pour moi car c’était la première fois que je faisais ça. Je suis contente d’avoir expérimenté ce nouveau médium d’expression et de plus, les enfants avec qui je travaillais, ont adoré !! Je souhaite répéter l’expérience et me mettras bien en scène aussi.

J’ai pu assister à plusieurs des performances en direct, durant le symposium, qui m’ont beaucoup impressionnée et inspirée. Quelles belles réalisations variées et parlantes par leur sensibilité et leur lien fort avec les préoccupations par rapport à l’EAU !!!

Fig.6 Une Sphère en bouteille.

J’ai découvert après coup seulement que notre performance était presque un succès parce que le son était presque contrôlé. Si je refaisais l’exercice, je contrôlerais d’avantage les bruits ambients et les sons qui participent ou nuisent au message à faire passer.

Pour moi, ce symposium en ligne est une révélation des possibilités de connections avec le monde entier. Bien sûr on connaît l’efficacité des réseaux sociaux, mais un site comme le Water-wheel.net, cristallise les préoccupations, les intérêts et les passions d’une multitude de gens de toutes disciplines au sujet de l’EAU dans le monde. Autant la musique, la danse, la recherche scientifique, l’image, le son, les mots étaient au rendez-vous pour un PARTAGE INTERNATIONAL facile et accessible à tous, au sujet de l’EAU.
WATER CONSERVATION AWARENESS POSTERS AND WATERCOLORS OF BAY AREA LANDSCAPES

Michele Guieu & Students of Cumberland Elementary School
Sunnyvale, CA, USA

I am a teaching artist, working with the new common core standard recently implemented in the United States. I am interested in a holistic approach to teaching, interweaving art projects with the curriculum. In my practice, my preferred subject is science, with a special interest in water.

As we are going through a very severe drought in California, I worked with Nathalie Faure’s combination class of fourth and fifth graders on the need to conserve water and on the variety of water landscapes we have in the Bay Area.

Water Conservation Awareness Posters

After visiting the Water Treatment Plant in Sunnyvale with the students, I asked them what they would like to do to tell people around them that there are lots of things we could and should do to conserve water, to better use it at home, in our backyards and elsewhere.

Fig.1 & 2  Students using an app to make their posters.
The students decided to make a series of posters. They worked in small groups, each group focusing on one particular issue. They used the iPads available in their classroom with the PosterMaker app. They focused on one or two messages per group, then researched photos, drew, created composite images, and worked images and sentences together. They saved many tries and finally chose one poster to share.
Watercolors of Bay Area landscapes

Studying their region is part of 4th/5th graders’ curriculum. I thought it would be interesting to take a close look at some of the different landscapes the larger Bay Area offers. The students took time to study the photos I provided (a different one per student).

*Fig. 6* Drawing the main features of the landscape referring to photos.

They drew with simple lines the main features of these very special places and then studied the colors with watercolor inks. The result was a series of diverse waterscapes: an opportunity to reflect on the importance of visiting and getting to know our surrounding landscape and to reflect on the techniques the students used to create their artwork.

*Fig. 7* One of the waterscapes of the Bay Area.

During the symposium, the children talked about their posters and watercolors.

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**BIOGRAPHY**

*Michele Guieu* is a visual artist who has exhibited in France and throughout the United States. Originally from Marseille, France, Michele lived in Senegal, Africa and Paris. She moved to the US in 2000. Her
interactive installations address water issues. Photos and video footage form the foundation of her work, which also incorporates drawings and objects. She received a MA in graphic design from the École Nationale Supérieure des Arts Décoratifs de Paris (ENSAD). Her work was selected for numerous exhibitions including the Subzero Festival in San Jose, ZERO1 Biennial in Silicon Valley, and Currents 2012: the Santa Fe International New Media Festival. She is currently participating in two Teaching Artist Residency programs: Montalvo Arts Center and The Sausalito Art Foundation. She is a board member of WEAD (Women Environmental Artists Directory). Her video ‘Granted’ won best environmental short at the Bay Area Women in Film and Media (BAWIFM) Short Film Festival in San Francisco in 2013.

Fig.8  Waterscapes of the Bay Area.

LINKS
http://www.micheleguieiu.com/
http://www.micheleguieiu.com/wordpress/inspiration/
Screen recording of the Tap presentation
http://water-wheel.net/media_items/view/4949

Fig.9  Children talked about their artworks during the symposium, on the Tap.
MESSAGE IN A BOTTLE – CONCEPT
Corinne Weber & Yvonne Senouf for Meld
Paris, France & Athens, Greece

‘Message in a Bottle’ gathered the voices of teenage students living near Karla Lake who were given the opportunity to tell “their story,” “refilling” the lake with their memories, thoughts and dreams.

Phase 1

Alexander Schellow (Visual Artist) and Valya Stergioti (Environmental Interpreter) acted as a catalyst between the teenagers and the Lake. They designed a series of questions to trigger the imagination and inspire the students to tell their stories and express their connection with the lake. Schellow created a “visual infrastructure” based on his previous experience within the framework of “Neraki,” which includes the visual material of the workshop, and forms the basis of an online environment, which is gradually added to and transformed by the contributions of the students.

The teenagers were able to reconnect with memories of older members of their family, their own experiences of living near a new/old lake, as well as their view about the lake’s future (and how this relates to their own future). They used a variety of media, including photographs, drawings, moving image, words (written or spoken), and so on. The work using different media became the teenagers’ “message,” which we then helped them put into a “bottle.”
The first stage of the project was attended by Valya Stergioti, Maria (Lake Karla Conservancy Association), Yvonne Senouf, Andreas Nicopolos (MA Architecture, University of Volos) and two teachers from the Kanalia Lyceum, 2nd Grade.

During the first meeting, the children introduced themselves and the ice was broken. Maria gave an audio-visual introduction of Lake Karla, with scientific and sociological facts.

Andreas, a student in architecture at the University of Volos, whose thesis concerns Lake Karla, gave an introduction to his research on the fishermen that used to live on the lake and their working conditions today.

Valya and Alexander then presented artworks related to water and engaged the children in the works challenging their imagination and creativity. The children responded in a variety of ways, and their curiosity was triggered. We formed three groups, based on children from the same village.

Valya and Alexander prepared a series of themes to inspire and guide the students in their quest, with each group choosing a direction to take.
During the second meeting, Valya and Alexander prepared a series of games in order to “unlock” the students’ imagination and help them become more creative. Furthermore, two of the students showed some photographs they had already prepared for the project, and Alexander discussed how these pictures could become part of the final project.

The third meeting took place at Lake Karla. Students had a chance to walk on the shore of the lake, taking pictures and videos. Furthermore, thanks to the help of two “experts” (Giorgos, an ornithologist and Dimitris, a forester) students learned more about the fauna and flora of this area, getting answers to questions that arose naturally just by observing the surroundings.

So that the students could follow their instinctual sense of direction and capture their own view of Lake Karla, the meeting was freely structured.

The messages will be “released” via the Internet, directed to other teenagers from two or three other communities that are experiencing a similar situation (living near a lake that has been drained, or near a lake that has been re-generated in recent years).
We will access these communities through Waterwheel and MELD’s (Non-Profit Global Art Platform) social networks, as well as educational and conservation agencies, and invite them to respond to the “messages in a bottle.”

Proposed for World Water Day 2015

Teenagers respond to our messages and create a message of their own that either talks about their own experiences per se or uses the message from the Greek students to find similarities (and contrasts) between the two cases.

All messages will be uploaded onto Waterwheel and will be available for everyone to see.

BIOGRAPHIES

Alexander Schellow deals closely with the relationship between space, perception and action at the junction between artistic and scientific research. His work revolves around the possibility of documenting orientation, in other words, how attention is scattered into given spaces. Since 1999, he has been developing an ongoing drawing practice based on the process of reconstructing memories. This practice provides a basis for different formats, which often evolve over a long period of time, for the most part related to specific places. The series of drawings, the animations / films, the archives, installations, readings, performances and also the texts are generated in collaboration with national or international institutions.

Valya Stergioti is an environmental Interpreter. Her experience as an educator began in 1990 when as an adult member of the Greek Guiding Association she led a group of children aged 7–11. For 5 years, every week, her role was to organize and implement two-hour programs with diverse themes, using hands-on experiential methods that were relatively innovative for Greek education at the time. After completing her Master’s Degree at the Open, with a specialization in environmental interpretation, Valya worked with environmental NGOs creating and implementing various children’s programs focused on the environment. In 2007, Valya published her first book, ‘Fsss, Abatou and a Nightingale.’
MELD, an ongoing interactive global art platform and collaborative catalyst to commission, produce and present ground-breaking and evocative artwork to raise awareness and cultivate social change. MELD invites exceptional artists dedicated to the moving image, innovative thinkers committed to fostering awareness and education and inspired citizens to join us in our campaign for social change. Through this collaborative effort, we hope to provoke new perceptions, broaden awareness and education and find creative solutions concerning the changing world. MELD was co-founded by Corinne Weber and Yvonne Senouf.

REFERENCES & LINKS

Lake Karla: newborn, or not? Fishermen, The renaissance of the lake, Old people in my village, My village, My family, The view of the lake from my house, Visitors of Karla, Politics and Karla, Mosquitos: the ennemy? Sunday mornings near Karla, Springtime near Karla, Things I like at the lake, What is forgotten about the lake, Things to forget about the lake, Lies about the lake, If Karla could talk, Things visitors will never know about the lake, Karla in 10 years, My village in 10 years, My view of Karla, Memories of my mother’s childhood near the lake, My memory of Karla, If I asked my grandparents to talk about the lake they would…, If I asked my children to talk about the lake they would…, If you asked me to talk about the lake I would…

http://indexfilm.de/en/profile/personen
http://meld.cc
http://blog.meld.cc

Screen recording of Tap presentation parts 1–3
http://water-wheel.net/media_items/view/4889
http://water-wheel.net/media_items/view/4923
http://water-wheel.net/media_items/view/4924

Fig.8 Lake Karla.
ONE HUNDRED BOATS, ONE HUNDRED WATERS
Lea Petrou
Piraeus, Athens, Greece

The interactive performance titled ‘One Hundred Boats, One Hundred Waters’ was created by the visual artist Lea Petrou in collaboration with a group of 2nd and 4th Grade students from the International School of Piraeus. Piraeus is a city by the sea, with two ports: one for small boats and one for some of the biggest ships in Europe. As a result of the city’s shipping traffic, the students of the International School of Piraeus are aware of sea pollution, as well as the vulnerability to pollution of their drinking water.

Fig.1 Preparation of ‘One Hundred Boats, One Hundred Waters’ with 2nd Grade students from the International School of Piraeus.

In preparation for the presentation on the Waterwheel Symposium, one hundred paper boats were built. They were designed to carry messages on the importance of keeping both fresh and sea water clean. Additionally, one hundred plastic water cups were drawn as illustration of the water cycle. Lea Petrou, inspired the students to create the drawings and illustrations as part of the visual art classes.

Fig.2 One hundred paper boats are ready with their texts and designs!
Fig. 3 One hundred plastic water cups are ready with their illustrations!

During the presentation, the one hundred boats and one hundred plastic cups were filled with tap water and handed out to people on the streets of Piraeus.

The performance lasted one and a half hours, and was presented outside the pastry shop Cake Piraeus, on Tuesday 18th of March, 2014.

Fig. 4 ISP students handing out boats and glasses with tap water to passers-by around the streets of Piraeus.

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LEA PETROU STATEMENT

“My art-work is an attempt to approach different ways of reading and encountering reality. Communication, translation, conversions, codes and metric systems are notions that intrigue me and merge with my artistic practice in different ways. I am also interested in interpretations that are defined geographically, such as our understanding of time, movement and speech.”
BIOGRAPHY

Lea Petrou’s art-work often reveals an interactive aspect, which is important for the completion of her pieces. She approaches people walking on the streets or working in offices and shops and asks them to engage with her in performance. Gallery visitors, school and university students, locals, tourists or immigrants from different geographical locations are all invited to participate in, host and/or even construct her projects. In this way the work acquires an anthropomorphic character, and the audience becomes both the content and context of her art-work.

LINKS

Video document http://water-wheel.net/media_items/view/4941

Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4868

Lea Petrou website http://www.leapetrou.info

Fig. 5 & 6 Handing out paper boats and plastic cups with tap water to passers-by around the streets of Piraeus.
Fig. 7 & 8 Handing out paper boats and plastic cups with tap water to passers-by around the streets of Piraeus.

Fig. 9 End of the session on the Tap, Lea Petrou and students saying goodbye to Amin Hammami in Tunis.
VOICE OF THE FUTURE – OVERVIEW

by Alberto Vazquez

It is said that when children or animals are involved in performance all else fades into the background. This was certainly the case during the performance which involved children from Poitiers (France) and children from Coburg (Germany) in communication through the Tap. It was beautiful and moving.

The children from Poitiers presented work they had produced with the help of their teachers: videos, images, etc. They used simple, accessible technology to produce clear messages and artistic work. The children were inspired by Haikus, and created some themselves, which they recited with spontaneous innocence—everything flowed like river water, and regardless of whether you understood French or German, the images, gestures and verve transcended language.

Mariana Carranza presented ‘Mares y Malabares’ (Seas and Juggling), an interactive performance combining technology with the movement of jugglers, and involving young people. Beautiful pictures and sounds resulted, with great lighting effects.

Fig.1 A moment of interaction between the Poitiers and Coburg nodes.

Fig.2 Following ‘Mares y Malabres,’ questions and answers between Poitiers and Coburg nodes, with Amin Hammami in Tunis (bottom right) facilitating.
COBURG NODE
Jasmin Müller-Alefeld & Mariana Carranza
Coburg, Germany

The Coburg Education Department in collaboration with schools, museums and local organisations, participated in the Waterwheel World Water Day Symposium to bring awareness to water—its use, consumption, beauty, sounds and colours. Participants planned and designed proposals and activities, and a selection was presented on the Tap. We showed the live stream on a large screen installed at the Luther school and Albert Square, in Coburg, on Saturday 22 March from 11am until 5pm. We had German and English translators in the type chat, and were also able to answer questions in Spanish and in French.

In Coburg we were blessed with water from above. In Africa, a “rainy day” is a day of celebration, a “happy day.” Here in Albert Square, there wasn’t just plenty of rain but it was also very cold. So, the planned activities were relocated into the foyer of Luther High School. The information technology teacher handled the move and the technical set-up, which allowed us to continue with the program.

The Mayor of Coburg, Herr Tessmer, officially opened our node. Two representatives from the City of Coburg welcomed visitors and helped them to find their way around the school, where the different projects were being presented. Participating groups interacted with each other more than planned because of the relocation. This amplified the experience of the different groups, and saw the Water-Rap group, for example, perform in front of the multimedia projection wall of the live-stream.

Fig.1  Saturday 22nd of March was a “rainy day” during the live-stream from Market Square.

Program of Activities
11am: live-stream from a fountain in Market Square, in the historic centre of Coburg. Talking about the historical importance of water for the life of Coburg.
1pm: Interactive Workshop and Quiz by the Coburg Museum of Natural History
1.30pm: ‘Water-Rap,’ rap about the importance and meaning of water
1.45pm: ‘The life of a Tap,’ video animation
2.30pm: Experiments with water
2.45pm: Workshop about the first toilet in Coburg’s Ehrenburg Castle
3.30pm: Interactive performance ‘Mares y Malabares’
Live-stream at Market Square by Casimirianum High School

There are over thirty fountains in Coburg, which can be divided into three groups: wells, drinking water fountains and decorative fountains. The project examined the historic significance of these fountains. The high school students introduced the fountain on Market Square.

Coburg Museum of Natural History

A water trail and quiz were exhibited in the museum during the week of the Waterwheel Symposium. And, on Saturday 22nd of March, a group of eight to fourteen year olds, presented experiments of water purification, as done in a sewage plant, including:

- waste water treatment plant;
- water as solvent: “marker-pen separate” (chromatography of markers);
- surface tension: “wobbly water-mountain” and “floating thumbtacks”;
- swell characteristics: “Chinese Miracle Flower”;
- adhesion and cohesion: “Trinkhalmpipeline” (outdoor).
‘Water-Rap’ by Rückert School with Peggy Hofmann

The fifth grade students performed the rap that they wrote. It was developed and rehearsed with artist Peggy Hofmann.

‘The Life of a Tap’ by Alexandrinum High School

Video animation about ‘The Life of a Tap,’ written and shot by a group of twelve to fifteen year old students from Alexandrinum High School, with their teachers Martina Essig and Patrick Löffler.

Water as Elixir of Life by Coburg-Neuses Primary School

Drinking the right amount of water is important for children’s physical and mental development. It is equally important for successful learning and the ability to concentrate. This correlation was presented to children aged between eight and fourteen, through a number of different experiments.
The Rosenau Castle is situated about 10 kilometres from the city of Coburg. A puzzle was made, with the following questions:

- What is a summer residence?
- Why would we need a castle with so many rooms?
- Where was the bathroom in the castle?
- Was there a toilet?
- Where did the water for the bathroom, for drinking and for cooking come from?

‘Mares y Malabares,’ a performance by the Coburg Children and Youth Theatre, and Mariana Carranza (see next Ripple, page 61).

Young performers juggled with luminescent balls, which moved to the rhythm of the water music and visuals through Mariana Carranza’s interactive system.
BIOGRAPHIES

Jasmin Müller-Alefeld: Principal of Grundschule Neuses primary school Coburg. Longstanding leadership role in Scout association ‘Weltenbummler.’ Member of numerous Coburg City Council Committees, such as ‘Integration.’ Leader of co-operation initiatives between primary and secondary schools.

Mariana Carranza: Digital artist with multidisciplinary background. Her work focuses on the creation of interactive situations, experimenting with body interfaces, movement, space, image and sound; combining poetry and technology; encouraging participation and co-creation. Exhibitions and awards in America and Europe.

PEOPLE AND INSTITUTIONS INVOLVED

Nicole Roethig: director Bildungsbüro Stadt Coburg
Jasmin Müller-Alefeld: school director
Mariana Carranza: artist
Patrick Loeffler: high school teacher
Martina Essig: high school teacher
Peggy Hofmann: artist
Ines Hoepfel: teacher
Stephan Wolf: architect
Maria Krumm
Bildungsbüro Stadt Coburg; Lutherschule; Gymnasium Alexandrinum; Realschule Coburg I; Scouts Fördererkreis Coburg e.V.; Kinder- und Jugendtheater Coburg.

REFERENCES & LINKS

http://www.coburger-kinder-und-jugendtheater.de
Screen recording of the Tap presentation from one of the thirty fountains
http://water-wheel.net/media_items/view/4955

Video animation ‘The Life of a Tap’
http://water-wheel.net/media_items/view/4413

Screen recording of the Tap presentation of ‘The Life of a Tap’
http://water-wheel.net/media_items/view/4959

Screen recording of the Tap presentation ‘Mares y Malabres’ and Q&A:
http://water-wheel.net/media_items/view/4963
http://water-wheel.net/media_items/view/4987
MARES Y MALABARES
Mariana Carranza
Coburg, Germany

Mares y Malabares is an interactive audio-visual performance that combines art and science in a multidisciplinary and co-creative project.

Fig.1 Graphic collage.

Fig.2 Performance ‘Mares y Malabares’ in the Coburg node.

Through interactive performance, this show aims to create awareness and provoke reflection on the fact that human actions influence the behaviour of the oceans and environmental hydrodynamics in general.

Jugglers and acrobats generate the virtual waves of a virtual ocean in which they are immersed.

Sounds and visuals are created with applications that connect the patterns of juggling with formulas of environmental fluid dynamics in real time.

Maritime images are displayed on multiple screens to immerse the audience in the performance.
Inspiration

This piece was presented for the first time during Jugando-con-números, Medialab-Prado, in Madrid in March 2011.

By sharing my thoughts with Sebastian Solari, who is an environmental engineer and Mathias Wolf, who is an ocean surfer, the idea to connect periods and frequencies of juggling with the waves of the sea came about.

Technology

Visuals and sounds are generated by custom-designed software specially developed for this work. The source code is based on formulas of environmental Linear Wave Theory, generating a sea that evolves in real time depending on the patterns used by jugglers. Sound waves generate “whale songs” and “dolphin sounds.”
BIOGRAPHY

Mariana Carranza is a digital artist with multidisciplinary background, born in 1960, and living in Uruguay/Germany.

She creates spatial-installations, performances, interactive-designs, and digital-media. Her work focuses in the creation of interactive situations, experimenting with body interfaces, movement, space, image and sound, combining poetry and technology, and encouraging participation and co-creation. She has held numerous exhibitions and won awards in America and Europe.

THE TEAM

Project by Mariana Carranza
Jugglers: N. Feiner, J. Wiesner, L. Herrich-Schäffer
Thanks to: Coburger Kinder- und Jugendtheater, Stephan Wolf and MediaLab-Prado.

REFERENCES & LINKS

the medialab was organized by Chris Sugrue and Daniel Sanchez
http://medialab-prado.es/article/jugando_con_numeros

http://www.coburger-kinder-und-jugendtheater.de

Mariana Carranza www.marianacarranza.wordpress.com

Video of the graphics generated by the interactive interface:
http://water-wheel.net/media_items/view/2828

Screen recording of the Tap presentation and Q&A:
http://water-wheel.net/media_items/view/4963
http://water-wheel.net/media_items/view/4987

Fig.5 Screen capture of the performance ‘Mares y Malabres’ presented on the Tap.
Presentation

‘Five Precious Letters’ is an art project and a collaboration between Virginia Gathoni and the children of Saint Clement Orthodox Primary School, assisted by some of her colleagues. Virginia’s artistic work is based on the cultural aspect of water in the community. Saint Clement Orthodox Primary School is located in Riruta, Dagoretti District, in Nairobi County, Kenya.

Satellite has no water, not even a stream. There are, however, several boreholes, which have been dug in search of this precious commodity. County Council water is supplied once a week.

The project has helped the students think up ideas, using song and dance, to raise awareness in the community on the importance of water. The lower primary children came up with a song using the drawing of a water flask on the ground. The upper primary children (secondary class) came up with a traditional dance and a choral verse showing the aesthetic value of water. The theme “five precious letters” was conceived following a brainstorming session with some of the students. It stands for: Worthy Aesthetic Trend Elevating and Refreshing for all living things.

Presenter and Collaborators

Virginia Gathoni is a teacher by profession, with a diploma in Early Childhood Development Education and School Management. She has also trained in Waldorf education. She is the school coordinator with an interest in encouraging children to discover and improve their talents.

Mary Chege is the English teacher and Deputy Head of the school.

Mrs Munyiva and Daniel Njoroge are the music teachers.

Siprian and Gofrey are the dance teachers with a passion for traditional dance; and talented in making and playing traditional musical instruments.

Links

Video http://water-wheel.net/media_items/view/4317

Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4869
Song, dance and drawing were used to raise water awareness of the students in Nairobi. Screen captures.

Top right: students presenting from the school library, with facilitators Amin Hammami in Tunis (top right) & Suzon Fuks in Brisbane (bottom right).

Bottom most image: from top left: students in Nairobi, Lea Petrou in the port of Piraeus near Athens in Greece, and Atefeh Khas in Tehran in Iran (bottom right).
Presentation

‘Promises to Children of the Future’ by Helen Anastasiou and children from The Interactive European School, at Varkiza, near Athens, Greece.

Through a live performance our children appealed and spoke to the children of the future, assuring them that from now on they will take care of and protect water in order for them to have the amount they will need. With tenderness, they assured the children of future generations that they will: make careful and rational use of water; will make every effort and will strive to reverse the greenhouse effect; will try to prevent contamination of the aquifer; and, thus, ensure fair access to water in the future, for all people on the planet.

Presenter

Helen Anastasiou: “I was born in Athens in 1985 and studied at the National and Kapodistrian University of Athens, in the Department of Education and Early Childhood Education and qualified as a Kindergarten Teacher. My love for children, my desire to convey to them knowledge, to communicate with their soul and to help them grow, were key factors in my career choice, which became a life goal. Now that both my goal and my dream are realized, I feel very lucky, especially working at the Interactive European School (D.E.S.) of Varkiza.

This school is different from the rest. Studies are based on the temperament and personality of each child, and the structure of the educational program is based on Howard Gardner’s “multiple intelligences.” Gardner argues that not all people have the same interests or skills, or learn in the same way, but rather perceive the world with at least seven different and equally important ways/intelligences.

Thanks to the Interactive European School, I have come even closer to the world of children and each year I learn more about their specific talents and unique feelings. And, as a result, I have come to know myself better.

I now truly feel that I couldn’t do another profession, and as the years pass my little students confirm this feeling with their love and I thank them very much.”

Links

Video document: http://water-wheel.net/media_items/view/4988

Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4878
The performance ‘Promises to the Children of the Future’ by Helen Anastasiou and children from The Interactive European School, Varkiza, Greece. Screen capture.
Presentation

‘Lake ZOO’ by Katarina DJ Urošević and students of Veselin Masleša Primary School, Voždovac, Belgrade, with teacher Sladana Živković and the assistance of Ljiljana Novak.

The workshop was a collaboration with students utilising visual media and drawing to create the creatures and animals in a lake, as well as mixed-media narratives about their lives and the big blue. For a generation of teenagers, who spend their summer vacations at the beach, the stories focused on ways of thinking about and understanding the life cycle of water.

Questions put to the students included: How do we preserve our environment? How do animals live in the lake? What is our mission in preserving the nature of the lake? As users (people, animals, plants) of the same space, how do we equitably share what is in common? What bothers animals in the lake? What may hurt the animals and plants inside and outside the lake? How do our teenage preoccupations take into account life on the planet? How do we strike a balance between human subjective desires and us not harming nature? Are we the owners of animals and nature? What can we change in our lives for the benefit and good of all?

The narratives were generated taking into consideration the state of the water supply in the world; asking whether drinking water is safe; the problems that impact animals in the lake; the distribution of animal and plant life on the Sava and Danube Rivers, the fact that different species cannot live in the same habitat (for example, swans do not live on the Sava river but they do on the Danube river).

Drawings and animation (paper and flash), backgrounds and mp3 sounds and song were produced from the workshop, as well as the recording of the song ‘Introducing’ and the video ‘I love ADA’ (recordings by Uroš Pendić and Katarina DJ Urošević).

Participants from the ‘Water Project’ with Veselin Masleša Primary School discussed how they would like to delve deeper into topics relating to water, the environment and more, in collaboration with students, scientists and artists from Serbia and internationally; as well using the Tap again in the future to communicate new ideas and water issues.

Presenters

Katarina DJ Urošević is a visual and digital artist, and works as an editor for cultural web portals. She graduated from the Academy of Arts in Novi Sad in Painting and Magister, and has a postgraduate degree from the University of Arts in Belgrade, Department of Digital Art. She also has a certificate from the IT Academy Belgrade in design and web design. Students: Sohija Urošević, Marija Horvat, Anita Novak, Jovana Vesković, Iva Radulović, Uroš Pendić, Petar Mitrović & Nikola Vušurović.

Links

http://artskylight.com
http://blog.water-wheel.net/2014/02/3wds14-belgrade-node.html
Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4951
They seem to be very clever, they can protect us because they know that clean waters are important for everybody, not only for us fish.

Top to bottom:

Workshop participants drawing and making animations.

A scene from ‘Lake Zoo.’ Screen capture.

Katarina DJ Uroševic introducing ‘Lake Zoo.’ Screen capture.
Presentation

‘Walk Along the Water’

In a workshop with 15–18 year old students from Uroš Predic High School in Pancevo, a video presentation using animation and photos was created on the topic of the water that surrounds us, namely the two rivers: the Tamiš River and the Danube River. It was a multimedia experiment. Our civilization consumes and enjoys natural resources and does not care much about the natural cycle, about which it knows little. We used the elements that we found walking along the rivers as something to think about. We drew, photographed, filmed and used the Dadaist and Surrealist principle of automation. The collage of pictures and videos we created is a poetic work that represents our state of mind and ideas.

The workshop participants were: Teodora Peško, Sonja Đuretanonović, Jovana Nikolić, Jovana Ninković, Neda Božić, Nikola Pejaković, Vojislav Petković; supported by art teachers Ivan Pavlov and Mirela Abramović Đordijevski

Presenter

Jelena Lalić was born in Pancevo. She graduated from the School for Design in Belgrade, in 1999, majoring in Graphic Design. She graduated from the Faculty of Fine Arts, Painting Department under the guidance of Professor Ćedomir Vasić in 2005. She has a Masters Degree from the University of Arts in Belgrade, Center for Interdisciplinary Studies, Digital Arts Group, supervisor Rastko Ćirić, completed in 2010.

Her work is based on visual experiments in digital media, painting, video, photography and animation. She participated in workshops and art colonies in Serbia and abroad. She has had three solo exhibitions and is the author of several projects. She has been in over 30 group exhibitions and the online UpStage Festivals 090909 and 101010. Jelena has been a member of the Association of Fine Artists of Serbia, ULUS, since 2011, and a member of the Association of Visual Artists SVETIONIK Pancevo since 2009. She has collaborated on several projects with the artistic group DigitGroup, Belgrade. She is a member of DIT Serbia.

Links

http://www.jelenalalic.rs

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4952
Top to bottom:

Workshop participants making collages and paintings. Photo by Jelena Lalic.

Student during the workshop. Photo by Jelena Lalic.

A scene from ‘Walk Along the Water.’ Screen capture.
3. Activism, Art & Science
Presentation

In terms of coffee drinking statistics, Finns rank second in the world. It is said that coffee is an indication of the way people think in Finland. Drinking coffee is a way of reaching out to people, of socialising and an "excuse" to pay someone a visit. People discuss matters over a cup of coffee. However, a cup of coffee carries quite a heavy ecological backpack, due to, for example, the cultivation method, erosion and long distances involved in transportation, such that each cup of coffee consumes 300g of natural resources. So, maybe it’s worthwhile to make one cup count.

It was over a cup of coffee, then, that Mari Keski-Korsu, Andrew Paterson, Nathalie Aubret and Mikko Laajola talked about energy production and consumption in Finland. The focus was on nuclear power, in particular: what does water mean in the context of nuclear power? Finland is one of few countries in Europe that is living a nuclear power renaissance. The sixth nuclear power plant of Finland is going to be built in Cape Hanhikivi in Pyhäjoki, North-West of Finland. The plant is going to be built, in part, on nature conservation area, where there is no existing infrastructure. To explore and examine the impact on the area and the wider global perspective, an international group of artists, activists and scientists organised by Mari Keski-Korsu gathered at Pyhäjoki, giving rise to the Case Pyhäjoki Project. They discussed what kind of role people from cultural professions can play in light of events like those taking place at Pyhäjoki, and generally in places around the world that are experiencing environmental distress.

Presenter

Mari Keski-Korsu (mkk) is a transdisciplinary artist. She explores how ecological and socio-economic changes manifest in people’s everyday life. Her works are political in nature with a humorous twist. The basis of the work is in location: a place and people’s relationship to it. Keski-Korsu started her artistic career with photography and then started to work with live internet streaming in the mid 1990s. This lead her to work with live video visualisations as well as net and video art, interventions, documentary, installations and location-based art. She is interested in the relationship between art, activism, politics and science. Her works have been exhibited in Europe and in several other countries around the world. She collaborates with artist groups and researchers, as well as organising and curating different types of projects. She holds an MA from the University of Arts and Design Helsinki (Medialab) and a BA in visual arts from the Polytechnic of Western Lapland.

Links

http://www.casepyhajoki.info

http://www.artsufartsu.net

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4875
Having a cup of coffee and a talk in a place that will change: the view out to sea that will disappear if a nuclear power plant is build on Cape Hanhikivi.

Antye Greie-Ripatti, Brett Bloom, Martin Howse and Bonnie Fortune recorded humming on Cape Hanhikivi. They wanted to connect with their environment in this way, to then process the feeling that the presence of the impending nuclear power plant causes.

Photo: Liisa Louhela

Carmen Fetz, Andrew Paterson and Mikko Lipiäinen organized the Power Sport Day, which was supported by many local people and other Case Pyhäjoki participants. Different nuclear actors and investors were competing in the race and they were disturbed by geese. The race also put light on the history of the nuclear power plant.

Photo: Bonnie Fortune
Presentation

After a research and workshop residency dedicated to developing prototypes and user manuals for open source washing machines, Rob van Kranenburg, Paula Vélez and Jean Noël Montagné met remotely on the Tap, to discuss the political, ecological and social implications of open source washing machines. They discussed how it might be possible to rethink the technological and sociological ways clothes are washed around the world, in accordance with economic, cultural and environmental aspects. Is it possible to create new modes, new technologies, new ways to liberate people from this task, all the while keeping sustainable development and respect for the natural and human environment in mind? Is it possible to bring solutions to isolated and poor communities, where people are using soap and washing clothes by hand in rivers and water bodies. How do we make people think about water as a resource and the importance of taking care of this vital element.

Presenters

Jean Noël Montagné is a visual artist, founder of the Sensitive Art Association and the Sensitive Art Resource Centre at Mains d’Oeuvres in Saint Ouen, a medialab dedicated to the initiation, counseling and support of artists, teachers, students and any cultural player wishing to explore sensing, actuation and real-time processing technologies in contemporary art creation. Amateur of artistic practices linked to free/open communities, and devotee of DIY, he develops easy to make, cheap interfaces enabling individuals to produce and use their own technology. He is the creator of the Estive Numérique festival, and is part of the bricolabs network.

Paula Vélez is a media video artist, filmmaker, and vj, involved in cultural, social and environmental projects. Paula is involved in projects in the Colombian Carribbean Coast: a pilot green building of a cultural centre built with bioconstruction methods; and a documentary filmed in Colombia. She is part of a wide network that involves arts, hackerspaces, independent collectives and labs from South America. She is part of the bricolabs network.

Rob van Kranenburg wrote The Internet of Things, a critique of ambient technology and the all-seeing network of RFID, Network Notebooks 02, and the Institute of Network Cultures. He is cofounder of bricolabs and the founder of Council. Together with Christian Nold he published Situated Technologies Pamphlets 8: The Internet of People for a Post Oil World. Currently Community Manager at EU Societal Project, and consultant to IoT China, Shanghai, 2014.

Links

http://ark0.tumblr.com - http://www.oswash.org
Resources Center Art Sensitif at Mains d’Oeuvres http://craslab.org
http://www.theinternetofthings.eu/content/rob-van-kranenburg
Screen recording of the Tap presentation parts 1 & 2: http://water-wheel.net/media_items/view/4874
http://water-wheel.net/media_items/view/4918
3. Activism, Art & Science

Top to bottom:

Fig.1: Rob van Kranenburg, top left, Paula Vélez, top right, and Jean Noël Montagné, bottom left. Screen capture.

Fig.2 & 3: from top: Rob van Kranenburg, Paula Vélez, Jean Noël Montagné.
Presentation
‘Sounding Zameen: Exploring the role of interdisciplinary art in environmental activism’

Zameen is a Hindi word meaning “land.” It is a word that has become synonymous with the damming of the Narmada River in North India. To date over 30 million people have been internally displaced, and the resulting Indigenous activist movement – the Narmada Bachao Andolan – has become one of the most successful and sophisticated in contemporary history.

Zameen is also the title of the first major production resulting from ‘The DAM(N) Project,’ a venture which began in 2011 when a group of artists from Australia and India journeyed deep into India’s Narmada Valley. They met and lived with communities that are gradually being submerged due to large-scale dam development in their region. ‘The DAM(N) Project’ has evolved into a large-scale interdisciplinary art project that connects Australian and Indian communities around the common concern of global water security. The project is focused on community capacity building and the creation of multi-platform content that can be disseminated internationally.

‘The DAM(N) Project’ is designed to reveal the ramifications of damming rivers that hold cultural and spiritual significance for indigenous communities worldwide. The project was conceived and developed by Australian composer Leah Barclay, Sydney-based producer Jehan Kanga and S. Shakthidharan, the director of CuriousWorks.

This presentation explored the evolution of ‘The DAM(N) Project’ and the creative development of Zameen, its process from the perspective of a composer, including the initial onsite field recordings with the communities and hydrophones in the Narmada River to the production of a multi-channel dance score. This research is ultimately exploring the role of interdisciplinary art in environmental engagement and the possibilities for creativity and technology in community empowerment, social activism and cultural change.

Presenters
Leah Barclay is an Australian composer, sound artist, curator and researcher working internationally. She has been the recipient of numerous awards and has directed and curated intercultural projects across Australia, India and Korea. Barclay’s PhD at Griffith University involved site-specific projects across the globe exploring the value of creativity in environmental crisis. In addition to her creative practice, she serves in an advisory capacity for a range of arts and environmental organisations, including Ear to the Earth (New York), InterCreate (New Zealand) and The Australian Forum for Acoustic Ecology. She is currently the Artistic Director of Biosphere Soundscapes, a large-scale interdisciplinary art project connecting UNESCO Biosphere Reserves across the world.

Links
http://www.leahbarclay.com

Screen recordings of the Tap presentation & end discussion:
http://water-wheel.net/media_items/view/4888
http://water-wheel.net/media_items/view/4920
Top to bottom:

Leah Barclay, Australian composer, sound artist, curator and researcher. Screen capture.

Dancers from Attakkalari. Screen capture.

Community members relocated from the submerged Narmada Valley, in India. Screen capture.
Presentation

‘Rights’ is a 12-minute experimental video by poet Elizabeth Zetlin featuring water activist Maude Barlow, who is National Chairperson of the Council for Canadians. It includes “on the street” interviews about the rights of nature. Zetlin has created a hybrid form, the “docu-poem” or “video-haibun,” which combines a story with haiku, alternating the lyrical with local and global viewpoints about water.

The story takes place in Owen Sound, Ontario, Canada, a small city (pop: 22,000) on the shores of Georgian Bay, part of the Great Lakes system. Fish, and the waters they depend on, are a big deal in this town. Zetlin asks passers-by “what rights do fish have?” Starting at the local Salmon Derby, we see a range of viewpoints from “no rights,” to “they should be treated with respect.”

Maude Barlow, first senior advisor to the UN on water issues, talks of the planetary water crisis. Barlow shares a new concept, that water and watersheds have rights beyond their usefulness to us. “We’re not above everything else, we’re just an animal, like other animals, and we have to find a way to live in a more compatible way with our world.”

“Something is deeply, powerfully wrong,” she says, and references a recent study that states the Great Lakes could be bone dry in 80 years. “These lakes, and waterways around the world, are the most important part of a living ecosystem that gives us all life, and we have to change our heads around it, and see it very differently.”

‘Rights’ is part of ‘Water Stories,’ a series about how homo sapiens treat water and the creatures that depend upon it. The film ends on a note of hope with Barlow saying “I think a new consciousness is being created.”

Presenter

Elizabeth Zetlin is an environmental poet, filmmaker and visual artist. She is the author of five collections of poetry, a feature documentary and many video-poems.

Links

Video http://youtu.be/RYBRY2oWYOM

Screen recordings of the Tap presentation & end discussion:
http://water-wheel.net/media_items/view/4886
http://water-wheel.net/media_items/view/4920
Elizabeth Zetlin presenting her video 'Rights.' Screen capture.
Presentation

‘Drinking Water and Sanitation Challenges, and Way Forward, in Flood Plains of North Bihar through Water Vagabond’s Lens’

Eklavya Prasad aka Water Vagabond has photographed situations, people, challenges, and way forward relating to access to safe drinking water and sanitation in rural India while leading a grassroots organisation Megh Pyne Abhiyan (MPA - literally meaning Cloud Water Campaign).

The extensive travels undertaken in the north Bihar flood plains to address issues concerning groundwater, livelihood, drinking water, sanitation, and floods allowed Water Vagabond to capture the uniqueness of the region through his cameras — his soul mates.

A firm believer of “A picture is worth a thousand words,” Water Vagabond continues with the passion of capturing the right moment for larger sensitisation concerning challenges and alternatives.

Presenter

Eklavya Prasad (New Delhi, India) is a social worker, artist/photographer and managing trustee of Megh Pyne Abhiyan (Cloud Water Campaign), a Public Charitable Trust committed towards behavioural change amongst the rural communities to effectively revive, innovate and institutionalize water and sanitation management practices and mainstream issues concerning floods through collective accountability and action. MPA works through a network of grassroots organizations, social development professionals and resource institutions/individuals in five flood prone districts (Supaul, Saharsa, Khagaria, Madhubani, and Pashchim Champaran) of North Bihar, India.

Links

http://meghpyneabhiyan.wordpress.com
http://water-wheel.net/media_items/view/3557
http://yourshot.nationalgeographic.com/profile/504696/
Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4922
Eklavya Prasad presenting ‘Drinking Water and Sanitation Challenges, and Way Forward, in Flood Plains of North Bihar through Water Vagabond’s Lens.’ Screen capture.
Presentation

‘The Mary Flows On’

For three and a half years the community of the Mary Valley in Queensland, fought the Queensland Government to save the Mary River from being dammed. They finally won the battle in November 2009, when Federal Environment Minister Peter Garrett said, “There will be no dam.” Since then the locals have not stopped celebrating, having felt the social, economic, environmental and cultural repercussions of the initial announcement in 2006. The Save the Mary River Coordinating Group was formed two days after the announcement and their website was up within two weeks. They attracted volunteers from around the region and further afield, who helped put their case forward in a peaceful and scientific manner. They did not waver in their protest all the way through the battle. They started the Information Centre, which today continues to be a strong reminder of what they went through, having been turned into a Museum and Education Centre.

The amount of activities undertaken by the group was consistent and significant during the battle and included many peaceful rallies, protests and awareness raising activities. A flotilla was held each year which attracted up to three to five hundred canoeists at a time, including the Greens Leader at the time, Bob Brown, and kayaker and water engineer Steve Posselt. A street march in June 2006 attracted eight-hundred protesters in Brisbane, and in 2008, the Get Up! team joined in. Many papers were written by the group, and many scientific studies were carried out to provide evidence of the Mary River’s significance. A Federal Senate Enquiry was held in 2007, which saw sixteen-hundred submissions. The submissions showed that eighty-eight percent of the public in the Wide Bay area was opposed to the dam.

Art and culture played a large part in expressing opposition to the dam, through performances, exhibitions, writing, music and photography.

Presenters

Glenda Pickersgill and Joolie Gibbs are members of the performance group ‘Sisters of Mary,’ formed as a protest against the dam proposal for the Mary River. Glenda is a self-employed grazier whose property would have been affected by the dam proposal. Her background is in environmental science and she is currently President of the Save the Mary River Coordinating Group and is involved in the Mary Valley Renewal programme. Joolie is an artist, Mary River Festival organizer (along with Glenda) and regional gallery coordinator. They sometimes get to paddle the Mary River together.

Links

http://www.savethemaryriver.com


www.facebook.com/SaveTheMaryMuseumAndRiverEducationCentre

Screen recording of the Tap presentation and end discussion:

http://water-wheel.net/media_items/view/4887
http://water-wheel.net/media_items/view/4920
The Mary Flows On...
Joolie Gibbs and Glenda Pickersgill

Top to bottom:

From left to right Joolie Gibbs and Glenda Pickersgill.

Glenda Pickersgill showing an aerial view of the mouth of Mary River.

Joolie Gibbs and Glenda Pickersgill talking about the Sisters of Mary, a community protest group.

All Screen captures.

The Mary River winds through fertile alluvial farming land carrying fresh water to the Ramsar wetlands of the Great Sandy Strait.

The Sisters of Mary

Images from stoppress.com.au
In ‘Water Sense,’ the researcher Alireza Hejazi (Iran) presented the paradoxical gap between the technological and scientific treatment of water, the notion of water in myth and poetry, and the disputed rights and sense of water. He showed how easily water and its perception can be maneuvered, with a video of a flowing stream turned upside down. The visual metaphor evoked the artificial management of watercourses, and the mechanical movement involved in turning on a tap and watching the water flow insensibly.

The challenges involved in the management of watercourses were further discussed in a photo-essay by Eklavya Prasad (India). A social worker, artist photographer and managing trustee of Cloud Water Campaign, Prasad undertook extensive travels in the north Bihar flood plains to address issues concerning groundwater, livelihood, drinking water, sanitation, and floods. Describing the camera as a ‘soul-mate,’ his photographic views disclose to outsiders the innate resilience of the region’s population against the disastrous effects of annual flooding.

The poetic photographs illustrate the total failure of the embankments constructed to combat the floods, which even brought an increase in flooding. The local women and adolescent girls, who stay behind whilst the men leave the region to find work elsewhere, appear to bravely carry the burden of the natural disasters in resourceful ways. Images of children playing in flood waters and mud, stress in a situation where flooding is a way of life.

Nevertheless, a new outlook bringing new solutions to problems such as sanitation and livelihood could be on the horizon. As Prasad’s imagery implies, it may emerge from the wisdom and vision of the local women, and a new generation of literate girls, whose contact with the environment is essential for understanding and managing floods.

Understanding the communication of floods is a topic explored by artist Joolie Gibbs (Australia). Her work and findings were inspired by the Mary River and the increased flooding in recent years around Gympie in Queensland due to climate change. Gibbs discovered that after the floods, debris on farmers’ fences produced patterns out of grasses, branches, mud, etc., which she documented in numerous photographs. These patterns, the inspiration to her visual art works, gave the impression that the floodwater communicates through visual language. Similar to graffiti, the floodwater displayed anarchic disregard of authority and ownership of public and private spaces. The floodwater seemed to regard fences like graffiti artists have regarded walls. The soundscape composed for this project by Carlotta Ferrari (Italy) is a sonic expression of this volatile correspondence between civilized, measured space and unbound nature.

Describing the flood communication as ‘Flood Language,’ Gibbs asks: “Is it possible that the flood is doing this as an act of defiance, perhaps demanding a new relationship between nature and civilization?” or, is it possible, as Prasad implies (See chat box) that there is a “local understanding which is written off under the pretext of advanced ‘knowledge’?” Hence, in dealing with environmental issues, ‘Flood Language’ and ‘Water Sense’ could serve as ‘strong tools of persuasion.’
WATER SENSE
Alireza Hejazi
Tehran, Iran

During the Waterwheel World Water Day Symposium, I shared my thoughts about ‘Water Sense’ with water fans.

The importance of water for the processes of life and for reproduction is obvious. The language of water is universal, conveying concepts close to our soul, and motivates or creates feelings and behaviour.

In his speech at the inaugural Prince of Wales Young Sustainability Entrepreneur Prize, in January 2014, Prince Charles said: “In our modern world we have such blind trust in science and technology that we all accept what science tells us about everything—until it comes to climate science.” [1]

‘Water Sense’ at first may be interpreted as an ordinary term related to the traditional five faculties (sight, touch, taste, hearing and smell). But ‘Water Sense’ is more: it is mixed with our memories, deep in our soul, reminding us of myths and stories. It works like:

– a new-born artwork,
– a metaphor,
– a symbol,
– a feeling (e.g. that of being in paradise when seeing flowing rivers and trees; or when reciting poems; in the Japanese tradition, there is the ceremony of a poem on water, Kyoku Sui no En)
– having a good time with friends,
– a desire (to cleanse the soul).

Water acts like a facilitator between the physical world and our inner and aesthetic feelings. It can act as a bridge between nature and our soul. It reminds us about peace. Water can bring peace to people living in democratic societies. Water is clear and transparent. Congratulations to Transparency International for choosing the right name. [2] (Transparency International (TI) is a non-governmental organization that monitors and publicizes corporate and political corruption in international development).

Living in a world without water is impossible. But the lack of awareness in the attitudes we harbour towards water, is a potential disaster.

National Geographic magazine reports: “A River in New Zealand Gets a Legal Voice.” [3] It might sound extreme, but, really, what is more extreme than a river deprived of water?

“In most legal systems today, rivers have no rights at all. In legal parlance, they lack ‘standing’—the ability of a party to bring a lawsuit in court based upon their stake in the outcome,” said Sandra Postel. [4]

The Watercourse Convention (Convention on the Law of the Non-Navigational Uses of International Watercourses 1997) was adopted into international law in 1997. Now in its seventeenth year, it still has not come into force.

People living in crowded, noisy cities cannot hear this voice. They do not recognize water and its music. They do not even see the water. They send hundreds of litres of water into the sewage system because of their inability to hear the voice of water.
My main question, therefore, is the following: How to awaken this “Sense of Water?”

Water Sense is an ability to understand, recognize, value, or react to water. It is also a response to adaptation: for our existence to adjust under critical conditions relating to the resource of water; the ability to perceive water issues (contamination, over-use and scarcity, equitable and reasonable utilization, lack of sufficient legal protection); and to establish a flexible and overarching global legal framework that establishes basic standards and rules for cooperation between States with watercourses, and the use, management, and protection of international watercourses.

I would like to introduce a number of artists whose artworks made me aware of water sense: Ahmad Shamloou, David Whyte, John Ford, and Houshang Ebtehaj (Sayeh).

The late Ahmad Shamloou, Persian poet (1925–2000), describes the relationship between woman, life and water. In ‘The Fish,’ the capacity and inner passion of the poet, and his supernatural powers, or soul, form as a woman.

Fig.1 A manuscript of the Khamsa or Five Poems of Nizami Ganjavi, Persian poet (1141 to 1209), shows Prince Khusraw discovering Princess Shirin bathing in a pond, as if she were the soul of water. He falls immediately in love with her. http://bit.ly/1w85y8j

The Fish [5]

I don’t suppose
my heart was ever
warm and red
like this before.

I sense that
in the worst moments of this black, death-feeding repast
a thousand thousand well-springs of sunlight,
stemming from certitude,
well up in my heart.

I sense, further, that
in every nook and cranny of this salt barrenness of despair
a thousand thousand joy forests,
stemming from the soil,
are suddenly springing.
Oh, lost certitude, oh, sea-creature
fleeing in the concentric,
shivering,
mirroring pools,
I am the clear pool:
mesmerized by love,
search out a path for me
among the mirror pools.

I don’t think
my hand was ever
strong and alive
like this, before.

I sense that
at the flow of blood-red tears in my eyes
a duskless sun pours forth a song.

I sense that
in my every vein,
in time with my every heartbeat,
the warning bell of a departing caravan tolls.

She, bare, came
one evening
through the door
like the soul of water.

At her breast
two fish

In her hand a mirror
Her wet hair,
moss fragrance, intertwined moss.

On the threshold of despair,
I bellowed: Ah, oh retrieved certitude.

I won’t put you aside again.

And “this is love—the vertigo of heaven, beyond the cage of words, suddenly to be naked in the searchlight of truth, no shade no leaf for senses...” —Rumi, divan 1919. [6]

Pacific NW poet, David Whyte’s words are a welcoming embrace as the “hands across the water” reach out through these pages in a gesture of friendship and familiarity. In his rivers poems, you feel like the poems are in communion with nature; you can find yourself within nature. ‘River Flow’ is a graceful journey, highlighting the ebb and flow of humanity as it drifts along on words of wisdom, compassion and understanding.

Irish-American film director, John Ford directed Young Mr. Lincoln (1939), a partly fictionalized biography about the early life of President Abraham Lincoln. [7] In this film, you can see the relationship between nature, politics and woman. In one scene, for example, Lincoln is sitting by a river studying Blackstone’s Commentaries and is interrupted by Ann Rutledge who wants to talk about the future. Young Lincoln falls in love with Ann Rutledge, and after this event, the film focuses on the river.

“Love is a river, Drink from it,” —Rumi (1207–1273), Persian poet. [8]

“There’s an ocean inside you, and when you’re ready you will drink,” —Kabir (1440–1518), Indian poet. [9]
Contemporary Iranian poet Houshang Ebtehaj (Sayeh) advises us to keep on moving like a river. His poem titled ‘Nasheb,’ compares the philosophy of water with life.

Fig.2 ‘Nasheb’ compares the philosophy of water with life.

To raise awareness on water rights, the way of looking at water can be changed. In this video clip, shot at Saadabad, a palace in the Shemiran area of Tehran, the harmonious nature of water is captured as music.

Fig.3 Collage of screen captures from the video.

On a final note, the poem entitled ‘Rain,’ by Rumi, states: “I feel like the earth, astonished at fragrance, borne in the air, made pregnant with mystery, from a drop of rain.” [10]
BIOGRAPHY


REFERENCES & LINKS


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LinkedIn groups:
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Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4877
FLOOD LANGUAGE
Joolie Gibbs
Gympie, Queensland, Australia

My project is inspired by a reconsideration of debris caught on fences as the recent floods in the Gympie area of Queensland receded. We had five floods in three years, and ironically now we are in a declared drought zone.

I propose that this debris may be a form of flood writing, or possibly a flood language. I can see visual similarities of this flood language with urban graffiti. I wish to take the analogy with graffiti further by suggesting that, just as graffiti is seen as a challenge to authority and ownership, making a specific claim for spatial identity, so it is with flood language. Its copious “script or text” runs along the property lines in the area. Just as there is an urgency to remove graffiti by property owners and authorities, the flood language is pulled away as rapidly as possible.

The focus of my project is a specific fence line approximately two hundred and fifty metres long, on Kidd Bridge, which crosses the Mary River in Gympie, Queensland. The debris on this fence line is a ‘sample’ of the Mary River’s make-up—the local/regional flora and fauna, good or bad land practices and its history. It is a specific environment based on locality and practice.

Last year through the Waterwheel blog, I put out a call for collaborators to turn my specific fence and what it stood for into a soundscape. I was honoured to receive a reply from Carlotta Ferrari, an Italian composer who was inspired by the images and produced her “watermusic” ‘Where Two Worlds Meet.’

Carlotta Ferrari wrote: “This piece has been composed to express the power of nature, of flood, and the safe space created by human beings exemplified by the fence. In this musical work, electronic sounds represents water and flood, while the piano represents the human space: the left hand is a steady fence and the right hand displays a language resembling the debris on the fence, with its texture recalling ancient neumatic musical notation as well as prehistorical graffiti. A meeting of humanity and nature through the language of water. Both share the same
musical material, but while electronics are very free, just as water can be, the piano part, which is the human part, is the place where language is brought to life. This piece is free to be used in any contemporary project about water. The piano performer is Paolo Valcepina. Floods have existed before and after human beings have been present in the environment, that’s why the piano part is inserted in the middle of the piece.”

The fence became important early on as a symbol of authority and ownership. These fences are normally boundaries for cattle on the fertile alluvial flats on both sides of the road, with signs that read “Trespassers will be prosecuted.”

Early settlers, through mapping and land division, built fences to denote ownership of land (and river), and penalised encroachment as they manipulated the environment through agriculture. Contributing factors to some of the devastation witnessed today on the Mary River, as signified by the flood debris on the fence line, could be any of the following: the degradation of the riverbank through cattle grazing, disappearing riparian zones, the introduction of foreign flora and fauna species, weed control and various political stances for the health of the river, and control of water storage (Queensland Government Water Act 2000). Changing river flow during floods can cause legal problems concerning the ownership of boundary lines, in relation to the “ad medium filum aqua rule” (“to the centre thread of the water”).

Globally, the increase in changing weather patterns and flood activity has been noted, and the amount and severity of floods in recent years in Queensland alone can attest to this. There are strong claims that human activity has contributed to climate change.

Floods result in loss of property, life and general devastation, but how a particular flood could be read is dependent on the local situations. Is nature trying to communicate its power over this human constructed space, just as graffiti seems to challenge the status quo on where, when and how it communicates its message?

The debris and graffiti share common characteristics in our social order and language, such as
  – a substrate to hold the message (fence/wall);
  – being seen as a visual nuisance;
  – having a bad reputation with those in authority and those who own property;
  – when it disrupts the ordered and controlled environments of authorities and questions their domination and power over the landscape [1];
  – portraying displacement (of animals, insects, flora, humans and property, and graffiti through marginalized people);
  – links to an historical background through repeated patterns of occurrence in floods, social unrest and social change in graffiti;
  – controlling intervention, when there is a change to the flow of water through dams or levees, or in painting over/removal of graffiti or mainstreaming the art form to take away the stigma of rebellion; and
  – sharing a textural, calligraphic quality.

The differences between the debris and graffiti lie in how the marks or debris arrived, how they were made, or if they are in a rural or urban context.
Background Studio research

I had been taking photos of floods in the Gympie region for many years, in particular the debris, and over the years my documentation was stockpiling. I started interpreting the photographic images into drawings in my drawing-a-day sketchbook, also noting what was happening of significance on that particular day. I started reducing the main characteristic of that image down to a basic design shape, and also how that shape could be made into a woven symbol. These later became my ‘Flood Spirits.’ I was also doing works in encaustic, using wax as a medium, and hand-made paper for other works.

While I was drawing these images, we were in the midst of two floods a month apart. When there is a flood in our town, especially a big one, it divides our town in more than two areas, and as many roads are blocked, including in and out of Gympie, from the north and south. Everything comes to a standstill. I wanted to work more with these images, which was the start of a series of works on paper using masking fluid and ink as the main mediums and a dash of colour, with actual Mary River mud from the floods. Some became more symbolic and others were trying to capture that flow in the mark making.

There was a circular thing happening, which reminded me of the circular movement of water: from capturing the flood as an image, reinterpreting it as a drawing, reducing it to a symbol, then making it into a shape, using the lomandra fibre found on the banks of the Mary River, then drawing that shape to make another artwork. The full circle of going back into the river isn’t yet complete.

I was developing my own graffiti using the debris, but I am still interpreting its language.

Amongst semiologists, language is considered the most important of all sign systems; through it we represent the world, learning to classify and understand it as a phenomenon observable through linguistic comprehension and production. Alistair Pennycook argues that language is a form of action in a specific place and time [2]—a concept which relates to the flood debris. Jacobsen suggests that a dominant function influences the general character of the “message,” meaning that we need code and context, recognising both the place occupied by the given messages and the context of the surrounding message, which seems to tie the language...
threads I have been developing together. Bourdieu (1977) informs us that practices are actions with a history, suggesting that when we think in terms of language practices we need to account for both time, and space, history and location. [3]

According to textural positioning theorists, understanding the meaning of a text involves taking on an appropriate ideological identity, where the reader is obliged to take a ‘subject position’ in relation to it. In the case of floods, this could be a variety of viewpoints from the emergency worker, the catchment committees, local authorities, farmers and their families, local businesses, and the public.

Pennycook suggests that rather than adapting to the world, languages are part of the human endeavour to create and communicate new worlds.

In the hand-made paper pieces I created, I have taken a more literal approach, by using actual words that could describe a flood, or the places in the local region that reached peak flood heights in one of the 2013 floods.
Again, my aim was to represent the region as much as possible by using those fibres that either grew on the sides of the Mary, or added to its erosion problems, such as bladegy grass, lomandra, banana, mother-in-law’s tongue and, in some cases, the actual flood debris fibres.

![Fig.5 Flood words in hand-made paper.](image)

These were made on a large vacuum table in a papermaking paper mill, and involved harvesting, beating, cooking the fibres first, rinsing, using lots of water, then creating and pressing and drying. Quite a laborious process, but a method I also linked to the fibre on the fence line when I first saw flood in Gympie. The fibres were left on the fences after being pounded by the water over and over, similar to the process of making paper—reducing it to cellulose. My more recent work is a 9 x 1.1 metre drawing.

Could floods have different “natural” laws governing their articulation, such as non-discursive media including photography, painting, drawing? Langer (1951) argued this to be more complex and subtle than verbal language and is peculiarly well-suited to the expression of ideas that defy linguistic “projection.” [4]

Graffiti undermines the forms of textual power, reclaiming and destroying space and spatial customs not only undermining ownership of space but contributing to re-marking the space with new owners. Is the debris a new textual code, displaying gestures of defiance, contempt, anti-authoritarianism or reflecting another reality and a sign system of revolution and social fraction? Is it the legacy of nature or man’s outburst, to remind us of the language of destruction, disruption or renewal?

“Tensions between dominant and subordinate groups can be found reflected in the surfaces of subculture, in the styles made up of mundane objects which have a double meaning.” Norman Mailer (1974) calls graffiti: “Your presence on their presence... hanging your alias on their scene.” [5] Hebdige asks if humble objects can be “stolen by subordinate groups and made to carry ‘secret meanings,’ meanings which express in code, a form of resistance to the order which guarantees their continued subordination.” [6]

According to Pierce, signs address somebody and have no intrinsic meaning unless we invest them with meanings. [7] The codes help us break down the whole picture into separate parts. Are we making assumptions on the intended audience, and are there multi-accents?

Can the debris be seen to be doing this? Who controls the world of meanings?
BIOGRAPHY

Joolie Gibbs lives in Gympie (Queensland, Australia) home of the infamous Mary River and where the locals won the battle against a dam on the Traveston Crossing site. She is currently undertaking her Masters in Art and Visual Art at the Queensland College of Art. Her full time job for the past 16 years has been Gympie Regional Gallery’s Coordinator, where she has been involved in several projects connected to the Mary River, like Bathing with Mary and Farming with Mary. Joolie has held myriad occupations in fields including desktop publishing, graphic art, papermaking, basket-making, illustration, model-making, and tombstone art.

REFERENCES & LINKS


Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4921
Our current obsession is with constructing paper boats from old magazines and cardboard boxes that can actually float.

It all started on a cold and rainy January day in a remote part of France. It had been raining for days and the whole area was flooded. Confined indoors with nothing but a stack of old magazines, we decided to fold an armada of paper boats and set them sailing in the drowned land. But with the first boat we released, we longed to sail away ourselves. So, while we watched our little armada float away, we came up with the idea to build a life-sized paper boat.

Fig.1 Mr. & Mrs. Gray – Launch of the Paperboat Armada, Bouron, France, January 6, 2013.

It is not a coincidence that we used old magazines as material. Recycling is an essential part of our work. We shake our heads in disbelief over the amount of stuff that people create, and, at the same absurd pace, we throw it all away again. There are mountains of trash everywhere, made of discarded and rejected stuff. We like to give these objects a second chance, not by covering up the landfill with earth and turning it into a nice hilly park, but through upcycling and making yesterday’s newspaper a “hot topic” again.

Currently, we are researching what waste has to offer in response to the changing environment. Our latest project in this era of economic and environmental crisis is building paper boats.

Due to the many different materials fused together in an average boat it is very difficult and, therefore, expensive to recycle all of them. Even wooden boats have thick coatings of polyester. And even then, the only thing that can be made out of old polyester boats is asphalt. If you own a boat and you want to get rid of it, it is easier to abandon the boat than to go to the trouble and cost of bringing it to the nearest recycling center. The result of this particular kind of boat disposal is that the waterways in cities and harbours are cluttered with half-sunken boats, which ruin the landscape and pollute the water.
In a time when resources are running low globally, combined with an undeniable global environmental crisis due to climate change, it is very sensible and useful to look at recycling. We were inspired by Hendrik Bulthuis (1892–1948), a barber from the Netherlands who came up with the ingenious idea of building a boat for people who were less fortunate financially. Boats in his day, as today, were very expensive to make due to the materials used, such as long and straight wooden planks without any gnarls and knots.

In his spare time Bulthuis constructed a boat in a totally unconventional way, and with shorter and cheaper pieces of wood. Although the upper classes laughed at him for his attempts to make a boat out of “firewood,” he continued and in 1928 launched the first boat of its kind, the ‘BM.’ In the end the joke was on them, because nowadays you cannot imagine Dutch waters without one!

Bulthuis’ unconventional method of making a boat with limited means and cheap materials strengthened our belief that we could make a boat out of used paper. And since paper could be considered as a sort of wood, it is not far from what is possible with regular wood. There is also an
abundance of this cheap material to recycle. So we boldly set out to construct paper boats and try them out in the canal behind our studio.

Fig. 4  Mr. & Mrs. Gray — Paperboat 1, The Hague, the Netherlands, June 12, 2013.

The first attempts were made entirely out of cardboard held together with tape, but unfortunately went to Davey Jones’ Locker fairly quickly.

To strengthen the construction, we covered the model of the second paper boat with a layer of papier maché made from old newspapers, magazines and waterproof wood glue. Unfortunately this version also sunk, but it stayed afloat considerably longer than we had expected.

Fig. 5  Mr. & Mrs. Gray — Film still from ‘Disconnected from Reality,’ August 8, 2013.

So we set out to build the next version, Paperboat 3, which was finally successful.
After six months, Paperboat 3 is still operational. We demonstrated this recently at the award ceremony of the Haagse Lift, a Dutch sustainability/innovation prize at which our project came second.

Paperboat 3 is constructed entirely of paper. The skeleton is a cardboard mesh made from old cardboard boxes collected from supermarkets. The finishing consists of layers of papier maché made of paper (newspapers, magazines) and waterproof wood-glue.
We envision the people of urban environments stepping out of the “rat-race” for a moment to spend a day on the water with a Paperboat to enjoy the beauty of nature. Just as the BM gave more people the opportunity to go boating in the past, these boats give people an opportunity for enjoyable escape. And afterwards the users can just throw away the fully recyclable, biodegradable paper boat with other waste paper.

Since we want to offer everyone the opportunity to have fun with a Paperboat, and do something for their environment at the same time, we have made DIY-kits to create your own. These kits include recycled materials.

We embrace the “cradle-to-cradle” theory of Michael Braungart and William McDonough. They argue that eco-efficiency and traditional recycling are in
fact down-cycling and will eventually cost more and cause more damage than rethinking production methods based on the fact that in nature there is no such thing as waste. For if we use bio-degradable glue and paper for our boat, the whole boat can then be used again to make new paper, thus a new boat. Or, a sunken boat could become nutrients when it decomposes.

Our aim for the Paperboat project is to create awareness about our environmental situation in the form of something useful, pleasurable, and sustainable. We hope that people will reconsider the worth of what they throw away, where they dispose of it, and what effect its disposal has on the environment in a playful and inspiring manner.

Fig.10  Mr. & Mrs. Gray – Film still from ‘Disconnected from Reality,’ August 8th, 2013.

BIOGRAPHIES

Mr. & Mrs. Gray (Jeroen van der Linde and Carmen Hutting) are an artist duo from The Hague, the Netherlands. Their work is about possibilities and new adventures to be found in the smallest and most trivial things. They don’t believe in complaining over everything that is wrong, but in focusing on what there is to work with and turning it into something better.

They attended the WdK Academy in Rotterdam and graduated with honours in their MFA at the FMI in Groningen. They have both been working as lecturers at the WdK Academy and l’Ecole Superieure des Arts Decoratifs in Strasbourg, France.

REFERENCES

Mr. & Mrs. Gray http://mm9.nl/mmg/
https://twitter.com/MrMrsGray
Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4873
MAGNIFICENT OBJECT WORKERS
Anna Yen, Jeff Turpin and Therese Collie
Brisbane, Australia

Australia’s finest science speakers presented their groundbreaking research papers as a thrilling premier event. A live performance with a music component.

BIOGRAPHIES
Mrs. Maximum MacMinimum is the much-beleaguered, under-appreciated, Volunteer MC for The Professors at The Third Waterwheel World Water Day Symposium 2014. As the housekeeper for the two Professors, she is terribly concerned with washing up and water wastage and expounds on it ad nauseum in her orange rubber gloves and her terrible Scottish accent. Though overawed by the Professors and their theories and language, Mrs MacMinimum is inspired by the Symposium to offer some information about Coal Seam Gas mining, which uses huge amounts of water to force gas out of the ground. The water is then pumped back into the earth, filled with industrial contaminants. Impressed, the Professors now think Mrs. Maximum MacMinimum should be a Professor too and start a Probable campaign to allow this to happen. Mrs. Maximum MacMinimum is moved to sing ‘Bring Me a Little Water, Sylvie.’ Mrs. Maximum MacMinimum aka Therese Collie

Fig.1 Mrs. MacMinimum specialises in Professor Introductions, but first: Housekeeping!

Fig.2 Professor Brücken Dücher launches his new apple-supported Crossing Boundaries Campaign.
Professor Brücken Dücher Since his appearance at the Waterwheel World Water Day Symposium, a few short but not uneventful years ago, and the publication of that paper in the prestigious Tunisian book, the Professor has been propelled into a new area of interest—the riparian zone. ‘Crossing Boundaries’ is the work in progress title of this paper, which hopes to clearly and unequivocally address the interfaces on many levels: on, in, under, through and around this zone. Crustacean observations will rub noses with turbidity, eddy patterns and their incumbent light reflection characteristics. Subject matter, word origin, tidal littoral, genre music, science and art, latte and flat white, are all coming under the microscope of the Prof’s gaze. Prof. Brücken Dücher aka Jeff Turpin.

Fig.3 Dr. Mothe Xinran steadies the test animal as Mrs. MacMinimum prepares “the apparatus.”

Dr Mothe Xinran: an extremely important milestone for science and for global sustainability. After considerable effort in creating a nexus between groundbreaking technology, science fiction and therapy, Professor Xinran delivered her long anticipated paper live on the Waterwheel Tap. The research animal used reached a surprising length by the time the Waterwheel Symposium took place, and agreed to participate in the public demonstration. The long and tricky struggle with what was generally considered an unacceptable experiment on a controversial sentient being bore fruit, and we all witnessed the first dissertation on the benefits of fear and plague on cockroaches. Dr Xinran aka Anna Yen

Fig.4 Mrs. MacMinimum introduces Dr. Mothe Xinran and her test cockroach while Professor Brücken Dücher creates an ominous piano accordion atmosphere.
Fig. 5 The Professors impress Mrs. MacMinimum when they put their heads together.

Fig. 6 Dücken Brücher ropes in order to clearly and unequivocally round up the interfaces of his riparian zone.

Fig. 7 Subject matter, Word origin, Tidal littoral, Genre music, Science and art, Latte and flat white – ALL are coming under the microscope of Broken Dückers gaze.
Fig. 8 Dr. Mothe Xinran peers into the fear factor of Science for layperson, MacMinimum’s, benefit.

Fig. 9 Professor Maximum MacMinimum astonishes with her explosive Coal Seam Gas Keynote at The Third Waterwheel World Water Day Symposium 2014.

REFERENCES & LINKS

http://playmoves.org/performance-video/magnificent-object-workers
http://playmoves.org/about/anna-yen
http://playmoves.org/performance-video/magnificent-object-workers/therese-collie

Screen recordings of the Tap presentations, Day 1 parts 1 & 2, and Day 2:
http://water-wheel.net/media_items/view/4885
http://water-wheel.net/media_items/view/4919
http://water-wheel.net/media_items/view/4907
I applaud the team of Hydromemories for achieving a rare thing in online presentations: creating an immersion into the subject for the online viewer, which became, for me, one of the highlights of the Symposium. Numerous times during the session, one or two of the Hydromemories team-members take the webcam and, roving throughout the building, show us different installations whilst explaining the artists’ intentions and methods. The movement of the camera, becoming my own “point of view,” coupled with the commentary, transports me, giving me a virtual sense of being right there in the space.

Amongst the many installations from artists from Germany, Italy, Portugal, England and Spain, one has various food and beverage items on a shelf arranged according to the water footprint in their production, and another, a striking piece by Nuno Vicente, is an open metal box with perforated sides and containing photographs—the box has spent one month submerged under water, and, with the help of the hand-held webcam I “look in” to see the photos inside.

Amongst the presentations and videos projected, are: two representatives from Engineers Without Borders who illustrate the global scope of their work, focusing on a water-tank building project in Tanzania; Uli Westphal shows a time-lapse video of himself constructing a DIY garden and wind-powered irrigation systems for inner-city urban rooftops in Berlin; a presentation about the Media Spree urban development program, says that the organisation behind the development has ignored the 87% resident disapproval of the development and the high-rise gentrification it brings to the riverfront; and a video on Silke Bauer’s work with marine invader organisms and ballast water.

I find the text in the projected slideshows hard to read, and the spoken word not very easy to catch, either. The information written in the chat, where Hydromemories gives titles, names and brief explanations, is therefore very helpful.

To end the session, Italian sound artists Riccardo Bertan and Elvis Maragon take the idea of “wet sound” to the extreme in ‘Reflections,’ a live electronic sound set with a video of whales and other deep-sea creatures behind them. I get a strong impression from this rich soundscape that resembles, or in fact is made up of, sonar pulsing, waves and underwater recordings. There is an overall arch to the piece that I would describe as going from the surface to deep submersion and back.
ONE HOUR, ONE RIVER – BERLIN NODE

Irina Novarese, the Hydromemories artistic group, and Engineers Without Borders Germany

Berlin, Germany

Hydromemories is a nomadic and flexible exhibition: a laboratory of images that brings together international artists who have dedicated a part of their research to the theme of water. It is an event that makes the public aware of an urgent, present-day global issue. An open field of confrontation and reflection, the Hydromemories project is presented in different spaces each time and welcomes a different body of artistic works in each situation.

Hydromemories concretely supports the work of Engineers Without Borders Germany (Berlin Chapter), as well as other NGO’s working on water resources (whose projects employ innovative, yet simple, engineering methods to provide much needed, low cost solutions to water access: such as the construction of water tanks in the rural community of Kagera in Tanzania and the rehabilitation of Water Wells in Niger), through installations realized by some of the artists.

For the Waterwheel World Water Day Symposium 2014, Hydromemories presented an experimental video night in Berlin in collaboration with artists, musicians, Engineers Without Borders Berlin and the Joao Cocteau art space.

One Hour, One River

‘One Hour, One River’ took place in Berlin, as an experiment organized by members of the Hydromemories group for the Waterwheel World Water Day Symposium 2014. They invited fellow artists and the Berlin Chapter of Engineers Without Borders Germany to take part in short video-performances and presentations focused on the theme of rivers and the water tank construction project in Tanzania. The session was hosted by the Joao Cocteau art space, run by the Portuguese artists Marisa Benjamim and Nuno Vincente.

The invited artists presented a series of videos created expressly for the session related to the main concept of the river, with a focus on their relationship to the city of Berlin, the place where we all live. Four of the artists presented small object works and installations in the space where the session was taking place. Bianca Benenti Oriol presented her ceramic sculpture ‘Swimming Pool.’

Fig.1 Bianca Benenti Oriol – ‘Swimming Pool.’
Oliver Walker created an installation about the water footprint in food production, and provided food offered to visitors during the session. Marisa Benjamin presented her works related to the natural transformation of flowers through contact with water, and Nuno Vincente presented his project consisting of a series of daily self portraits immersed in Berlin's sewers.

A second part of the session was dedicated to the presentation of the on-going projects of Engineers Without Borders Germany (Berlin Chapter): particularly the building of water tanks for the Karagwe district and the water supply at the Baramba Girls Secondary School in Tanzania.

In 2008, the project started with the construction of four water tanks in cooperation with the local NGO MAVUNO Project, and now 130 water tanks supply around 2800 people with water.

**Videos Presented**

‘Bridges,’ directed by Silke Bauer, 2013, Duration 1 min. About small bridges in Berlin and the longest bridges of the world in figures.

‘Bio Invaders’ by Silke Bauer, 2013, Duration 1 min. It introduced the idea of ballast water discharges to a group of children, showing us a very easy representation of the system.

‘Sink Media Spree’ by Irina Novarese, 2013, Duration 1 min. This video documents the urban changes on the banks of River Spree in Berlin, due to the construction of the new commercial area Media Spree. The Media Spree urban development program has existed since late 2008. Using public funds, it supports large corporations and private investors in planning private sector buildings on both sides of the river Spree.

The mission of the Media Spree group is image-building and local marketing. The Media Spree association breaks its own non-profit statute by helping and financing private investments along the riverbanks. In July 2008, eighty-seven percent of the population living in the two districts along the Spree voted against the Media Spree project in a local referendum, opting for a minimum public space of fifty meters between the river and buildings, and bans on skyscrapers and car bridges.
The city authorities have been ignoring the referendum results, and the investors and corporations are building on public land. The riverbanks have transformed into private spaces and soon-to-be gated communities. ‘Media Spree Versenken / Sink Media Spree’ is a group which is active in fighting for open public space along Berlin’s river. Some of us are big fans!

Fig.3 Irina Novarese – ‘Sink Media Spree.’

‘Flow’ by Marco Pezzotta, 2013, Duration 1 min. Someone has been visiting some of the cities along a certain river. It crosses several countries and is the longest river in a certain political union. Or so they say. In the places where this someone has been, the average surface speed of the river water ranges from three to six kilometres per hour; this is also the average human walking speed. Or so I’ve heard. The video footage shows a candlelight walk that takes place in Berlin every year. Or so they say.

Fig.4 Marco Pezzotta – ‘Flow.’

‘20 Litres’ by Viola Thiele – 2013 video: Duration 1 min. In ‘20 Litres’ we observe tourists from Berlin enjoying a swim in the Indian Ocean, while in the foreground 20l drinking water containers are carried along the beach to their guesthouses on the shoulders of porters.
‘Roof irrigation System’ by Uli Westphal, 2013, duration 4 x 1 min each. In four short videos (including stop motion animation), Uli Westphal presents his project for a roof irrigation system that he constructed in Berlin to water his rooftop garden, using mostly recycled materials.
3. Activism, Art & Science

Fig. 8 Nuno Vincente – ‘Water.’

CONSTRUCTION PHASE I + II
Impressions of the first two construction phases in 2008

Fig. 9 Engineers Without Borders Germany (Berlin Chapter) – Slide of the presentation.

Fig. 10 ‘One Hour, One River’ Session – presentation of Engineers Without Borders.
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Oliver Walker http://oliverwalker.org
Uli Westphal http://uliwestphal.de

Screen recordings of the Tap presentations:
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Engineers Without Borders http://water-wheel.net/media_items/view/4973
REFLECTIONS BUILT ON WATER
Riccardo Bertan and Elvis Marangon
Berlin, Germany

We want to explore the sounds and visions of different landscapes. We work with collected materials to create compositions with recordings and transfigure them through the use of filters and the mixer, without the use of the laptop during the live set. It is an artisanal assembly, driven by the feeling of memories of landscape. The same process is used for the visual side, which is composed of collected material from documentaries about the landscape that we are studying, assembled with a focus on interesting details. The idea is that of telling a new story through this material.

We collaborate using different approaches: for the audio side, all materials are recorded and archived by Riccardo Bertan, and for the visual side, Elvis Marangon collects material from found documentaries focusing on the main theme of the sounds.

We walk, talk, record and we think about the landscape and its inhabitants.

The sounds and the visual works that we want to compose are not narratives. Instead we try to re-construct a memory of the place through an investigation of small movements, silent events, and minor stories.

We want to take the audience on a journey through the place where we recorded the sounds. The visual part is like a trompe l’oeil that lets the sounds flow through to the perception of the viewer.

Our presentation as part of the Berlin node of the Waterwheel Symposium was a collection of waterscape field recordings, which we assembled live with the additional use of analogue filters. We focused on the perception of small parts of the sounds and their re-composition in correspondence with a visual set made by assembled and reworked documentaries about life in water.

The presentation was a live composition, we dived into the screen projections, like an immersion in water. We assembled and reworked the waterscape field recordings, and included interventions in the mixing and the addition of analogue sounds filtered with a hand-made set up. We also used the signals of our bodies, which became input for other instruments.

Fig.1 Video projected during the performance. Screen capture.
We started with the concept of schizophonia, which is the perceptual difference between an original sound and its electroacoustic reproduction. We used sounds from a waterscape different to that of the city of Berlin, where we were performing.

Our goal was to communicate how far our perception of soundscape is from listening to natural sounds.

Most of the audience would have believed they were listening to a natural soundscape. However, it was not a natural soundscape because it did not resemble the natural hearing experience of a seaside landscape, but rather was related to the recording instruments and to the listening approach.

To highlight the unnatural sounds that the audience was listening to, we used an evolving composition. We started with unmodified water recordings and then we slowly changed it with the use of a mixing board, including the sounds of human beings, which we created live.

The live performance of the creation of the soundscape and the visual intervention distracted the listeners from comprehending the message. The act of listening produces subjectivity and unusual associations. As Salomè Voegelin said, “…we are never sure about what we are listening to, in this uncertainty and instability resides the possibility of reinventing our self.”

The work we created is an ephemeral and temporary reality, which started from our reflections on water.
**BIOGRAPHIES**

**Riccardo Bertan** explores sound perceptions in sonic non-narrative events. He focuses on listening and on the aesthetic research of field recordings connected with memories of places. He emphasizes micro sounds and feeling versus high fidelity, giving importance also to recording noises. Riccardo works on live performance especially with improvisations in the field of ambient drones. In this type of set, he works on space perception and on physical feeling of sonic waves. He investigates the development of the movements of sound through auditory space. He performs as Solar Plex, as a member of Big Numbers and of Fuji Apple Worship.

**Elvis Marangon** is a performer who builds his instruments. He is interested in the reconstruction of visions of the future imagined in the past through the building of analog synth and circuit bending, combined with research on old building instructions. He uses loop construction to create the landscape for his dystopic visions. His visual art focuses on the transliteration of significance: reworking parts of images or video, which he edits with a new perspective on the message. He searches for materials, such as photos, posters or videos, then uses them within the new vision that he has created, reproducing it in his productions. He performs as Zorbiter, and as a member of Big Numbers and of So.lo.

**REFERENCES & LINKS**

Video [http://youtu.be/4-xTu3dZ9E](http://youtu.be/4-xTu3dZ9E)

Screen recording of the Tap presentation: [http://water-wheel.net/media_items/view/4974](http://water-wheel.net/media_items/view/4974)
WATER E-MOTION: TRANSFORMATIVE VIEWS

Dr Lila Moore
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Abstract

This paper discusses a few films in which images of water, dance, and movement play a key role and generate transformative views. It explores and reflects on poetic depictions of water that heralded a transformation in art and consciousness, and screen-based images and technology which can induce empathy towards water creatures and sensitivity towards the ways water is being perceived, treated, and shared. The exploration builds on Maya Deren’s seminal theory of the ritualistic form in film, and the relevance of ritual in media activism online, as theorized by Gene Youngblood. It is also supported by research of kinesthetic empathy, with special reference to empathy stimulated through watching dance in films and movement choreographed for the screen. On this basis, I identify a common aesthetic trend that underlines depictions of extinction through water from Hiroshima to Fukushima. I analyze the formal style and demonstrate the crucial role of recent visuals and approaches undertaken by artists, scientists and activists, jointly involved in transforming and equalizing humanity’s relationship with water and the environment, e.g., ‘The Dolphin Dance Project.’ Further account is provided on the interrelations of film, ritual, activism, and global interactivity online based on my creative experiments entitled ‘Water e-Motion.’

This study identifies and analyzes aesthetic depictions of water that heralded a shift in art forms and consciousness. It explores filmic images which can generate empathy to water creatures and sensitivity towards the ways water is being perceived, treated and shared. It asks: Can film as an art form in this day and age not only impress the viewers through aesthetic expression, but be capable of generating an activist agenda alongside an empathetic outlook in the viewers? I engage with this query in the framework of viewing, and interacting with, films linked to water and the environment online, on mobile screens and through relatively small-scale screening devices and settings. This query is positioned within the historical and theoretical context of artists’ films starting with the seminal ideas of Maya Deren.

In ‘An Anagram of Ideas on Art, Form and Film,’ Deren emphasizes her argument concerning the unique function of form in art. She states that, “the distinction of art is that it is neither simply an expression of pain, for example, nor an impression of pain, but is itself a form which creates pain (or whatever its emotional intent)” (Deren, 1946, p. 17). For art to fulfill this requirement, she identifies and develops the “ritualistic form” as an aesthetic method and “as an exercise, above all, of consciousness” (Deren, 1946, p. 17). However, the reality of modern consciousness, she argues, is unique and unlike other moments in time and history. The comprehension of modern existence is shaped not only by scientific inventions but by, and together with, “the inventions of new art instruments” (Deren, 1946, p. 17). Although Deren refers to modern art forms of her era and particularly to cinema, it is worthwhile to revisit her ideas in relation to developments in screen technology and up-to-date collaborations between artists, scientists and activists.

The ritualistic form in film derives from the ancient traditions of tribal rituals where the shamans possessed all the knowledge required for life and living, and art was part of a ritualistic and magical system with destructive, restoring and healing powers. Magical tools were artistic creations based on profound knowledge designed to bring about an outcome; they were utilized for killing an enemy, healing a sick person or bringing rain, etc. (Deren, 1946, p. 15).
Deren makes a clear distinction between the roles of the scientist, the shaman and the artist in the modern age. Science, she argues, is more capable of revealing reality than art. Her argument is still valid in the 21st century, as factual knowledge of the Earth and the Cosmos derives from the instruments and methods of science and technology. Deren offers a bold comparison between the different agencies of art and science by comparing the destructive capabilities of science and the atom bomb to the flimsy attempts of surrealist artists to destroy bourgeois cultural norms (Deren, 1946, p. 10).

She therefore proposes to integrate science and technology in the framework of art. Artists can take an active role in re-designing and transforming reality by utilizing a method of “conscious manipulation designed to create effect” (Deren, 1946, p. 20). The ritualistic form in art is “the human instrument which makes possible a comprehension and a manipulation of the universe in which man must somehow locate himself” (Deren, 1946, p. 20). As such, the ritualistic form is designed to assist contemporary people in understanding the changing world in which they live, it can offer meanings for their existence, and help them relocate and redefine their position and identity in an unstable environment or universe, which they cannot control.

In formal terms, according to Deren, the ritualistic form in film is based upon the fact that:

... anthropologically speaking, a ritual is a form which depersonalizes by the use of masks, voluminous garments, group movements, etc., and, in so doing, fuses all individual elements into a transcendent tribal power towards the achievement of some extraordinary grace. Such communal efforts are usually reserved for the accomplishments of some critical metamorphosis, and, above all, for some inversion towards life; the passage from sterile winter into fertile spring, mortality into immortality, the child-son into the man-father. (Deren, 1965, p. 6)

In terms of film, this is achieved as time, a transformative element, created by the film-maker’s manipulation of camera shots. The filmic notion of time unifies all actions and elements into a dynamic form. The film's form, like a ritual form, serves to control and manipulate all the elements involved in order to “transcend and transfigure them” (Deren, 1965, p. 6). The ritualistic form conveys the idea that human beings are not the source nor the center of any drama, dilemma or condition. It depersonalizes individuals not with the intention to destroy them but in order to offer them greater views beyond their perceptual limits (Deren, 1946, p. 20). Hence, in the ritualistic form, we are not concerned with specific individuals and personal stories but with personas, archetypes and collective phenomena. I consider the ritualistic form in film as a holistic approach that aims at freeing individuals from the confines of their preconceived ideas and personal preferences. Moreover, it positions human beings and their technologies as integral parts of a dynamic ecosystem. From this perspective, the view of the relationship between contemporary humanity and water can transform as well into a holistic and equalizing set of possibilities in an ecosystem where all components thrive together.

Water, especially the sea, is a central image in Deren’s films, a visual metaphor and archetype mirroring the life of the psyche. It has a ritualistic and initiatory purpose, particularly in ‘Ritual in Transfigured Time’ (Deren, 1965, p.10). In this film, which exemplifies Deren’s concept of ritual-film, the protagonist portraying a widow enters the sea in the last stage of her initiation rite and this is where she transforms into a bride. The water in the film represents the quintessence of transformations in nature, and the organic and metaphysical embodiment of life, death and rebirth. Moreover, every element involved in the ritual is influenced by the process of change, “the sea itself changes because of the larger changes of the earth” (Deren, 1965, p. 31).

**The Poetry of Extinction: From Hiroshima to Fukushima**

My first vision of earth was water-veiled. I am of the race of men and women who see all things through this curtain of sea, and my eyes are the color of water. [....]

I remember my first birth in water. All round me a sulphurous transparency and my bones move as if made of rubber. I sway and float, stand on boneless toes listening for distant sounds, sounds beyond the reach of human ears, see things beyond the reach of human eyes. Born full of memories of the bells of the Atlantide. (Nin, A., 1958, p. 3)
In her diary entry dated August 1945, Anaïs Nin mentions the Hiroshima and Nagasaki bombings alongside her first encounter with Maya Deren on the beach whilst filming ‘At Land.’ She writes: “It seems unbelievable that we can go on living, loving, working, in a world so monstrous and this is because we do not know how to curb the savagery of war, how to control history [...] What can we do?” (Nin, 1971, pp. 76–77). Both Deren and Nin express a sense of limitation concerning their ability to influence history and culture particularly as artists. Nin (1971, p. 77) expresses her helplessness, and Deren illustrates both the destructive and alluring powers of the atom bomb and the scientific method in comparison to the unconvincing attempts of artists to shock or destroy (Deren, 1946, p. 10). Anaïs Nin and Ian Hugo’s film ‘Bells of Atlantis’ (1952) is based on the water imagery that runs through Nin’s novel The House of Incest (1958). The lost continent on film is depicted through visual poetry that metaphorically denotes the landscape of a world destroyed, submerged in a sea of blood and water contaminated by radiation. The rusty seascape and the futuristic, electronic soundscape by Louise and Bebe Barron can be seen as reflecting the poetry of extinction and the ecological holocaust that characterize the global landscape of the 20th century. It also continues to reflect current images of brutality in terms of visual and sonic surface and depth, texture and feeling. The current of terror that underlies the images in the ‘Bells of Atlantis’ can be found in images of the tsunami in Japan and the Fukushima nuclear disaster in 2011. I identify the underlying current of terror by juxtaposing and comparing images of amateur videos taken during the tsunami in Japan and the Fukushima nuclear disaster in 2011, images derived from a new documentary on Fukushima’s radioactive water leak by Japanese news agency NHK, (‘Radioactive Water — Fukushima Daiichi’s Hidden Crisis,’ 2014), and the visual style of the film ‘Bells of Atlantis’ (1952).

Amateur videos of the Fukushima nuclear disaster are available on YouTube, though they are removed and uploaded from time to time. They share a common visual and auditory language that is characterized by a jerky, handheld video/mobile phone camera, distressing sounds of sirens, people screaming and shouting, stormy water and the noises of collision and breaking down of objects such as fences, cars and buildings. The scenery appears grayish and gloomy and the images are somewhat blurred and out of focus. The civilized landscape, marked by buildings, fences and electricity cables, is crumbling down under the forceful waves of the sea. These videos frequently show people being carried to their death whilst others are watching, unable to help, such as in the video entitled ‘Japan Tsunami Swallows Car With Passengers Trapped Inside – RIP’ (mihdd, 2011). The NHK’s documentary depicts the ongoing radiation leak caused by the disaster from inside Fukushima Daiichi Nuclear Power Plant. It follows an investigation team that utilizes a remote-controlled boat equipped with a camera to show images of contaminated water flowing down a wall inside Reactor 1’s containment vessel. The video images show a dark and rusty underwater environment agitated by radiation which is signaled by flashing white dots and stains.

The juxtaposition of images from these different sources illustrates similarities in tone, texture and feeling. The overall impact of the images gives the impression that they belong to the same apocalyptic vision and story of the world, factually and poetically depicting the mythic war between humanity, technology and nature, which is carried and reflected by water in a physical and metaphorical sense.

The Dolphin Dance Project

‘The Dolphin Dance Project,’ based on the work of dancer, choreographer and medical doctor Chisa Hidaka, provides an approach to the ocean environment and its creatures which is not only original in terms of its aesthetics, but transformative in its ability to effectively generate kinesthetic empathy. The project’s films depict spontaneous, creative and intelligent interactions between humans and wild dolphins, presenting a significant and pioneering inter-species choreography (The Dolphin Dance Project, 2012).

The paradigm shift involved in this inter-species communication is described in the project’s website as: “wild dolphins and humans communicating through dance, collaborating as equals and upending assumptions about who is ‘us’ and who is ‘animal’” (The Dolphin Dance Project, 2012). The project’s capacity to overcome the viewer’s ingrained perception of the split between the animal and
the human is particularly impactful as a visceral experience in 3D film. According to the project’s data, it is also the first 3D film ever made of humans and wild dolphins dancing together (The Dolphin Dance Project, 2013). I have repeatedly watched the 3D film sample provided by the project and found that in comparison to the project’s 2D films, my kinesthetic involvement in, and empathy with, the events on screen was enhanced. Research of kinesthetic experience in film demonstrates the various ways empathy is induced in the viewers through the depiction of movement. For example, Bolen (2012) in her article entitled ‘Kinesthetic Empathy in Charlie Chaplin’s Silent Films’ implies that despite moments of intense and complex cognitive, visceral and emotional involvement with the events on screen, the audience remains in a sitting position. The viewer expresses empathy through laughter, by sobbing or by sensing physical and emotional reactions to the movement on screen in her/his body, such as anxiety or relief, though in a passive, reflective way. In the case of the 3D film sample, one of my immediate findings was a strong sense that as a viewer, I am invited to physically participate in the dance. In each viewing, I felt compelled to move with the movements on screen that, due to the 3D effect, appear to be entering my physical space, crossing the divide between me (the viewer) and the screen, and between the viewer and the dance on screen. I have noticed that I follow the motion of the dancers and the dolphins with my awareness, not identifying with any particular being, just sensing the motion and emotion that the dance generates.

Intrigued by the impact of the 3D footage, I have continued exploring this experience independently with a couple of 11-year-old girls and to this point have noticed similar reactions. The girls joined the dance spontaneously and moved in the room whilst watching and turning toward and away from the screen. According to Rose V. Ketter (personal communication, December 12, 2013), a movement and dance specialist, the majority of children often mimic dance they watch on screen. Ketter, who has worked with thousands of school children in Israel, utilizing video images of movement, implies that it is likely that a 3D film would add an immersive element that would amplify the children’s experience of the movements on screen. It will, therefore, increase their ability to empathize with the dolphins as equal partners; as empathy to other people or animals, according to Ketter, is induced through an embodied imitation of their physical movements and gestures.

The notion that an immersive environment generated by 3D images can activate the viewers in a manner that is different from 2D film viewing, is part of a broader research context which is concerned with “how evolving technologies affect both our experiences and our conceptualisations of kinesthetic empathy” (Reynolds, 2012, p. 259). Drawing on Whatley’s findings, Reynolds (2012) states that:

... environments are immersive in the sense that the spectator is no longer positioned outside the piece, and is indeed no longer a spectator but, similar to computer gaming, is a ‘visitor’ in the virtual space... through which s/he then moves, as if ‘taking a journey.’ [....] At the same time, this immersive space has the effect of troubling the boundaries and distinctions between doing and watching and also between the virtual and the real, which can be unsettling and ‘uncanny.’ (pp. 260–261)

At this stage, my research explores the girls’ interaction with the dolphins and dancers as active participants in an immersive environment, and observes movements and behaviors that express empathy for the animals or a sense of connection with them. The plan is to add additional girls in the next phase of the research, as I currently avoid group interactions and focus on an individual contact with the dolphins. The aim is to find out in what ways immersive 3D environment amplifies a sense of mutuality with dolphins, and whether it can increase the generation of empathy and empathic relations. There is also an interest in exploring the boundaries, not only between the real and the virtual, but between the human and the animal.

Overall, only a small percentage of people out of the world’s population will get to physically dance or communicate with real, i.e., not virtual, dolphins in their lifetime. Therefore, ‘The Dolphin Dance Project,’ which incorporates science and aesthetics, provides a screen-based and immersive interaction which can be educational and hopefully transformational.
Transformative Views

I have been utilizing images of water in dance-ritual films, in which the elements, the natural environments, and the human body and psyche, interact, e.g., my practice-based PhD (Moore, 2001) involved the making of a dance film entitled ‘Gaia – Mysterious Rhythms,’ which was formally and thematically structured as a rite of passage and transformation undertaken by a young woman. I have regarded water in the above-mentioned film, and in other works (e.g., Spirit Tree, 2004), as a metaphor for spiritual quest, but also as thirst in a real sense, as in shortage of water, global warming, and the quest for a balanced relationship with the environment. My interest in the healing and transforming aspects of ritualistic forms and images on screen has been combined with a growing sense of activism. This has been amplified by present options available for the integration of art, ritual, technology and activism in small-scale, though global settings.

‘Water e-Motion’ (2013–2014) is a creative concept and a series of short films which I have been making and experimenting with in conjunction with global and local, online and offline activist causes. The term suggests that the planetary currents of water, the artificial currents of electricity, and the electronic transference of data and communication, through their combined powers, carry and enable the motion and evolution of human life and consciousness.

In August 2013, I released a short film entitled ‘Fire and Water Ceremony’ for online viewing as part of a local and global event, comprised of water and fire rituals for peace in Syria.

Fig.1 & 2 ‘Fire and Water Ceremony’ short film for online viewing by Lila Moore, made in response to the call ‘Cry out for the feminine to rise up and stop the war in Syria’ (2013)
‘Cry out for the feminine to rise up and stop the war in Syria’ (2013) was organized by Shemuel Yeshurun, an Israeli activist who called for a shared solidarity with, and the empowerment of, the women and children of Syria. In addition to local ceremonies in Israel, people from around the world joined the event online. The ceremony involved fire and water, and the instructions for the ritual were posted on the event’s Facebook pages. According to Yeshurun (personal communication, February 21, 2014), the choice of water in relation to the ceremony derives from the fact that, as a natural element, water precedes culture and ideologies. Water is a shared point of origin that connects human beings with one another on the basis of their humanity.

The short film provided online participants access to the archetypal imagery and ritualistic movements underlying the ceremony, and a technological way to engage with the event and feel a connection to a community. Youngblood (1986) describes the revival of rituals and myths in advanced technological environments by artists and “the challenge [...] to constantly recreate ‘situations of support’ that confirm the contemporary validity of ritual and myth, that revitalize symbols of human continuity so they possess an aliveness and vitality and relevance for us.” Participation in a ritual through a mobile screen and/or in a personal and intimate viewing space can become a deeply-felt experience. In the instance of ‘Fire and Water Ceremony,’ the interaction aims to generate empathy towards water as a primal element that carries, reflects, and equalizes environmental, political and spiritual associations and factors. Therefore, empathy and activist actions could be activated via direct interaction with images, technology, and the kinesthetic experience involved.

Fig.3 ‘Water e-Motion’ – ‘water as metaphoric imagery of the flow of electronic communication and the sharing of the internet as a global democratic resource.’

The concept of ‘Water e-Motion’ engages with Youngblood’s media activism, vision of ‘The Build,’ and the making of images for media “lifeworlds” as a replacement for mass media (Youngblood, 2013). As a growing number of people from around the world spend longer hours communicating in new media “lifeworlds,” water as metaphoric imagery of the flow of electronic communication and the sharing of the internet as a global democratic resource becomes clearer. Curtis suggests that perhaps Maya Deren would have found appropriate the viewing of “chamber cinema” on DVD at home or on a portable device like iPad (Curtis, 2013, p. 17). Small-scale artists’ films, as with “chamber cinema” online, can reach audiences on a large global-scale, though the viewing settings remain small and intimate. These factors make it possible for artists’ films with activist purpose to be delivered directly to the viewer and be watched in a personal living space or by a small group of keen viewers.

‘Water e-Motion’ recalls the shared flow of water and electronic communication with an awareness of care for others, including other species and natural elements, beyond geographical/national borders and social/racial prejudices. The dance of water and light depicts patterns in motion in a space
without visible borders or a clear notion of an above and below. (See Figures 3 & 4) It evokes the infinite and unbound possibilities which lie in the internet and the streaming cinematic image. The flow reflects human consciousness and the urgency to transform the dominant worldview of the split between nature, human beings, and technology into empathic and holistic views of water as the source for the diversity and well-being of life on earth.

![Image](image_url)

Fig. 4 ‘Water e-Motion’ – water as metaphorical imagery of the flow of electronic communication and consciousness.

**AUTHOR BIOGRAPHY**

Lila Moore is an artist film-maker, screen-choreographer and scholar. She holds a PhD degree in Dance on Screen, which incorporates her creative practice, from Middlesex University, 2001. She likewise holds an MA in Independent Film and Video from Central Saint Martins College of Art and Design, London, 1989. In 2004–2006, she was an Associate Research Fellow at London Metropolitan University, and has presented research papers in academic conferences, (2009–2013). She has lectured, curated film screenings, and exhibited in universities and cultural organisations internationally. Her work explores the interaction of body, psyche, nature and the world through performative screen-texts and screendance. She is an Advanced Research Associate at Ionion Node, Planetary Collegium, School of Art and Media, Faculty of Arts and Humanities, Plymouth University and Lecturer in Spiritual Cinema, Spirituality in Film and New Media, Department of Mysticism and Spirituality, Zefat Academic College, Israel.

**REFERENCES & LINKS**


Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4876
4. Art & Science
This session explored the crossroads of art and science in terms of artists selecting scientific topics or natural phenomena for their works, and scientists using artists to portray their data or provide them with unique perspectives.

The first presenter, Piibe Piirma, is a media artist and teacher from Estonia who has studied and photographed tiny unicellular plants in her work. Not only has she displayed the intricate patterns, shapes, and colors of the beautiful organisms in her art, she has also cared for the cultures while translating science into poetry. Piibe curated an exhibition displaying the photos and paintings of the tiny plants that also serve as the subject of her doctoral research.

Ana Laura Cantera is a professor of visual arts from Argentina who is working with fuel cells that extract energy from contaminated water via microorganisms that can metabolize organic materials and co-metabolize toxic metals. The artistic rendition of these fuel cells included creating human-like objects that would slowly decompose, which she used as a metaphor for humans overexploiting and destroying the natural environment. She also presented a project that highlighted the cycling of energy in natural and human systems as exhibited by the flow of bioelectrical energy through the water, fuel cells, microorganisms, and human figures that slowly transformed.

The third presenter was Esther Moñivas, an art historian and professor of contemporary art from Spain, who specializes in the aesthetics of materials and, especially, water. The topic of “art and science dialogues” was discussed in terms of its potential to promote new synergies between the two fields utilizing water as the source of imagination. She also discussed how complex and often confusing issues in water quality, politics and management can be communicated more effectively to the public through the medium of art. Some of the artistic projects emerging from her art-science dialogues, including videoart, paintings and textural works, were reviewed.

I was the final presenter of the session. I am a water scientist and former professor from Hawaii. I discussed the sharing of interdisciplinary perceptions via the use of spatial and temporal patterns common to both the natural world and the arts. I reviewed the work of several artists that focused on the use of patterns and rhythms within nature to design structures or strategies that have been installed in the aquatic environment to enhance natural processes, or have been exhibited to effectively communicate the threats to our watery world.

A common theme among all the presentations was the potential for artists and scientists to collaborate in ways that will enhance their respective works and provide a more effective means of communicating water issues to the public.
4. Art & Science


HYBRID PRACTICES – FROM GENERAL TO SPECIFIC
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Abstract
This article gives a concise overview of the work I did as an artist in 2013 in preparing a water-themed exhibition entitled “Hybrid practice – from general to specific.” While hybrid art refers primarily to bioart, I have integrated my exhibition work with a broader vision of scientific art, in the course of which I worked at the Laboratory of Marine Ecology at Estonia’s Institute of Marine Biology. This phase resulted in artworks that pose a number of salient questions: how can we better preserve and protect nature and, by doing so, ourselves? How can we bring this information into art and the gallery context? What is the nature of the tiny aquatic organisms that play such an important role in our lives, the basic link in the chain that produces the oxygen we breathe? How do the synthetic entities and natural organisms interact, can they be connected, and is this ethically justified? In closing, I advance the idea that artists have a very important role in societal and scientific progress, and that we must understand that both artists and scientists share joint responsibility for the future.

Background
I am an artist from Estonia, which is a small country in Eastern Europe between Latvia, Finland and Russia. The fact that my country has 1,520 islands in the Baltic Sea and all together 3,794 km of coastline, leads me to talk about water as one of the most important issues in terms of the economy, culture and environmental stewardship. ‘Hybrid practice – from general to specific’ is the name of my exhibition, which was born in collaboration with scientists from the Institute of Marine Biology at Tallinn’s Technical University (Estonia), and was held in Tallinn from November to December 2013.

Introduction
My special interest is bioart, and I see water (in my case mostly on the microscopic level) as one of the possible media and materials that help me to express my artistic ideas. The phrase “BioArt” was born in 1997, when Eduardo Kac first used it in relation to his artwork ‘Time Capsule.’ But the concepts and strategies of bioart were presented much earlier in the works of pioneers like Joe Davis, George Gessert, and many others. At the time, it seemed clear that bioart mainly deals with living material on the level of cells and genes. By 2014, it could be said that bioart is positioned somewhere between natural sciences and art; it cannot be precisely defined in terms of material (genes, cells, bacteria) or concepts (study of the human body or some other living organism). Thus, in the case of bioart we can see the split in two directions:

– the study of people and nature on a cellular and genetic level—lab work and all kinds of manipulations on a microscopic level;
– broader study of the relationship between nature and culture, environmental issues, study of everything natural—practical experience, study of landscape and the environment, and the creation of concepts on this basis.

In order to understand the environment surrounding us, I spent many wonderful moments walking around in nature. In addition to lab work, I am also interested in landscape studies and taking field notes. To study the aquatic ecosystem, I first had to obtain water samples from different water bodies. This became the first source material in the lab for observation and discovery of exciting forms of life. What does the collected material look like under the microscope, how do scientists interpret the observations and how do I understand it as an artist wanting to get to know these life forms better? At first glance “muddy waters” gave me plenty of food for thought in terms of the
aquatic ecosystem, behavioural models of organisms and also about humans themselves.

**What does “Hybrid practice – from general to specific” mean?**

I started with simple questions like “Why is the sea blue? ... Why do butterflies fly? ... Why does the sun rise?” Those are very basic questions children ask to explore the nature and boundaries of life. It is an important step for connecting scientific and creative thinking. We understand bioart as interdisciplinary collaborative work between professionals from different fields. Interdisciplinary research and hybridisation of art are the highlights, which are more and more common in many of today's working practices, and those fundamental questions are important for all thinking people. Be it the various forms of visual art, design, technological approaches or other material or immaterial creations—we are continually seeing around us cultural forms that broaden our imagination and knowledge of potential resources of art. And that makes me ask scientific questions, because hybrid forms of creation would help me better understand that I am one tiny part of a big universe. So, hybrid practice means my practical experience of hybrid art.

“From General to Specific” refers to my artistic development during the last couple years. Firstly, it means focusing on certain topics and disciplines, and secondly it refers also to my current artistic practice, which led me to work on marine biology. I was trying to see very small scales, invisible creatures of Earth, which have great importance in our lives. My special interest was focused on tiny and extremely fragile organisms—unicellular algae, very important creatures of all the waters on Earth.

*Fig.1 & 2 Images from the Laboratory of Marine Ecology (TUT Institute of Marine Systems, Estonia), 2013. © Photos by Piibe Piirma and Karin Ojamäe.*
As I started to prepare my exhibition, I posed the following key questions:

– How to see, study, maintain and care, and how to translate scientific language into a poetic process to create art?
– How to grasp the huge system comprising the world and understand how unique it is?
– How does the knowledge of marine biology inform our technology-focused society or which fields outside the traditional fields of research are we also going to be able to explore in the future?

Of course I didn’t get answers to all those very broad questions, but they were starting points for my practical studies, which gave me deeper understanding of the importance of biology.

In the following chapters, I am going to describe three ideas and installations, which I presented in my exhibition ‘Hybrid practices – from general to specific.’

**Metagenomic museum**

![Fig.3 ‘Metagenomic museum,’ 2013. © Photo by Juta Kübarsepp.](image)

“The viable unit of survival is a flexible organism-in-its-environment.” —Gregory Bateson (Charlton, 2008)

When I started collecting water samples from different Estonian waters, I saw how different they are—not only in their colour, but also their consistency. I was interested in the idea of collecting, preparing, storing, and exhibiting the information in the bodies of water. And I found that an English anthropologist, social scientist, linguist, semiotician and cyberneticist, Gregory Bateson, has formulated the most important idea on storing heritage by using the theory of the so-called metagenomics or environmental genomics, which investigates genetic materials in their own environments.

We all know, that the current state of science allows important information to be stored as extremely small units. For instance, DNA contains far more information about our heredity than stuffed animals, or wet specimens in laboratories. That was the reason I developed a strange question: could the museum of the future consist of just a number of test tubes for example? Could it be akin to a genome centre that stores vast amounts of information about us? How to save a vast amount of data no supercomputer or scientific institution is capable of storing or preparing? And I found that the ideas of metagenomics or system biology would be interesting directions to think on further. I thus decided to bring a collection of different Estonian waters in test tubes to the gallery and create an installation I called ‘Metagenomic museum.’

As to the working process, the first and one of the most important issues was how to prepare my “collected data” so that microorganisms could survive two months in my test tubes in the gallery
window, especially in an inappropriate season. Algae blooms mostly in spring and summer, but winter and the deep darkness in Estonia was not very pleasant for them even in their own environment. The scientists who were helping me in this process carefully cleaned and prepared the water samples for my exhibition, but my broader question was: how to save the information of those tiny creatures in far into the future? What can we learn about preparing biological material? And how to present those ideas at the art gallery?

To conclude, what is most influential from the above is what Gregory Bateson says: each living being must understand the simple truth—unable to maintain its environment, it is destroying itself. And, my artistic idea was to show the audience how fragile life forms can be and how essential it is to understand that we must accept all forms of life surrounding us.

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Voyagers

My next idea originated from the images I saw under the microscope. But not only that—my basic scientific knowledge that a teaspoonful of sea or freshwater contains in excess of a million living beings, including plankton, was also a major impetus to explore those tiny objects further. I wondered: what do we really see and what is the importance of the images from the seeing?

Where does the title “Voyagers” come from? The word “plankton” is derived from the Greek word “πλαγκτόν,” which means “lost,” and has a broader meaning of “voyager.” The reason I decided to explore those voyagers is that the microscopic organisms that inhabit all bodies of water play a vital role in life on Earth. They are the lowest links in the food chain—primary producers getting their energy from photosynthesis and producing oxygen. Making up only 1% of the biosynthetic mass on Earth, they account for almost 45% of the annual oxygen production. But they can also negatively impact our life because the concentration of plankton in water bodies is continually increasing. This might harm our future living environment because excessive algae growth changes the balance of the aquatic environment and, thus, the living conditions of all other creatures.

I portrayed a number of the voyagers I found living in our water bodies. They could be seen in only a small part of the 300 images captured, and we (collaborating scientists and I) spent long hours in the lab looking at them. After taking hundreds of wonderful pictures from the microscope, it became clear that underwater life is so rich that even scientists could not find exact names for all of the creatures that can be seen. That is because water is full of unique forms and even today it is hard to categorise or name every single unit among them.

My most important artistic goal was not to categorise the algae, but to show how beautiful and interesting the different creatures I found in my tests are, and also to show how important a role even the tiniest living underwater creature has, giving a particular touch by showing local waters to a local Estonian audience.
‘Roboautotrophs’ was an interactive installation consisting of an algae-filled aquarium, LED-lamps and robot-mirrors (robots+mirrors). The robots were controlled by photo sensors, which were connected with the aquarium. The word “roboautotroph” is my own combination of two words—robots and photoautotrophs; it was my mental image of the amalgamation of the artificial and natural world. To be more specific, photoautotrophs are microorganisms obtaining energy from the sun and from CO2. Biosynthesis and photosynthesis are a huge source of natural energy and thus useful in many ways to humankind in light of future research. The robots in the case of this installation were 32 simple servo motors whose movements were guided by green algae growing in a huge aquarium.

To prepare this installation I posed many basic, but influential questions, about understanding and connecting natural and artificial life forms. I started with Alan Turing’s postulate that the whole world can be explained digitally by ordering 0s and 1s. This is the main idea of the existing digital computational systems. But in the contemporary world there is a increasing need to highlight so-called “hybrid” thinking. What if we stopped following the pre-explained binary system in our way of thinking? What if our computer world were ruled by biological and chemical supercomputers? What if such a technology could supply itself with energy and replenish itself? What if biological resources could make us permanently give up expensive production methods, heavy metals, vast cable arrangements and diagrams? How to understand and resolve the dilemma between two methods of data communication—digital and material-based or chemical communication if Turing’s binary system becomes exhausted?

The scientific idea of material-based communication is based on chemical reactions and vastly expands our future opportunities. ‘Roboautotrophs’ was a simple prototype of my first foray into further inquiry into these huge questions. I started from the most primitive tests—by studying the habitat in the aquarium, and tried to translate the information received from it into a digital language that robots could understand. My first prototype consisted of a system of simple measurement instruments, and the basic robotic movements, in turn, reflect complex tasks that could be important for all of us. From this point on, we can start to ask further questions: How can life and artificial life coexist better and more effectively without destroying each other? And are we also ethically prepared for such coexistence?

Conclusion

Although I do not consider myself a bioartist, because these are my first steps on this road—and serious gene and DNA manipulations are still miles away from my work, I have been trying to explore and understand this extraordinary phenomenon. But let’s come back to the question about art and
science collaboration. One might ask: why should an artist be interested in different scientific disciplines and display them in art galleries? My opinion is that artists have the courage to study and dream, trying to understand the most important processes of life. And this also applies to the smallest level of cells and genes.

In a conversation with Oron Catts, a world-renowned bioart pioneer, the founder of SymbioticA, the first biology lab dedicated to art-science collaboration projects, I asked him: What is the role of artists who work in fields that they actually don’t have a clue about? Can we deal with complex disciplines without a relevant education or prior in-depth studies?

Oron Catts thought that of course we must be specialists—i.e. artists must do a lot of homework before setting foot in a lab to start working. But above all, artists must remain artists, just like scientists must remain scientists... The questions that we are posing now are much more complex than 10 years ago. If cellular biologists assert that they are capable of artificially producing the smallest particles of life, we as artists must be able to think along with them with regard to what this entails in a cultural and broader human context... Thus, we must not fear artists who study science but understand what kind of a joint responsibility we all have for the future (Catts, 2012).

As a final conclusion I would add that everything we study as part of our profession is part of our daily lives. We have the ability and freedom to choose the material and methods that help us to shape our world. Through all of this I would like to say the essential—science and technology are very important tools for understanding our own nature, i.e. life’s elements, progress, human existence and its potential extinction. I hope that science gives us much more than just knowledge: this is something to be afraid of, because it is too difficult to understand or too difficult to comment. I sincerely believe that my artistic experiments are stories about myself. Talking about tiny creatures is my own life story. After all, it is telling something about me as a human being, as a part of life on Earth.

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AUTHOR BIOGRAPHY

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REFERENCES & LINKS


Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4880
FUEL CELLS IN ART PROJECTS
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Abstract

The following text summarizes the use of fuel cell systems in art projects and provides details about its operation, as well as its incorporation.

‘Fuel Cells’ are electrochemical devices used to obtain energy from water through a chemical reaction. Each cell contains a positive electrode (anode) and a negative one (cathode), and microorganisms and bacteria, which use organic matter found in water or on the earth to generate voltage. The process is that of oxidation and reduction.

The anode is the reducing agent which gives electrons from its chemical structure to the aqueous medium, increasing the oxidation state. On the other side, the cathode is the oxidizing agent, which tends to attract those electrons, leaving a lower oxidation state (being reduced).

The presence of bacteria is essential for the accumulation of energy, due to its ability to oxidize organic matter found in water. This change happens when the degradable substrate is metabolized and an electron transfer to the positive electrode is produced, which then reacts with the negative one.

There are many species from which energy can be obtained, but the most common are Geobacter sulfureducens, which can develop and grow on an electrode. They allow electricity to be produced during the metabolic process and at the same time reduce the polluting substances in water.

This system of biological batteries were part of the site-specific art projects that are now going to be described.

‘No eres perenne’ (‘You are not perennial’)

Fuel Cells + bioplastic + nature + micro organism + time
2013

Fig.1 A community of biodegradable objects with human morphology floated on a river, where there was erosion from water, sun and wind. The art project is a representation through water about the relationship between man and nature that explores sustenance and decay in the natural world, trying to generate a reflection on the environment and responsible consumption along the binomial balance-unbalance. Photo: Rafael Mattos (Residência RAM Coordinator).
This art project is a representation through water about the relationship between man and nature. It tries to generate reflection on the environment and responsible consumption along the binomial balance-unbalance.

Biodegradable plastic objects with human morphology were floated on a river, where there was erosion from water, sun and wind. They were responsible for collecting energy from dirty water, from the incorporation of Fuel Cells inside, electronic devices and the use of Arduino technology. Energy was used as a signal to activate a lighting system located in the bowels of the dolls, generating the overheating of the plastic material and the consequent acceleration of decomposition. As more energy is collected (extraction of natural resources) from more pollution, greater is the rate of degradation of the objects (manmade symbols).

As a metaphor, the inability of human beings to consider the environment and understand the consequences of activities that exploit and damage the environment, is represented by the image of humanity as dying, beaten and broken.

In the installation, the anode was graphite rods, while the cathode was aluminum paper, as in ‘Flows in return.’

Fuel cells get a significant voltage when the water in which they are introduced has an acid pH, mainly due to industrial and contaminant agents. The more waste, the more acidic the water becomes and the higher the voltage generated.

Fuel cells help to restore and purify water as a result of the passage of electrons, which reduce the toxicity of the heavy metals in it, in this way promoting the treatment of wastewater. Small plastic containers were put inside the bodies of each object and drilled to insert the electrodes. River water from the site of the artistic installation flowed into the objects, which were connected between them in a series in order to get a higher voltage.

In contact with water, the objects began to break down, such that gradually their volume decreased: metaphorically speaking, starting to “die.”

When ‘You are not perennial’ was exhibited in closed spaces; fuel cells were made with contaminated, dirty water. It was interesting to observe its evolution during the time of the exposure: at first the water was black in color and smelled of putrefaction, but after a while, it became transparent, clear and odorless. The chemical process activated by the cells contributed to changing the state of the water.

‘Flows in Return’

Nature + bacterial bricks + water + energy + time.
2013–2014

The project

The proposal was to work with the idea of return and cycle, with the concept of ruin as a result of human systems. The aim was to show the coexistence of parallel worlds, the symbiotic relationship between man and nature, understanding matter as energy, and the environment as a flow generator.

The site specific installation extracted energy from earth microbial cells built as bricks. The idea of the morphology, that is the brick, was a symbol of human construction and its expansion across natural environments. The bricks were made from earth, clay and natural fibres filled with organic waste. The structure included electrodes that allowed for the harvesting of voltage.

After some time, the bacteria and microorganisms of the cells began to work and started to metabolize the organic substrate of bricks, thus carrying out a process of decomposition. It produced an energy evolution and a voltage increase from the electrochemical process generated in the microbial cells.

For the proper connection of the electrodes, and to allow the elements to return to the natural state prior to construction, a mechanism was set up to moisten the bricks. The water contributed to the
process of conductivity, and the proliferation and maintenance of fungi and bacteria. The system worked with an Archimedes Screw, which collected the water from the river where the installation was located, (the Preto River in Brazil), and brought it up to the bricks.

In ‘Flows in return,’ the relationship between people and nature is considered from an auto-destructive perspective. It’s this very relationship that “causes” the degradation of the work of art.

**Bacterial energetic bricks**

The bricks were made of mud and local natural fibres moulded from tetrapack containers. Fuel cells were put inside them to collect energy from the earth through the activity of microorganisms. The bricks were plastic capsules filled with organic waste, mud and the electrodes – this allowed for the isolation of the voltage flow when connecting them in series. The anode was copper and the cathode aluminium paper.

![Image](image.jpg)

**Fig.2 ‘No eres perenne’ (‘You are not perennial’).** They were responsible for collecting energy from dirty water, from the incorporation of Fuel Cells inside electronic devices and the use of Arduino technology. Energy was used as a signal to activate lighting systems located in the bowels of the dolls, generating plastic overheating and the consequent acceleration of decomposition. Photo: Rafael Mattos (Residência RAM Coordinator).

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**Translation:** Natalia Cappuccio

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Ana Laura Cantera is an Argentine artist and teacher born in 1983. She received her visual arts degree at IUNA (Instituto Universitario Nacional del Arte) with a major in painting. She is currently finishing a Master’s Degree in Technology and Aesthetics of Electronic Arts at the Universidad Nacional de Tres de Febrero (UNTREF) with a thesis on the relationship between human beings and nature. She is an investigator in scientific and artistic research projects at IUNA and has received a fellowship from the CEIArtE (Electronic Arts Research Centre) of UNTREF. She has held exhibitions in Argentina and internationally. Recently, she won the second prize at the Premio a las Artes Electrónicas UNTREF, in Buenos Aires, for her project ‘Flows in Return.’

**REFERENCES & LINKS**


Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4881
Versión Española

CELDA MICROBIANAS EN EL ARTE
Ana Laura Cantera
IUNA y CEIArtE (Centro de Experimentación e Investigación en Artes Electrónicas) de UNTREF, Argentina

Abstract
El siguiente texto resume la incorporación del sistema de celdas microbianas a proyectos de índole artístico, detallando su funcionamiento como también su incorporación.

Celdas microbianas o pilas de combustible (Fuel Cells) se denomina a los dispositivos electroquímicos generados para extraer energía del agua a partir de la conversión de un sustrato biodegradable. El proceso se lleva a cabo mediante un proceso de oxidación y reducción en el cual un elemento combustible se oxida mientras otro se reduce (comburente). Los agentes que participan en estas reacciones redox son un electrodo positivo (ánodo), un electrodo negativo (cátodo), y microorganismos y bacterias.

El ánodo es el agente reductor que le otorga electrones de su estructura química al medio acuoso donde se encuentra, aumentando su estado de oxidación al ser oxidado. A su vez, el cátodo es el agente oxidante, que tiende a captar esos electrones, quedando con un estado de oxidación inferior al que tenía, es decir, siendo reducido.

Por otro lado, la presencia de bacterias y microorganismos es fundamental para la recolección de la energía, dada su capacidad de oxidar la materia orgánica hallada en el líquido. Ello se produce cuando utilizan al sustrato degradable para respirar, metabolizándolo y produciendo a su vez, una transferencia de electrones al electrodo de carga positiva que se conecta al de carga negativa.

Las especies responsables de la cosecha de energía son numerosas, pero mayormente se presentan las Geobacter sulfureducens, que tienen la capacidad de desarrollarse y crecer sobre un electrodo. Este factor, posibilita aprovechar la electricidad producida durante su metabolismo y a su vez eliminar en el proceso los residuos contaminantes.

Este sistema de biopilas es el que fue incorporado a dos obras site-specific que a continuación se describirán.

‘No eres perenne’
Es una representación sobre cómo el hombre desnaturaliza su ambiente a partir de la contaminación de sus aguas y la sobreexplotación de recursos naturales de manera no sustentable. Refleja cómo ello conlleva la misma destrucción de la especie, buscando generar una reflexión sobre el consumo responsable del ambiente que en el que nos desarrollamos.

Para ello, se confeccionaron objetos de plástico biodegradable con morfología humana, que flotaron en el río Preto (Brasil) donde fue llevada cabo originalmente, y a partir de la erosión del agua, del sol y del viento, se fueron desintegrandose y deshaciéndose, desprendiendo partículas.

Los muñecos, a partir de dispositivos electrónicos y la utilización de una placa Arduino, fueron los encargados de recolectar energía del agua, a partir de la incorporación de celdas microbianas en su interior. La misma fue utilizada como señal para activar sistemas lumínicos ubicados en las entrañas de los muñecos, que generaron un sobreentrenamiento del plástico, y la consecuente aceleración de su descomposición. A mayor energía recolectada (más extracción de recursos naturales), más contaminación, y por lo tanto mayor velocidad de degradación de los objetos (símbolos del hombre). Se constituyó como una metáfora de la debilidad del ser humano a partir de su mal accionar con su ambiente, junto a las consecuencias que conlleva la sobreexplotación: Quedó agónico, abatido y deshecho.

En esta tipología de fuel cells, como ánodo se utilizaron barras de grafito por ser el material de los experimentados que más voltaje generó, pero también funciona el cobre, la fibra de carbono (no hallada en Argentina), o el papel carbónico (genera un muy bajo índice de energía), entre otros. Por
Las celdas microbianas obtienen un voltaje significativo cuando en las aguas en las que se introducen se encuentra el pH1 ácido, dado principalmente por los contaminantes insertos en ellas. Cuanto más vertidos industriales, más ácida se vuelve y mayor el voltaje generado, aunque el daño generado en el ambiente es directamente proporcional.

Las celdas también contribuyen a la recuperación y purificación del fluido a partir del pasaje de los electrones a los metales pesados que reduce su toxicidad y favorece así el tratamiento de las aguas residuales. Fueron contenidas en pequeños recipientes plásticos sujetos en los cuerpos de cada objeto y perforados para la inserción de los electrodos. En la instalación, se llenaron con el agua del mismo río y fueron conectados en serie para lograr un mayor voltaje. Los objetos en contacto con el agua, empezaron a desgastarse y degradarse, disminuyendo poco a poco su volumen: metafóricamente, empezando a “morir.”

Cuando No eres perenne se reprodujo para ser expuesto en ámbitos cerrados, las celdas microbianas fueron confeccionadas con agua contaminada. Fue muy interesante observar la evolución de las mismas durante el período de exposición: el agua que en un principio fue de color netamente negra y con mucho olor a putrefacción, con el transcurso del tiempo, se fue tornando transparente e inodora, comprobando los efectos de limpieza que posee el sistema de celdas.

‘Flujos en retorno’

“El hombre es en realidad, un conglomerado de bacterias, espiroquetas y virus diversos. El producto acabado de una poderosa colonia de bacterias simbióticas que lo armaron, de la misma forma que el hombre construye su hogar, sus ciudades y sus naciones.”

El proyecto

Se propuso trabajar con la idea de retorno, de ciclo, de vuelta al origen, con el agregado del concepto de ruina como residuo de los sistemas humanos. Se pretendió indagar sobre las relaciones con los mundos mínimos paralelos y la coexistencia con ellos a partir de una relación simbiótica entre la naturaleza y el ser, entendiendo a la materia como energía, y al entorno como generador de flujos capaces de transitar el espacio todo y de ser transformados de manera continua.

La instalación site specific consistió en extraer la energía de la tierra a partir de celdas microbianas terrestres construidas en forma de ladrillos. Se utilizó esta morfología considerándolo un símbolo de las construcciones humanas de expansión por sobre los ambientes naturales. Fueron realizados a partir de barro y fibras, rellenos con desechos orgánicos. En su estructura poseían, además, electrodos que posibilitaron la cosecha de voltaje.

Con el transcurso del tiempo, las bacterias y microorganismos propios de las celdas, empezaron a accionar metabolizando el sustrato orgánico interno de los ladrillos, llevándose a cabo un proceso de descomposición y proliferación de más cantidad de ellas. Esto produjo una evolución energética al incrementarse el voltaje a partir del proceso electroquímico generado en las celdas microbianas.

Para favorecer su desarrollo, el sistema tuvo un mecanismo responsable de humidificar los ladrillos para la correcta interconexión de los electrodos, pero también para posibilitar el regreso al estado de naturaleza de los elementos utilizados para la construcción. El agua contribuyó a la conductividad del proceso, a la proliferación y mantención de los hongos y bacterias, y a su vez a la desintegración de los ladrillos, produciendo un cierre de ciclo al quedar finalmente borrada la huella de la obra.

Fue llevada a cabo a partir de un tornillo de Arquímedes, que recogió agua del curso del río donde fue emplazada elevándola hacia los ladrillos. Los bloques transitaron ciclos diferenciados de plenitud hasta llegar a la decadencia: en un primer momento, se los pudo observar enteros, emitiendo una gran porción de voltaje. Luego, y acentuado por la humedad generada por el sistema, empezaron a crecer sobre su superficie, hongos y bacterias, junto a líquenes y pequeña vegetación.
En esta etapa ya se pudo observar el avance de la naturaleza sobre los ladrillos. Más tarde, con el trascurso de los días, empezaron a retornar a su estado natural, y a constituirse un ecosistema integrado al ambiente.

En “Flujos en retorno” se trabajó la relación del hombre con la naturaleza pero desde una perspectiva simbiótica funcional y autodestructiva, es decir, que el propio vínculo fue el que generó el desgaste y la degradación de la obra.

Construcción de ladrillos bacterianos autoenergéticos.

Los ladrillos se constituyeron como celdas microbianas terrestres responsables de cosechar energía de la tierra a partir de la actividad de los microorganismos. Estuvieron realizados a partir de barro y fibras de vegetación local moldeados a partir de envases tetrapack. Se les insertó una doble cápsula plástica que posibilitó el aislamiento de los flujos de los voltajes al momento de conectarlos en serie. La misma contuvo desechos orgánicos, barro y los electrodos. Están vez el ánodo se modificó y ya no se utilizó grafito sino filamentos enroscados de cobre por resultar más efectivos. El material del cátodo se mantuvo.

Construcción del tornillo de Arquímedes

Al pensar la necesidad de un sistema humidificador para las celdas microbianas terrestres de los ladrillos, y tras investigaciones varias de mecanismos de levas y manivelas, se decidió que crear un Tornillo de Arquímedes era lo más pertinente a la búsqueda. En el proyecto “Flujos en retorno,” el mecanismo se constituyó como una pieza fundamental por su funcionalidad y eficacia: fue el responsable de contribuir al riego de los ladrillos y por lo tanto a la alimentación del sistema de celdas. Era un sistema sólido que permitía aprovechar el flujo de agua del río que atravesaba la zona de emplazamiento, y a su vez accesible a ser construido con los materiales del sitio.

Se utilizó como base principal para el diseño, una caña de bambú de diámetro considerable para permitir luego el enroque de la manguera cristal alrededor como canal de transporte del agua hacia la parte superior. Al ser colocado a orillas de un brazo del río, hubo que considerar también la corriente para evitar que el tornillo no sea desplazado y se produzca que el nulo pasaje del líquido. Para ello, se construyó una especie de estaca con el mismo bambú que fue enterrada en el suelo y que a su vez sostenía la base del mecanismo.

Otra de las adaptaciones realizadas acordes al sitio de emplazamiento y al concepto buscado, fue la automatización mecánica. Se agregó un pequeño motor que producía intervalos giratorios según los impulsos de energía recolectados por las celdas. Los giros fueron más frecuentes cuánto mayor era el voltaje generado. A su vez, el mismo aumentaba cuánto mayor era el líquido arrojado por el tornillo. Esta relación de retroalimentación constante generó que pueda pensarse la idea de ciclo, observado tanto desde la acción antes descripta, como también desde el quehacer de los microorganismos y bacterias y la desintegración de los ladrillos y su incorporación al medio.

BIOGRAFÍA DEL AUTOR

Ana Laura Cantera  es Licenciada y Profesora en Artes Visuales con orientación en Pintura en el IUNA (Instituto Universitario Nacional del Arte). Realizó la Maestría en Tecnología y Estética de las Artes Electrónicas en la UNTREF (Universidad Nacional de Tres de Febrero), en la que se encuentra finalizando su tesis de posgrado. Participa en proyectos de Investigación Científica y/o Artística de Innovación Tecnológica en el IUNA, en la UNTREF, y es becaria del CEIArtE, el Centro de Experimentación e Investigación en Artes Electrónicas dependiente de la Universidad Nacional de Tres de Febrero. Realiza exposiciones nacionales e internacionales. Recientemente, su proyecto “Flujos en retorno obtuvo el segundo lugar en el Premio a las Artes Electrónicas UNTREF.

REFERENCIAS Y LINKS

Por favor consulte la versión en Inglés de arriba.
H2O: EMERGENCIAS
Esther Moñivas Mayor
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Abstract
This paper introduces a set of activities held in the School of Fine Arts in the Complutense University of Madrid during October and November, 2013. The International Year of Water Cooperation and the XIII Madrid Science Week were the setting for a series of artistic projects and discussions on water issues. The program included a workshop entitled ‘Art and Science dialogues: Water projects workshop,’ which sought to promote new synergies between these two fields of knowledge, and fostered a debate on the current status of water within the School, addressing it on the political, economical, environmental, sociological, psychological and aesthetic levels. This workshop also stimulated a series of performances and visual artworks that were displayed in the exhibition ‘h2o: emergencias,’ held in the showroom of the School of Fine Arts and in the digital platform waterbodies.org. All the projects were responding to a real emergency, taking on the challenge of a new water culture from the perspective of the global XXI century water crisis, and seeking to be engines of awareness within the ecosystem of the School, the city and the world. This article takes a brief look at these artworks.

Reflecting, debating and performing in the School of Fine Arts. ‘Art and Science Dialogues: Water Projects Workshop’

The 2013 International Year of Water Cooperation and the XIII Madrid Science Week were the setting for a series of artistic projects and discussions on water issues, at the School of Fine Arts of the Complutense University of Madrid.

This program began with a workshop entitled ‘Art and Science Dialogues: Water Projects Workshop,’ directed by myself. Held in October, it sought to promote new synergies between these two fields of knowledge, stimulating original narratives about this fundamental element and public resource. As a starting point, it took water as a driver of the imagination, briefly analyzing contemporary water semantics, and discussing a series of artworks made in the last few decades. The focus was on projects inhabiting the communal space, exemplified by artists like Buster Simpson, Viet Ngo, Olafur Eliasson, Patricia Johansson, Lynne Hull or The Harrisons. The theoretical perspective went over the idea of water in material imagination (Bachelard, 1942), but paid special attention to the h2o concept, a notion in the imagination of the contemporary citizen far from the original essence of ‘water’ (Illich, 1985). This introduction also provided an overview of problems in aquatic ecology, as well as data about current water distribution and emerging problems in this area (Arrojo, 2008).

In the second session, the workshop fostered a debate on the current status of water within the School of Fine Arts, understanding the School as a complex system and an ecological unit that could lead to wider conclusions. Participants were asked to work in groups on eight different issues:

- Economy
- Policy, management and sustainability
- Supply, storage, distribution and access points
- Uses and interactions
- Quality and productivity
- Conservation and environmental impact
- Landscape design and aesthetic integration
- Education and symbolic integration

The objectives were to share knowledge, to gather new information, and to write brief conclusions on each issue that could be interesting to others. In the final debate one thing was notable: the lack of
information about water management, quality and politics. The students pointed out the general lack of water in the School’s environment (dry “green” areas, empty swimming pools, taps not working), as well as the lack of interest in promoting healthy interactions with this resource. As they explained, water is necessary in many artistic techniques, but the School’s management does not really prevent contamination with toxic substances. Solutions for separating water from turpentine were discussed, and professors described the history of how green areas became dry over two decades. Finally, a few students presented information from other sources about the low quality of the drinking water at the School. Ultimately, this debate showed the need for understanding the real water systems we inhabit, and the importance of information (usually not easily accessible) in improving water use.

In November 2013, a selection of twelve artistic projects born in this context were introduced at a round-table discussion featuring Eva Lootz (Spanish National Award for Fine Arts, 1994), who in the last decade has focused on hydrological systems, and myself as curator of the exhibition.

Complementing the round-table, the School also hosted three performances. The first one, Clara Durán and Beatriz Álvarez’s ‘Emotional dialysis,’ consisted of an interactive installation that aimed to use water to recall the Lethe River in Greek mythology, which was believed to divide life from death, conscious from unconscious, and present from past, keeping the memories of those who were travelling through. The audience was invited to write their secret memories with ink on a vellum paper, later dissolving the words by putting them in a tank of water. This communal dialysis sought “to get rid of those emotions, memories or feelings that terrify us with persistence to the point of paroxysm, and that we are unable to share with others” (Durán and Álvarez, 2013).

![Fig.1 Clara Durán and Beatriz Álvarez, ‘Emotional dialysis,’ 2013.](image)

The second performance was by Marta Pinilla, who installed her ‘Portable stream,’ consisting of three sculptural art books with embroidered lines representing the flow of a river. This installation sought to metaphorically return water to lands where human activity and water policies had dried riverbeds and destroyed vegetation—like in the gardens of the School of Fine Arts or in Monteaquido de las Vicarias, to take the examples provided by the artist. During the performance, the audience was asked to extend the symbolic riverbed of the books using cards printed by the artist. ‘Portable stream’ is an evolving project that intends to be located in diverse environments, and that seeks to promote social awareness of the impact water has on deforestation. A panel exposed her reflections on the Common Agricultural Policy (PAC) of the European Union, and how it is managing agricultural subsidies (cited in Pinilla, 2013):

Since the 80’s, this policy tries to reduce agricultural surpluses by promoting certain crops and reducing others. The landscape in Monteaquido de las Vicarias, a small village in the Soria province (Spain) changed drastically because of this policy. It used to be a place where a wide range of products, fruits and cereals were cultivated. However, to receive those grants, these traditional crops were uprooted and fast-growing plants such as corn or sunflower were grown instead. The
disappearance of trees has not only changed the landscape, in addition the decrease in vegetation has led to a decrease in transpiration. The decrease in transpiration leads to decreasing humidity and precipitation. Water is now scarce and every summer there are restrictions. Since crops were changed, desertification has increased exponentially. Much of the land is now barren and infertile, soil erosion is more than evident. Human activity has destroyed the vegetation.

Naiana Cabral conducted the last performance, entitled ‘Agua viva.’ It was directly connected to her work ‘Fuente,’ performed on August 13th, 2013. Bridging both actions, the artist symbolically became a “water messenger” who brought the sound and essence of pure water—obtained in a ritual bath in the Sierra de Aracena y Picos de Aroche Natural Park (Huelva, Spain)—to the artificial, contaminated and partially dried water system of the Complutense University environment. In Agua Viva, Cabral used a hidden sound device under her blue attire to “fill” the old, empty swimming pool in the garden of the School of Fine Arts. By means of a movement sensor, her interactive device allowed her to establish a relationship with this urban environment, co-creating with the people around her a landscape and a sound-scape.

Engines of awareness within the ecosystem of the School. ‘H2o: emergencias’

The School of Fine Arts closed its first art & science program with an exhibition entitled ‘h2o: emergencias,’ which included not only these three pieces but also other video art, installations, paintings and textual works (La Trasera, Fine Arts School, Complutense University of Madrid, 12–15 November 2013). This exhibition intended to show a number of projects—many of them works in progress, which seek points of connection between the sociological, ethical and scientific perspectives on this vital resource. All the projects were responding to a real emergency, taking on the challenge of a new water culture from the perspective of the global XXI century water crisis, and seeking to be engines of awareness within the ecosystem of the School, the city and the world. We will take a brief look at these artworks.

‘Blue Iceberg’ was inspired by the Spanish scientific Glackma Project (http://glackma.es/), which since 2001 has been studying glaciers as natural sensors for analyzing global warming. The artwork sought to explore natural patterns of “water drawings,” observing and documenting for this aim the defreezing processes over cardboard of ice cubes stained with blue ink. A video piece based on the first 17-minute performance was created with the collaboration of visual artists Alba Escayo and Ana Zdravkovic, and the composer Tze Toh. The visually seductive meanderings of blue liquid flowing over the paper as the ice melted was captured in the video.
Antonio Labella, Sinclair Castro Blancas and Raquel Vicente Dobato presented their installation ‘Si no hay niños, no hay río,’ based on an action conducted in October 2013, where the artists launched a rubber boat in different spots of Madrid’s Manzanares River. The video shows the boat floating in a dark environment, producing in the viewer an estrangement from this urban water space. The installation also included a series of photographs, a map with the spots marked, and the rubber boat full of small texts reflecting on water, play and childhood, by Hans-Georg Gadamer, Paul Valéry, Miguel Hernández and Walter Benjamin.

‘Watermarks’ was a photographic project by Daniel Sánchez that began with a reflection on the place of water in the School of Fine Arts and its connection with people (Sánchez, 2013):

We do know that water is, at least, in our society, a very handy resource: if we need it, we find it easily. However, there is not a thorough concern about this fragile and important resource. It’s well known that water comes out from the different access points around the Fine Arts School, but apart from that, nobody knows anything else. Water is practically invisible [...] The importance of water in the faculty environment is often unrecognized and thus water itself is disregarded and even wasted.

The nearly archaeological perspective of Daniel Sánchez to the water environment of the School of Fine Arts resulted in a collection of images of small spots, leaks, oxidations and traces of water use. The artist not only documented the site-specific watermarks with aesthetically interesting photographs, but also offered short descriptions and exact positions on a map with (probably ironic) scientific precision.
Isabel Álvarez presented a painting entitled ‘Wave,’ where the depiction of flux and solidity turned into cultural metaphors, and a reflection on the role of cities in the natural environment. To this end, over the painted image of a ship’s wake on the sea, she superimposed a line drawing reproducing the plan of a city that had the shape of a ship (Álvarez, 2013):

[...] I conceive the city as an obstacle for water, an intruder, an alien element and an invader in nature, and I have chosen the wake the ships leave behind them as they navigate as a metaphor for the waste that our civilization leaves behind as it goes on. It works as a visual diagram of the wicked use of water in the cities, of how they cloud it and break its balance.

In the work ‘Confluences,’ the team of María Hidalgo, Ana Notario and Esperanza Arquero combined material experimentation and observation of physical properties such as hygroscopy, capillary, buoyancy and deliquescence. Their research produced a series of images showing the process of transformation of diverse materials when submerged in water. Paper, plastics, fabrics, plants, glass and metal elements created ephemeral “submerged sculptures” suggesting, in the words of the artists, an aesthetic dialogue with dance, sensuality, composition or softness.

Néstor Domínguez Varela presented his interactive video installation entitled ‘Fountain,’ as an environmental protest against bad water use in Madrid, a city with more than three million inhabitants. On his webpage, he asked visitors to collaborate by sending videos of their own bathrooms. The first video resulting from this interaction showed a mosaic of images and overlapping sound of successive evacuating toilets, mixing their sounds to generate a loud noise with the purpose of overwhelming the audience. In the centre, an image of a Madrid fountain appeared slowly while the water of the toilets flowed down. As the artist explained (Domínguez, 2013):

A million toilets are simply too many toilets. The water stream per second that this requires, assuming that each household only pulls the string ten times a day, is immense, goes beyond our imagination: we simply cannot recreate in our minds such quantity. [...] We do not see the water when it goes down the drain, or our neighbours’ or, indeed, we cannot even see the water before using it. It is always hidden and we are barely aware of its existence and source.

In ‘The water that comes. The used water. The water that we come to have,’ Pía Alejandra Gálvez Lindegaard used photography to look at the health, hygiene and drinking-water quality issues at the School of Fine Arts (Gálvez, 2013). She documented three coexisting types of water in this environment: the tap water (‘the water that comes’); the one affected by students activities such as cleaning tools or mixing it with substances like turpentine (‘The used water’); and water treated with the so called EM Technology or “effective microorganisms” to improve its quality (‘The water that we come to have’). The resulting series of images allowed for an interesting visual analysis, and sought to raise awareness about the consumption cycle of water.
Raquel Checa Solueta, Héctor Hernández Rosas and César García proposed an environmental complaint in the form of a sculptural and audiovisual project entitled ‘540 L / 54”.’ Based on the real current danger of massive extractive exploitation of the Spanish Alberche and Corneja rivers, they provided in their installation not only detailed information and news about the legal process taking place in Navaescurial (Ávila), but also actively attempted to intervene in this reality by collecting signatures to stop it (Checa and Hernández, 2013). The artists exposed the way this exploitation will affect agriculture and livestock, and the risks to the water supply in this area. The audiovisual piece showed current river flows projected over a prism built with 90 bottles containing 540 litres of water from the Alberche river. The contrast between the free water, following its natural course, and the stagnant bottled water that may cause the destruction of this ecosystem, generated a strong conceptual contrast but also a beautiful set of light effects on the surrounding walls.

Finally, Romana di Vuolo’s artwork entitled ‘Oil is thicker than blood’ included an audiovisual piece and two acrylic paintings on linen, all of which showed processes of flux and dissolution. The sensitive images of the video were reinforced by critical reflections on the relationship between water, economy and health, written on a panel (DiVuolo, 2013):
The title refers to the economic power represented by oil. [...] The black gold invades the blue gold. A war of power between the big global holdings that pollute seas and oceans regardless of the terrible consequences these accidents cause in the environment, and therefore in humans [...] So, the sense of beauty was mixed with terrible disgust when the deeper message of the artwork was discovered, reminiscent of the Prestige disaster in Galicia, and the indefinable mixture of fuel, sand, plastics and salt water that destroyed thousands of kilometers of coastline in 2002. Di Vuolo wanted to note with her text the lively debate and the current controversy in public opinion, providing detailed information about the state of the “Prestige case.”

![Fig.8 Romana di Vuolo, ‘Oil is thicker than blood,’ 2013. Video still.](image)

In addition to these art projects, the showroom included a central space with texts by the participants in the workshop reflecting on water policy and management in the School of Fine Arts, inviting the audience to contribute their own thoughts. There was also a communal hydrological poem that was written in the workshop with the aim of collecting the plural essence of water in all the participants’ imaginations. This poem, made of heterogeneous small pieces of paper, was enriched by visitors along its display, a testament to the strong public interest in this crucial issue.

![Fig.9 ‘h2o: emergencias.’ Exhibition view.](image)

Considering it a processual experiment with novel water imaginations dealing in a porous manner with a particular environment, we could point out ‘h2o: emergencias’ as a successful experience. Far from disappearing, the words, images, sounds and liquid fluxes that it comprised, will indefinitely
stream in the form of electric waves on the Internet (water-wheel.net, waterbodies.org, vimeo channel, blog, etc.), but also will flow in a vaporous state in the School of Fine Arts.

AUTHOR BIOGRAPHY

Esther Moñivas is an art historian, conservator-restorer and freelance curator. She is Professor of contemporary art at Nebrija University and conducts research at the Spanish National Research Council’s Institute of Philosophy (CCHS-CSIC) and at the GNAPV group in Nebrija University. In 2014, she was guest researcher at the University of Applied Arts Vienna. Her research explores the concept of matter in contemporary art; material semantics; the aesthetics of fluid materials (particularly water); and the current processes of convergence between art and science.

REFERENCES & LINKS


Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4882
Presentation

‘Understanding and Communicating about Water via Spatial and Temporal Patterns’

Sharing interdisciplinary perceptions as a means of more creatively approaching or representing our challenges with water will necessarily encounter the hurdle of effective communication among diverse practitioners and the public. Spatial and temporal patterns are frequently used to describe water or water topics ranging from molecular structures and distribution networks to fractal watersheds and rainfall cycles.

These patterns have always been present in scientific data, however, conventional graphs and tables mean little to laypersons—limiting pattern recognition to scientists.

The digital age ushered in sophisticated visualization programs for transforming the otherwise arcane data into animated, three-dimensional and time-sequence images that allow non-scientists to more easily grasp complex processes or relationships and scientists to more quickly discern subtle patterns (e.g., visual analytics). Where applicable, cyclic or periodic data have been “transposed” into sounds or rhythms so that temporal patterns may be heard or felt.

This presentation focuses on water-related patterns, particularly in the form of selected images, that have assisted people in perceiving water or water-related phenomena in an expanded manner—including the application of those perceptions to technical design. I will also explore how such visualizations render the data more accessible to artists, permitting them to more effectively use the data in their works and to creatively reach the public with important messages. Art itself can be described in terms of pattern and rhythm as a combination of elements repeated predictably or unpredictably.

A “language” of patterns could facilitate art-science interactions that would otherwise be relegated to words, numbers, symbols or jargon that are not widely understood.

Presenters

Dr D.L. “West” Marrin, Ph.D. is an applied scientist, educator, and founder of Water Sciences & Insights, a multimedia forum for assisting environmental, entrepreneurial, and educational groups on diverse water-related projects. He has authored three books on the science and perception of water, as well as journal articles on the topics of biogeochemistry, greenhouse gases, pollutant dynamics, and water remediation. He is a former Adjunct Professor at San Diego State University and holds degrees in the biological, environmental, and water resource sciences.

Links

http://www.watersciences.org

Screen recording of the Tap presentation and end discussion:
http://water-wheel.net/media_items/view/5081
http://water-wheel.net/media_items/view/4920
Similar patterns created by different processes...

At a molecular level, complex networks of water swap connections and geometries that allow it to flow and to interact with other substances.

Physics/chemistry of water portrayed as color schemes or network patterns.

Pattern Identification Methods

- TYPE/SOURCE: natural, ideal, and abstract
- FRACTAL DIMENSION: interior or perimeter (1D to 3D)
- CONNECTIVITY: functional, structural, or informational
- TEMPLATE MATCHING: sum of overlapping regions with a "standard" or "model" pattern
- SPACE CLASSIFYING: assigns different regions of a pattern to distinct measurable classes
- SYNTACTICAL DIVISION: partitions pattern and assesses relationships between sub-patterns

Slides from the presentation
‘Understanding and Communicating about Water via Spatial and Temporal Patterns’ by D.L. “West” Marrin.
FLOW – POZNAN NODE
Curated by Prof. Joanna Hoffmann-Dietrich, assisted by Piotr Słomczewski
Poznan, Poland

Poznan Node comprised several activities and events under the common title ‘FLOW.’
‘FLOW 1’ took place March 13–14 at the Collegium Biologicum, Faculty of Biology, Adam Mickiewicz University (AMU), Poznan. It embraced the third Young Scientists Conference, an art exhibition and the art-education workshop ‘States of Water.’
‘FLOW 2’ took place March 17–22 at the University of Arts in Poznan (UAP) and in collaborating galleries. It embraced art exhibitions and events ‘Game’s Rules,’ ‘Video-Lounge’ & ‘microBubble,’ a prototype of a water garden in microgravity, as well as the POSTWATER Art Competition.

Fig.1 Venue map.

FLOW 1
Venue: Adam Mickiewicz University (AMU), Faculty of Biology, Collegium Biologicum

Fig.2 Adam Mickiewicz University, Faculty of Biology, Collegium Biologicum
World Water Day in Poznan – Third Young Scientists Conference at Adam Mickiewicz University – Report
Michał Rybak, Joanna Rosinska
Department of Water Protection, Faculty of Biology, AMU, Poznan, Poland

On March 13th and 14th 2014, students and PhD students from the Department of Water Protection and Department of Hydrobiology, Faculty of Biology, AMU, organized the 3rd Young Scientists Conference to celebrate World Water Day (WWD). The honorary patronage of the event was received from the National Water Management Authority, President of the city of Poznan, the Rector of AMU and the Dean of The Faculty of Biology, AMU.

The conference was organised by and for young adepts of science: students, PhD candidates, and doctoral fellows. The main reason for preparing the event was to celebrate WWD. Almost 130 people from 18 universities and research centers from all over Poland participated in this event. The conference created a vibrant space for fruitful discussions between biologists, chemists, geographers, and technologists. It was a great opportunity to talk about water and its various aspects—biotic and abiotic. During the conference it was possible to participate in almost 30 presentations and view more than 70 posters from various fields like: molecular research, toxicity and medicines in water and sediments and their impact on organisms, new methods to purify water and their effectiveness, the effect of land occupation to water quality and, obviously, on aquatic organisms.
The areas of discussion were very wide: from small creatures like phytoplankton and zooplankton, through benthic communities, plants and animals to complex ecosystems. The field of research was broad from small water bodies, through rivers and lakes, to sea.

The conference was opened by the Dean of the Faculty of Biology—professor Bogdan Jackowiak. Then Professor Joanna Hoffmann-Dietrich from AMU informed the audience about the special installations prepared by students from the Studio for Transdisciplinary Projects and Research. She also invited everyone to the artistic workshops prepared by the students from the Studio of Creative and Education Projects. Then we listened to a plenary session about the problems of the Baltic Sea nature conservation presented by professor Krzysztof Skóra—manager of Hel Marine Station. He shared a lot of new information about the Baltic Sea, talked over trophic status as well as other issues, like the devastation of the coast, and pointed to the most common issues in management. He presented plans and new methodology for the protection of this unique area of Poland.

A collaboration with the UAP resulted in the project entitled ‘FLOW.’ It was a combination of conference presentations and the exhibition of a series of art works on the aquatic environment. The entire project was placed on the Waterwheel platform. The ‘FLOW’ project became the Poznan Node of the Waterwheel World Water Day Symposium (3WDS14). An art installation related to water (visual and sound) was set up in the conference space and short films were shown during the conference breaks.

It was an intensive first day, in which we learnt a lot about toxicity and methods of improving water quality. There were many examples of the influence of various factors on organisms and their reaction to them. After interesting discussions something special was prepared for young scientists. A group of
students from the UAP prepared a very challenging workshop for conference participants to stimulate networking. The participants were provided with very simple tools: paper, pencils, scissors and tape to present four states of water: solid, liquid, gas and plasma. At the beginning it was a little difficult to think in a creative way, but after a few minutes everyone came up with something special. It was fascinating to see how people think in different ways about the same thing. After that everybody was in a good mood, providing the opportunity for new acquaintances to form during the integration meeting.

On the second day we continued the discussions about water, focusing mostly on the impact of different factors on water ecosystems and also organisms which live there. The conference ended with the sharing of the results of the contest for the best presentation and the best poster. Winners were awarded with books and tourist equipment.

To sum up, the conference attracted a lot of interest among academics. This kind of conference is a great opportunity for young scientists (who are starting their career) to develop knowledge; to meet people with similar interests; to practice public speaking; to learn thinking and asking; to become more open and finally to get some inspiration. The main aim of this event was to create possibilities and opportunities for young scientists to share their knowledge. It is also a way to engage with people who are not normally interested in water and to gain their attention.

All information and details, the book with abstract of posters and presentations, and the photos from the event are available on the website (see links below).

**Artistic Workshop ‘States of Water’ for the Third Young Scientists Conference**

**Dr Magdalena Parnasow-Kujawa**

Leader of the Studio of Creative and Education Projects, Faculty of Artistic Education, UAP

On the 13th of March, during the 3rd Young Scientists Conference at the Faculty of Biology, AMU, students from the Studio of Creative and Education Projects (SCEP), UAP, prepared an artistic workshop with the aim of stimulating engagement between participants of the conference.

Creative workshops are designed to break conventions and stereotypes. They allow participants to engage in spontaneous creative actions and encourage them to express their personal opinions and ideas. During preparation, both participants (the target group) and the specific location (with its restrictions) of the workshop had to be taken into consideration. Each workshop was characterised by multilayer interactions, both between leaders of the workshop and participants, and among the participants themselves. The process of finding a solution to the problem, specified by a task, is far more important than the material results of the workshop, though the results testify to participants engagement and collaboration.

![Artistic workshop ‘States of Water’ with participants of the third Young Scientists Conference.](image)
At the 3rd Conference for Young Scientists, organized on the occasion of the WWD, one hundred participants enrolled for the workshop. They came from various fields of science and regions of Poland but their scientific research focused on issues of water. The conditions for the artistic workshop were quite hard: all participants were seated in an auditorium with very limited mobility (chair + folding table). It was already a challenge to create a relaxed, spontaneous atmosphere in order to bridge artistic and scientific worlds.

The participants were divided into small groups, with eight scientists and one SCEP student as a project leader in each group. Tools and materials provided were very simple: paper and scissors.

The first task of the workshop was to express states of water. Hmm, they turned out to be not so obvious... The degree of complexity increased with the next step: the participants were asked to design a machine for washing a puddle of water. The third part of the workshop focused on presenting the overcritical state of water. At the end, group leaders presented their group's output to all participants. Then the material outcome of the workshop was displayed in the foyer of the Collegium Biologicum.

The workshop was a lot of fun and brought satisfaction. It provided a platform for interactions between young people coming from various backgrounds, which stimulated creative thinking and openness. The initiated process of integration was continued during the evening party. The workshop was equally important for both participants (scientists) and project leaders (UAP students).

The concept of the workshop was developed by Mateusz Petrowski. It was made possible due to the cooperation of Zuzanna Bartczak, Aleksandra Grzegorek, Karina Konieczna, Natalia Kolacz, Aleksandra Jarankiewicz, Daria Grajek, Martyna Podryban, Karolina Janikowska, Joanna Grochulska, Radosław Bryk and Monika Troczyńska.

The project ‘FLOW’ for WWD was an initiative of the Studio for Transdisciplinary Projects & Research, the Department of Art Education of UAP. A series of artistic events was organized under the common name ‘FLOW’ alongside the conference prepared by the Faculty of Biology of AMU.

‘FLOW’ consisted of three main events: an art competition and exhibition called ‘POSTWATER,’ another exhibition entitled ‘The Game’s Rules’ and ‘The Water Stream – video lounge.’ ‘FLOW’ was the...
first big cultural and scientific event organised in Poznan devoted to local as well as global issues of water. What's more, it was truly interdisciplinary and combined both scientific and cultural perspectives.

![Image](image.jpg)

Fig.9 & 10  Artworks part of FLOW – World Water Day Art Exhibitions.

The first aim of the artistic events was to stimulate creative thinking in relation to environmental issues, among students and graduates of the UAP. The events were designed to increase the environmental awareness of the young generation, and were mainly addressed to university and secondary school students. This social group is especially important because they are making life-long decisions about their further education and future career planning. Special curatorial tours were organised for students, pupils and teachers from different schools in Poznan. However exhibitions were open to the wide public so that Poznan residents could join the global celebration of WWD 2014.

Exhibitions were placed at galleries belonging to the University, as well as outside university structures. Kontrapunkt Gallery for Contemporary Art, the main venue of the POSTWATER exhibition, collaborated from the beginning with the Studio for Transdisciplinary Projects & Research; it is located at the very heart of the city, close to the Old Market Square. The aim of FLOW was to draw attention to burning ecological issues by using artistic means of expression and by creating an interdisciplinary platform to enable the exchange of knowledge and experience between artistic and scientific milieus. A special art exhibition and workshop were organised at the Faculty of Biology AMU during the third Conference for Young Scientists on the occasion of WWD 2014.
Exhibition: The Game’s Rules

The exhibition entitled ‘The Game’s Rules’ emphasized the importance of global ecological reports on water related risks that escape our mind in the everyday rush. A video, ‘The Game’s Rules’ by Katarzyna Hoffmann, was the central part of the exhibition. The artist herself plays the main role in the film as a TV speaker presenting the forecast of the global water risks. The artist’s speech is muted, which makes the warning incomprehensible to the viewer. The well-designed style of the presentation attracts viewers’ attention. ‘The Game’s Rules’ is a critical voice in the face of the widespread contemporary ignorance to ecological messages and news. The atmosphere of helplessness was enhanced by accompanying screens with a recorded tropical cyclone. As a universal warning, the exhibition, ‘The Game’s Rules,’ led to an uneasy conclusion, that nature does not like to be ignored and demands our attention.

Art competition and exhibition: POSTWATER

The focus of ‘FLOW’ was the art competition, followed by the exhibition of the awarded pieces entitled ‘POSTWATER.’ The call for art works concerning the future of water was announced in January 2014. It was addressed to students and graduates of the UAP. Any medium was accepted and each applicant could submit up to three works. The choice was not easy. The selected applicants were then invited for the exhibition. The competition was organized under the patronage of the Rector of UAP Prof. Marcin Berdyszak. The opening of the ‘POSTWATER’ exhibition took place on March 18, in the main building.
All participants were awarded with a certificate signed by the Rector of UAP. Among the distinguished works were: a video entitled ‘70–75%’ by Bartczak Zuzanna; collages entitled ‘It started,’ by Anna Cywinska; a photographic series called ‘Dead Vistula,’ by Mateusz Kiszka; a video called ‘Water,’ by Ewa Kożłowska; an art object entitled ‘Fairy,’ by Daria Kruszka and Masashi Suzuki; a video series called ‘The most beautiful moments are those of our failures,’ by Piotr Lis; a video installation called ‘There will be no other end to this world,’ by Paulina Olejniczak; art objects entitled ‘Life Experiment,’ by Magdalena Michalsczak, a video-performance called ‘Gesture,’ by Justyna Olszewska, a photographic series called ‘C.P.’ and the project ‘Towards the Sea,’ by Marta Normington; a project entitled ‘Memory of Water,’ by Piotr Smolczewski; a project ‘My water, my life,’ by Paulina Anna Stefaniak; a performance called ‘Disgust and purification,’ by Marta Sułkowska; a photographic series called ‘Night,’ by Tomasz Suszczyński; ‘Concord’ by Marta Taras, a sound installation called ‘Everyday Fountain,’ by Marc Tobias Winterhagen and Monika Jolanta Kurmin-Winterhagen; a video installation called ‘Waterfall 2.0,’ by Marc Tobias Winterhagen; a video entitled ‘Prayer’ by Kinga Zawal-Adamas; and last but not least an installation entitled ‘State of matter’ by the Artistic Group “Zbiór Pusty”: Wiktoria Bukowy, Maciej Stachowiak, and Paweł Blecki.

The Jury of the competition consisted of representatives from artistic as well as scientific milieus. The artistic milieu was represented by the Rector of UAP Prof. Dr hab. Marcin Berdyszak; the Dean of the Faculty of Art Education, Prof. Dr hab. Joanna Imielska; Dr. Ewa Wojtowicz, Dr. Thomasz Wilmanski and Agnieszka Sowisło, the director of Kontrapunkt Gallery for Contemporary Art. The scientific milieu was represented by: the Vice-Dean of the Faculty of Biology AMU, Prof. Dr hab. Przemysław Wojtaszek; Prof. Dr hab. Zofia Szweykowska-Kulinska; Prof. Dr hab. Artur Jarmolowski; and Ms Michal Rybak, Chairman of the Organizing Committee of the Third Conference for Young Scientists on WWD.

The Grand Prix of the POSTWATER competition went to Justyna Olszewska for the video-performance entitled ‘Gesture’ (fig. 13 & 14). The piece refers directly to the gesture of respect and gratitude typical of Eastern cultures, but also present in other cultures all around the world. The video-performance was appreciated not only because of its intimacy and subtle means of expression, but also for bringing to the fore so vital a topic in our times, that is the show of respect towards water and the environment.

One of the jury members justified his choice in the following way: “The piece of art titled ‘Gesture’ by Justyna Olszewska convinced me by its consistency of thought and artistic concept. For me, ‘Gesture’ is the most accurate answer to the given subject. It is a summary of the entire exhibition. The video-performance by Justyna Olszewska can be interpreted either as the introduction or the epilogue of the message, which stands behind the project. On one hand ‘Gesture’ is a very intimate image of a personal tribute paid to nature as the source of all things; on the other hand it carries a universal
message. The severity of the scenery shown in the video enhances the feeling of the original contact with nature. It may be a small gesture but it grows rapidly in terms of the deep meaning hidden in it.”

Fig.14 ‘Gesture,’ video by Justyna Olszewska, receiving the Grand Prix.

A selection of pieces of art awarded in the POSTWATER art competition.

Among the art works presented at the POSTWATER exhibition there were examples of art derived from intimate as well as universal experiences associated with water.

The artistic group Zbiór Pusty: Wiktoria Bukowy, Maciej Stachowiak, and Paweł Blecki, made an art installation entitled ‘State of Matter’ in the Rotunda Gallery at the main building of the UAP. According to the artists’ statement, the inspiration for the installation came from the tradition of Japanese gardens: “Drawing from their symbolism, we tried to create a story about the search for harmony, for a balance as a very ephemeral state of liquid and seemingly insignificant relationships and connections. Just like in a Japanese garden, water is an essential element introducing life and movement. Objects and symbols used in our installation refer to water as a life-giving force and a connecting element of reality” (fig. 15 & 16).

Fig.15 ‘State of Matter,’ installation by Artistic Group Zbiór Pusty.
Another artwork awarded in the final POSTWATER exhibition is a series of photo-collages by Anna Cywinska entitled ‘It started’ (fig. 17). The series is an interesting and strong voice in the face of risks associated with the melting of glaciers: being the largest reservoir of fresh water, and the second largest reservoir—after oceans—of water on the Earth.

The feeling of insecurity, anxiety and fear, of an approaching danger, unspecified yet inevitable, lurks in these photographs. The unnamed and unknown slowly comes in our direction, taking more and more space. It slides into every nook and cranny. It’s getting closer...

‘Dead Vistula’ by Mateusz Kiszka is a set of documentary photographs dedicated to a branch of the Vistula, the “Queen of Polish rivers.” This branch, named Dead Vistula, is a 24 km long canal dug between 1890 and 1895 in the mouth of the main river around Swibno. It replaced a natural branch spontaneously created after the flood in 1840. Today, there is no flow in the Dead Vistula River. Kiszka says about his project: “The aim of my work was to travel along the entire Dead Vistula River from the diversion dam to the estuary to the Baltic Sea and to register silent witnesses of the passing history. I photographed “dying out” fishing villages, wrecks of British ships used to supply food after WWII, the ruined Gdansk Shipyard, a dyke built by Dutch settlers in the XVII century, and Westerplatte. I made the photos because of my need to ‘save’ the landscape that is disappearing forever” (fig. 18). The photos were taken January–April 2012 (large format 4x5 camera on Kodak negatives. Nevertheless, the author of ‘Dead Vistula’ wants to continue his project and to publish it as a photographic album.
A series of photographs by Marta Taras entitled ‘Allotments: Concord’ is another documentary work awarded in POSTWATER. The project consists of a series of photographs taken in ruined allotments in Ruda Slaska (Silesia Region) (fig. 19).

The author has been working on this project for two years. During this period she documented selected summer houses in different seasons. In effect, one can see how they change and deteriorate. Some of them completely sink in the water. The area was damaged and collapsed due to mining activities. Then the nearby lake flooded the gardens.

Another work featured in the competition is an animation by Ewa Kozlowska entitled simply ‘Water’ (Fig. 20). It bridges micro and macro scales to introduce different perspectives of looking into the future of water. The author treats water as an essential element for all living organisms, connecting everything, which exists on our planet. The molecules of water shown in the animation move around their own axis, while they follow a trajectory modelled after the conformation of the DNA chain. The accompanying soundtrack is a compilation of several sounds, including taking a shower (referring to the mindless waste of water), cars speeding on the highway in the rain (standing for the pollution caused by human activities) and Tibetan meditation (which is associated with respect for the earth and its living beings).

In the animation by Ewa Kozlowska we only see a short fragment of a history: a segment of DNA that replicates itself indefinitely, as an error of the neglect and disregard for natural resources.
A different interpretation of the water cycle is shown in the piece entitled ‘Everyday Fountain’ by Marc Tobias Winterhagen and his wife Monika Jolanta Kurmin-Winterhagen. ‘Everyday Fountain’ consists of several melodies and musical scores based on recordings of them urinating. The artists decided to present to the audience a natural, physiological and intimate act of urination. They wrote: “Peeing is part of our everyday life, but it became, during sanitary development, a subject of cultural taboo. Only in a public toilet, can we hear how others urinate. In ‘Everyday Fountain’ we present the sound of a urinating man and woman. The sound of the fountain is partially clear, partly obscure, as camouflage. We understand the urine as part of a body message that may change and may be changed. We create various sounds, depending on how we feel, how we live, how we eat and how we drink. By nature, you can always look away from images, it is harder however to stop hearing sounds.” The artistic audio-camouflage, ‘Everyday Fountain,’ was presented by the curators twice. It was shown in the open space of the main building of the UAP during the inauguration of ‘FLOW,’ as well as in the foyer of the Collegium Biologicum, AMU, during the Third Conference of Young Scientists.

Marc Tobias Winterhagen presented yet another interpretation of the water cycle in ‘Waterfall 2.0’ (Fig. 21). The video installation gives the impression of a real waterfall. In fact, whilst the audio is composed of the recorded sound of a waterfall, the image is an animation of digitalised white noise.

An entirely different aspect of water was looked at by Piotr Slomczewski. His ‘Memory of Water’ consists of laboratory items, samples of water, photographs and a video. It refers to the increasingly popular studies on the structure of water. According to some theories followed by experimental research, hydroxide molecules form clusters which preserve information on the molecular level. Thus
one can speak about the memory of water. Taking samples of water from the four largest Poznan natural bathing areas, the artist aims to preserve the unique structure of water in these lakes. Isolated water samples keep the information about the degree of purity, the amount of sunlight and the temperature on a particular day and at a particular time. This symbolic gesture is gaining particular importance in the face of a constant decline in the level of water quality. ‘The memory of water’ is only a fragment of the artist’s growing collection of water samples taken from sites threatened by environmental degradation.

Fig.22 ‘Memory of Water’ by Piotr Slomczewski.

Another archive has been created by Anna Stefaniak. Her project entitled ‘My Water My Life’ is a kind of a personal diary. Stefaniak has been collecting samples of water from various places connected with her life: her parent’s home, a student house, places she stayed in or visited, as well as institutions like different schools or the university. There is a special blog devoted to this archive where one can find pieces of information, photographs and videos connected with these probes [1].

Fig.23 ‘My Water My Life’ by Anna Stefaniak.

‘Towards the Sea,’ by Marta Normington, is a drawing made with a pencil and golden thread on a scroll of rice paper (dimensions: 79x900cm). It is a form of meditation and an imaginary journey. The artist explains: “It’s my way to the sea through the almost 600 km long water system composed of interconnected rivers and streams. The beginning of this visual journey starts at the head of a little stream called ‘Rosica’ that flows near my family home in the Mazowsze region of Poland. It subsequently follows the current of three rivers, that interconnected, lead to the mouth of the Vistula.
River. This is a journey of the water current from the spring near my family home to its end in the Baltic Sea.” The project has a strong personal resonance and serves as metaphor for a human life, not only as a linear trajectory but as a system of interconnections. The direct inspiration for the project came from recent scientific prognoses for water resources in Europe, especially by the one which states that Poland is going to be one of the first European countries affected by future water scarcity. Currently it is a fact that Poland’s water reserves are similar to those of Egypt. Yet every village and town in Poland has access to either a river, stream or other water source. Looking at the geographic map of Poland and the rich natural water system, it is difficult to imagine that it can drastically change in the near future. However, reality has proven that it is possible. The Aral Sea in Kazakhstan, formerly one of the four biggest lakes in the world, has almost completely disappeared in the span of merely 50 years due to ill-conceived irrigation projects.

Fig.24 ‘Towards the Sea’ & ‘C.P.’ by Marta Normington.

Another work by Marta Normington, featured in the competition, is a photographic series under the intriguing title ‘C.P.’ It is composed of 8 photographs of clouds composed in circles. Taken in different light conditions, they form a collection of personal cloud-planets, both strange and familiar at the same time.

Two artistic experiments run by Paulina Olejniczak, entitled ‘Experiment: life’ talk about other aspects of water and human connections with nature (Fig. 25). In the first experiment, the artist watered a cress seed with her tears. Tears consist mainly of water, salt and proteins including antibacterial enzymes. Apart from their chemical composition, a teardrop carries strong symbolic meanings. It is a metaphor for sorrow, regret and negative emotions. Olejniczak decided to grow a seed, a symbol of life, with her tears. The artist commented: “I didn’t know if the experiment will be successful, or my tears will kill the seedling before it even shows up. The experiment became a daily ritual, somehow purifying. Despite my efforts the seed went dark and dry. For me, this work is about a particular bond between man and nature. It metaphorically confirms that grief cannot be a breeding ground for new life…”

In the second experiment, Olejniczak also used a cress seed, but this time she tried to grow it in another bodily fluid—drops of her blood. Here, the situation was quite different and became more “successful,” because the seed was given the same nutrition as the artist’s body. Through this piece, the artist recalls the rich symbolic Christian iconography, in which a pelican is depicted as nursing its chicks with its blood.
An entirely different way of referring to the old knowledge concealed in myths and cultural parables can be found in the work by Daria Kruszka created in collaboration with Masashi Suzuki and entitled ‘Fairy’ (Fig. 26). This work consists of three clay vessels and a fragile figure of a fairy formed in the process of salt crystallisation. In old Slavic beliefs, one can find magical water-nymphs and fairies which can be dangerous for humans. Kruszka based her artistic project on scientific theories presented by Scottish anthropologist James G. Frazer in his famous book *The Golden Bough* as well as on the rule of similarity in homeopathic magic. Kruszka enclosed her salty doll in a tripled clay enclosure. In this way, the fairy is no longer in the waters (rivers and lakes) of the Poznan region. From this moment she is powerless and all her evil forces are locked in clay vessels.

It is also worth mentioning a video installation by Magdalena Michalszczak entitled ‘There will be no other end to this world’ (Fig. 27). It is built around the search for a way to represent absence by means of a photographic or recorded image. The series of videos composed in a row introduces the atmosphere of a steadily increasing anxiety. Grey, almost static, images foreshadow some inevitable catastrophe. It is happening here and now...at any time, inscribed within the natural cycle of life and death. Life is interpreted here as the presence which disappears day by day.
Water stream – video lounge

A special video program was put together as part of ‘FLOW.’ It consisted of two parts: one was related to POSTWATER and presented selected video-works appearing in the competition. In a comfortable environment, the public could immerse themselves in video-pieces by Piotr Lis from the series ‘The most beautiful moments are those of our failures’ (Fig. 28), or ‘Prayer’ by Kinga Zawal-Adamas (Fig. 29 left) or follow Marta Sukowska in her video-performances from the project ‘Disgust and purification’ (Fig. 29 right).

Another program consisted of video-works by students of the Studio for Transdisciplinary Projects and Research of UAP under the common subject: ‘At the Desert of Stars: Water (My) drop of the universe.’ The project was inspired by recent discoveries of water forms in the universe, which prove to be crucial not only for our extra-terrestrial ambitions but also for the knowledge of our planet and ourselves.

The works included: ‘Whirlpool’ by Jonasz Sliwinski (Fig. 30 left), ‘SHE’ by Katarzyna Hoffmann, ‘Water-pool’ by Radosław Bryk (Fig. 30 right), ‘Always together’ by Bartosz Buszkiewicz and ‘Extraordinary movie’ by Paulina Brelinska. The art works were created as a response to this theme and presented at the video lounge program.
A curatorial summary of ‘FLOW’ Art Exhibitions

The ambitions of the curators of the ‘FLOW’ art exhibitions were based on their desire to present to a wide audience a spectrum of cultural, scientific, social and environmental issues connected with water and its future. Exhibitions and art events organised in the frame of FLOW showed a number of artistic strategies in which water appeared as a fundamental condition of life, a rich source of cultural metaphors, especially connected with the rituals of purification and healing, as well as an important element of our identity. The reflections about the future of water were mostly accompanied by anxiety and fear.

‘FLOW’ embraced several art works in different spaces. The installation ‘The Game’s Rules’ was an introduction to all of them. In the centre of the main building of the university a film by Katarzyna Hoffmann, of the same title, was projected directly onto the wall. It functioned as the compositional axis of all the works in the exhibition. In this film, Katarzyna Hoffmann plays the role of a “master of secrets” or a “forecaster.” However the monochromatic film, made with laboratory-like aesthetics, is mute. The artist purposely makes it difficult for the public to understand her announcements. The feeling of embarrassment and suspense is the first entry into the game. One has to forget existing habits of the mind and schemes of behaviour. The message deriving from ‘The Game’s Rules’ was intriguing, and encouraged the viewer to focus and to search for answers among the works presented in the exhibition.
While designing the events, curators were inspired by games, lateral puzzles and detective stories in conjunction with scientific research and discoveries. Wandering around the ‘FLOW’ art works or watching films, including ‘Water stream – video lounge,’ the viewer was caught in the role of a player resolving some peculiar puzzle. Participants of this multi-disciplinary game were introduced to the selected art works in the competition and interpreted by curators as traces, tracks and clues. They were leading towards the most important issues connected with water as well as to artistic and scientific interpretations and challenges. The viewers had to find their own individual ways to approach and connect the presented artistic objects, films and photographs. They could also attend a curatorial tour and join the panel of awarded artists organised during the final stages of the event in the New Intermedia Gallery.

The aim of the particular design of the ‘FLOW’ exhibition was to encourage the public to ask questions, to stop and reflect on local as well as global issues, which are often ignored in the everyday rush. The strategy of storytelling and gamification was chosen by the curators in order to strengthen the educational impact of the project and to foster a common imagination in the context of vital ecological issues.

‘microBubble’ as a prototype of a water garden in microgravity
Project for the International Space Station – Art/Science/Education [2]
Studio for Transdisciplinary Projects & Research, UAP, in collaboration with the Institute of Hydrobiology, Faculty of Biology, AMU, Poland.
The base of ‘microBubble’ (Fig. 33–35) is a self-sustainable micro-ecosystem based on phytoplankton and daphnia culture. The project embraces three environments:
– Terrestrial habitat
– Extra-terrestrial habitat (for the ISS)
– Virtual habitat—Internet communication platform

In the face of decreasing potable water, desertification, environmental collapse and climate changes—the subject of water has become one of the most important topics of human concern. The project underlines the need for the restoration of cultural respect towards water as the fundamental environment both for life on Earth/our life and for our civilization. By using artistic strategies it supports local and global efforts toward the maintenance and improvement of the quality of life, as well as the visions concerning its future. The project is interdisciplinary and brings together many aspects: cultural, ecological, scientific, social, educational and political.

The project background

Not long ago, we were convinced that our watery planet was one of a kind in the lifeless, indifferent Universe. This belief has irrevocably passed and the breakthroughs in research for water in the universe opened a new chapter in human endeavours towards future utilisation and habitation of the cosmic space. ‘microBubble’ can benefit scientific research on physical and biological processes in microgravity or on new materials and communication technology. However, space activities and the technology that supports their progress, do not concern only a faraway reality but contribute to the present and near future life of our global society in steady alteration.

The project was born as an answer to the state of ecological emergency of our natural environment due to the increase of pollution and the lack of effective local and global environmental management. This situation is caused not only by political and economic factors but also because of the lack of wider knowledge and awareness of consequences of our activities. The endangering of the Baltic Sea can serve as our local example; after WWII it became a depository of tons of chemical weapons. The leakage of only six percent of the whole content of the corroded barrels will cause the extinction of all marine life for the next 100 years.

The pollution of fresh water caused by industry, agriculture as well as daily use of chemicals in our households have been negatively affecting the quality of life. More and more we are aware that the environment we live in and we are part of, is a dynamic complex system based on interrelations, and water plays a fundamental role in it. We hope that ‘microBubble’ will contribute to public reflection and debate.
‘microBubble’

The premise of our project is the creation of a stable self-sufficient ecosystem, which could survive in artificial or laboratory conditions. We chose plankton as the hero of our art project because of its role in biogenesis and its sustainability. It was 2.5 billion years ago when cyanobacteria appeared and changed the atmosphere of the Earth, stimulating the process of evolution. Phytoplankton, feeding on solar energy, is the agent for “primary production,” the base of the marine food chain and produces over half of atmospheric oxygen. Whereas daphnias control the development of algae and, as filtrates, contribute strongly to the natural self-cleaning of water reservoirs. Daphnias also possess extraordinary adaptive abilities, which influence their reproduction as well as enable them to produce “survivable eggs.” Thus they can become valuable participants in our extra-terrestrial affairs.

Fig.34  ‘microBubble,’ exhibition view.

The plankton for our ‘microBubble’ comes from the ponds created by the collapse of Morasko Meteorite that happened 5000 years ago. Morasko Reservoir is located on the outskirts of Poznan, close to the AMU Campus and The Faculty of Biology. The location underlines the cosmic aspect of the project. The origin of water on Earth as well as the origin of life is still a subject of scientific debate. We know however that a big part of water on our planet came from Space and that the liquid water is not only the basic condition of life, as we know it, but also the product of life, establishing close relations between the micro and macro scales of our habitat.

Our watery ‘microBubble’ refers to the rich history of “garden” as a cultural dialogue with nature. From The Garden of Eden, garden-labyrinths, home-gardens and botanical gardens, to gardens in Space, gardens perform various functions: mythical, aesthetic, educational and scientific. They bridge deep human desires and longings with the spirit of innovation. As an artwork, ‘microBubble’ is a carrier of various metaphors and meanings.

One has also to remember that together with the development of outer space missions, research on the psychology as well as support for astronauts in their everyday life in extreme conditions away from the Earth and after their return from their missions has become important. ‘MicroBubble’ on the International Space Station, as a vivid artwork, can play a role as an emotional bond between an astronaut and his/her earthly habitat.

‘MicroBubble’ is inscribed in the objectives of the mission of the International Space Station. Space explorations have been based on military, political and economic rivalry. The launch of International Space station was accompanied by the human dream of inhabiting Space beyond national and ideological divisions and by the wish to serve the future of humanity. The project plays an important role in educational processes. It has inspired lots of creative actions, workshops and interdisciplinary collaborations (see our website).
Fig. 35 ‘microBubble,’ exhibition view (detail).

MAIN COORDINATORS
UNIVERSITY OF ARTS IN POZNAN

Studio for Transdisciplinary Projects and Research
Leader: Prof UAP Dr hab. Joanna Hoffmann-Dietrich
Assistant: Piotr Slomczewski
Curators: Katarzyna Kucharska, Katarzyna Hoffmann
Workshop: Dr Magdalena Parnasow-Kujawa

ADAM MICKIEWICZ UNIVERSITY IN POZNAN

Faculty of Biology
Conference Chair: Michal Rybak

Honorary Patronage: Rector of the University of Arts in Poznan; Dean of Faculty of Art Education, UAP; Rector of the Adam Mickiewicz University in Poznan; Dean of the Faculty of Biology, AMU

BIOGRAPHIES

Prof UAP, Dr hab. Joanna Hoffmann-Dietrich is an artist, researcher and educator. Leader of the Studio for Transdisciplinary Projects & Research, FAE/University of Arts in Poznan, PL. Founder/Leader of the Art & Science Node in Berlin, DE. Author of many solo exhibitions and participant of numerous group exhibitions & festivals e.g. Center for Contemporary Arts in Warsaw, Science Museum/DANA Centre in London; Transmediale Festival in Berlin; WRO Media Art Biennale in Wroclaw; MUSE Centre of Photography and the Moving Image in New York, BioQuant Centre /DKFZ Heidelberg. International symposia include ISEA International Symposia on Electronic Arts in Sydney/Istambul/Singapore; “Mutamorphisis” CIANT in Prague, CZ; “Towards the Third Culture III” in Gdansk, PL.

MA Piotr Slomczewski is an artist, synaesthete and educator. Assistant at the Studio for Transdisciplinary Projects & Research, FAE/ University of Arts in Poznan, PL. He graduated with honours from the University of Arts in Poznan in 2013. He is currently developing a new, friendly and universal formula test for different types of synesthesias detection. He works in various artistic areas: sculpture, drawing, painting, sound art, video, multimedia environment, bio-art, and
performances. In his works he often uses laboratory equipment, as well as programmed electronic circuits and interactive applications made by himself. He also organizes and runs artistic workshops for children and parents.

Michał Rybak is a PhD student in Department of Water Protection in Faculty of Biology at Adam Mickiewicz University. He graduated in Hydrobiology and Water Protection studies at the same University. Generally he is interested in the functioning of lake ecosystems, especially in the penetration of photosynthetic active radiation through water blooms. He has been member of the organizing committee of the Young Scientists Conference World Water Day since 2011 and the Chairman of this year's conference.

Dr Magdalena Parnasow-Kujawa is an artist, educator, and leader of the Studio of Creative Workshops, Faculty of Art Education, University of Arts in Poznan.

Katarzyna Kucharska is an MA student of curatorial studies at the Department of Art Education, University of Arts in Poznan.

Katarzyna Hoffmann is an MA student of curatorial studies at the Department of Art Education, University of Arts in Poznan.

Agnieszka Sowisło is Director of the Kontrapunkt Gallery for Contemporary Art.

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Promotional video of the project
http://water-wheel.net/media_items/view/4725
Screen recordings of the Tap presentations excerpts:
http://water-wheel.net/media_items/view/4925
"The strategies of Plicosepalus acaciae to get free water in the desert environment"

The desert plants develop several strategies to resist drought in arid regions such as Saudi Arabia. We can cite the succulence, the spinescence, the compartmentalization, the short life cycle, the dieback, the diversity of plant growth forms and seed dormancy processes. Among the plants living in the desert region of Al Ula, Plicosepalus acaciae implements exceptional strategies to get free water. Indeed, this shrub is an aerial hemiparasite living over acacia twigs and absorbing water from its host tissues. Different strategies such as the fruit properties, the haustoria, the connection interface with the tissues of the host, the succulence of the leaves are highlighted. This study enriches the knowledge about this fascinating species regarding the compatibility between the tissues of different individuals of different species, the conservation and the management of water. It can also be used as an indicator of the availability of water and the physiological state of the host.

**Presenter**

Naoufel Souayah, PhD, Tunisian Assistant Professor in plant biology and environment. Since 2009 I have worked at the Faculty of Science and Arts of Al Ula at Taibah University (Saudi Arabia). My research focuses on the behavior, the propagation and the environment of plants. Previously I have worked in the University of Gabes and the University of Al Manar-Tunis and at the Institute of Research on Rural Engineering, Water and Forestry (Tunisia). I have tutored several masters and PhDs dealing with halophytes, medicinal and aromatic plants, forest trees and urban trees. I have been a consultant of medicinal and aromatic plants for the Agriculture Ministry. I am an expert of the National Gene Bank of Tunisia. I am the north African expert of taxonomy at the NAFRINET organization. I am a researcher of hemi-parasites behavior.

Department of Biology, Al Ula Campus, Taibah University, Saudi Arabia

**Links**

http://www.taibahu.edu.sa/?ln=en

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4946
The strategies of *Plicosepalus acaciae* (Loranthaceae) to get free water in the desert environment of Saudi Arabia

Naoufel Souayah

Department of Biology- Faculty of Science and Arts- Al Ula
Taibah University- Medinah Mounawara - Saudi Arabia

screen capture of Naoufel Souayah presenting: “The strategies of *Plicosepalus acaciae* to get free water in the desert environment,” from TUNIS node, at ESAD.
Presentation

‘Water Caring For Trout Breeding In Upper Bavaria’

I was introduced to the Institute for Fisheries of the Bavarian State Research Center for Agriculture, which is located in Starnberg on the Starnberg Lake in Upper Bavaria, near Munich. The Institute has three different departments, where they specialize in breeding salmonides a species of trout, and includes a fishing school; it also develops scientific breeding of different species and restores the Bavarian lakes with various specimens of trout. The institute is situated on the Lake amidst fresh water sources that come out of the moraine that forms the northern shore. The fishing school teaches the science of fishery and aquaculture.

The Institute benefits from the so-called ‘Sieben Quellen – Seven Sources.’ These are fresh water sources containing carbonic acid, which means they have to be purified and enriched with oxygen for trout breeding. The optimum water temperature is between 8°–14° Celsius. After being used in the various trout breeding basins, the water is recycled and then released into the brook that passes by the school. Trout are very demanding fish when it comes to habitat, so the water quality has to be excellent.

In this presentation, I collaborated with different sections of the Institute; with Walter Strohmeier, Reinhard Reiter and the students who were at the Institute for exams in March. I prepared the following interview questions, as material for the short film: How do you treat the water and how is it recycled? Why do we need to breed trout for the local lakes and rivers? What does your education focus on?

The film showed the different tasks that the Institute carries out during the breeding of the fish, and as part of the educational and science program of their students.

Presenters

Dr. Reinhard Reiter studied Agricultural Science at the TU Munich and Weihenstephan. He has been Principal of the Department of Trout Breeding and Trout Farming since 1997 and became Deputy Principal of the Bavarian Institute for Agriculture and Fisheries in Starnberg in 2008. His doctorate was on the ‘Growth rate and quality of sea trout (Salvelinus alpines) and river trout (Salvelinus fontinalis) and their hybrids.’ As well as examining the production methods and profitability of trout farming, Dr. Reiter is particularly interested in analysing the product quality of all trout species.

Carlotta Brunetti is an Italian-born, Germany-based artist whose work encourages the viewer to experience nature “with fresh eyes” and to reflect upon the connections between urban and rural perceptions of the natural world. She uses on site materials to make a subtle connection between indoor and outdoor and internal and external experiences. Brunetti believes humans are part of nature. They are present in her work through relics such as trash and footprints, or through culturally related associations. Her site-specific work is also in harmony with the cultural attributes of the region in which it is created.

Links


Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4891
Images of the presentation ‘Water Caring For Trout Breeding In Upper Bavaria’ by Carlotta Brunetti with Dr. Reinhard Reiter.

‘Water Caring’ was a collaborative project involving:
– Bayerischen Landesanstalt für Landwirtschaft Institut für Fischerei (IFI) / Bavarian State Research Center for Agriculture, Institute for Fisheries, and Fischereischule;
– Starnberg/School for Fisheries in Starnberg represented by Dr. Reinhard Reiter, Head of the Department, Arbeitsbereichsleiter;
– Walter Strohmeier, Fischwirtschaftsmeister, Head of Fisheries Science and Aquaculture;
– Samuel Winter, Auszubildender, student-trainee;
– Carlotta Brunetti, Artist.
VISUAL NARRATIVES – OVERVIEW
by James Cunningham

Narratives of design (and communication) permeate even the layout of this session. All three presenters spontaneously positioning their webcams as close as possible to the audience chat, with Peter Hall, as facilitator, at the bottom nearest the audience’s typing field. As each speaker took their turn, the others subtly moved themselves off to the side and reduced the size of their own image, so as to give space to the presenter.

Peter Hall introduces himself as head of a university department that has recently adopted a Design Futures degree largely based on Tony Fry’s philosophy of “repositioning design in a larger environmental and social context, and refusing to make design simply a formal or vocational activity.”

Angela Morelli brings our attention to “the elephant in the room” in the water crisis: the massive amount of water that is used in the production of the food we consume, and points to the research of the Water Footprint Network that supported ‘Virtual Water,’ her design project on the topic. On communication design in general she quotes Nathan Shedroff’s idea of the organisation of information, focusing on two key aspects: organization and storytelling, and in the task of communicating data she proposes reader-driven over author-driven approaches, and what she calls “story-listening.”

We see Uli Westphal watching on and listening intently, almost with a childlike admiration for Angela’s synthesis of design and communication concepts, as well as in the functionality of the Tap interface as he discovers it. He then shows us beautiful images from his ongoing projects ‘Mutatoes’ and ‘Cultivar Series,’ in which he grows and collects rare fruit and vegetables, that display an amazing diversity of shapes, size and colour within a single fruit or veggie type, as well as diversity of species and varieties, all of which are filtered from mainstream commercial food production and sale, for aesthetic, legal, packaging and handling reasons in favour of uniformity and profit-making. Westphal photographs these strangely beautiful “ready-made sculptures from nature” in a glossy commercial style, arranging them by size and colour gradation, forming images that for him might be the viewer’s “starting point of a personal inquiry into the food system.”

The lively discussion that follows between these three design experts centres on the values of diversity and the almost shameful uniformity that governs the food supply chain, and its insidious affect on the taste of consumers. Westphal remains optimistic, though, in his faith in the power of the consumer to change the values governing the market place.
In a 2008 lecture, the French philosopher Bruno Latour issued a significant challenge to visual designers: four hundred years after the invention of perspective drawing, and fifty years after the development of CAD, he said, we are still unable to represent the complexity of the things around us. “So here is the question I wish to raise to designers: where are the visualization tools that allow the contradictory and controversial nature of matters of concern to be represented?” [1]

A juicy discussion earlier this year (2014) between Oslo-based information designer Angela Morelli, Berlin-based artist Uli Westphal and myself (in Brisbane), seemed to address exactly this same issue with some convincing evidence for Latour. The topic was each respective artist’s efforts to reveal the critical information embedded, and concealed, in the food that we consume every day and to do this in an engaging way. Morelli has spent several years looking into visualizing water footprints and the concept, developed by geographer Tony Allan, of “virtual water,” that is the water that we don’t see, but which is used behind the scenes to support our current practices of consumption. The invisible water that goes into food production amounts to 3496 litres per person, per day, a colossal 90 percent of the total used daily (domestic consumption plus industrial production plus food production). Morelli has recognised that simply publishing numbers can just overwhelm rather than inform people, so she has explored interactive means of making visible the invisible litres of water that are poured into the production of the things we consume.

Westphal, on the other hand, has developed visualisations using photography to expose the homogeneity of the fruits and vegetables we consume, and the resulting waste (itself a waste of water). Through intrepid scurrying of produce markets and gene banks for non-uniform fruit and vegetables, Westphal has curated and photographed a dazzling collection of “mutatoatoes” (mutant fruit and vegetables) and rare varieties that invite, rather than, repel contemplation. Through collecting,
photographing and cultivating harvests of diverse species, including curling cucumbers and multi-lobed tomatoes and eggplants, Westphal has gained an informed knowledge of how homogeneity came to rule supreme in the international agricultural trade. He summarizes the reasons as threefold: physical, political and psychological. Simply put, the market for seed production, distribution and sales is controlled by a handful of trans-national corporations, indeed fifty-three percent of the global seed market is controlled by three companies. This has led to a “filtering” of diversity, limited trading to high yielding and robust varieties (F1-hybrids). Because of globalized trade, varieties are promoted that can withstand shipping thousands of miles in uniform containers. While the European Union recently abolished many trade norms for fruits and vegetables, the market, it appears, still clings to these regulatory standards, presumably for economic reasons.

Inevitably, the discussion turned to the topic of how information design can both inform and motivate audiences commonly distanced from such facts. There was talk of the power of narrative and the importance of not assuming a mechanistic model of how people progress from comprehending data as information, gaining knowledge and ultimately wisdom (a model Morelli has adapted from Nathan Shedroff). It would be encouraging to imagine that some well-designed and well-placed visualisations would have a dramatic impact on consumer preferences and shift global agriculture and trading practices, but I suspect that we are dealing with a deeply entrenched, centuries-old problem. As Latour’s remarks imply, our way of visualizing the things around us is deeply entangled with our way of being. It will take some significant shifts to change a twenty-first century mind-set that sees as “normal” the equally-sized, coloured and unblemished apples and tomatoes in our stores and the 15,400 litres of water needed to produce a kilo of beef, as unavoidable. The work, however, begins here, with creative re-imaginings of ways of seeing.

BIOGRAPHY

Peter Hall is a design writer, Senior Lecturer and Design Department Head at Griffith University Queensland College of Art. Before moving to Brisbane, Australia in January 2012, he was Senior Lecturer in Design at the University of Texas at Austin where he taught design theory, history and journalistic methods of research and writing. His research focuses on mapping as a design process. Between 2001 and 2007, he was Senior Editor and Fellow at the University of Minnesota Design Institute, where he co-edited with Jan Abrams the book, ‘Else/Where: Mapping – New Cartographies of Networks and Territories’ and organized several symposia and workshops on mapping. He has been a contributing writer for Metropolis magazine since 2000 and wrote and co-edited the books ‘Tibor Kalman: Perverse Optimist,’ and ‘Sagmeister: Made You Look.’ Since 2006, he has been Vice President and co-organizer of DesignInquiry: a non-profit educational organization devoted to researching design issues at an annual gathering in Vinalhaven, Maine.

Peter Hall’s research focuses on mapping and visualisation in design practice and criticism, with a view to advancing situated perspectives from which to present information. His interest in visual narratives and water stems from his belief that information on the water crisis needs to be made accessible and compelling through design. He is currently on a risk and security visualisation team including the Dutch design group Lust and Royal Holloway University of London researchers assigned to TRESPASS: an EU consortium funded as part of the 7th Framework Programme.
REFERENCES & LINKS


University of Texas at Austin http://www.finearts.utexas.edu/aah/design/faculty/hall.cfm

Else/Where: Mapping – New Cartographies of Networks and Territories
http://www.upress.umn.edu/Books/A/abrams_elsewhere.html

‘Metropolis’ http://www.metropolismag.com

Tibor Kalman: Perverse Optimist  http://amzn.to/1qQhteM

Sagmeister: Made You Look  http://amzn.to/1ySMGRp

Pause: 59 Minutes of Motion Graphics  http://amzn.to/1Go1qZf

‘DesignInquiry’ http://www.designinquiry.net

http://peterahall.com

http://www.angelamorelli.com/water/

http://uliwestphal.de/

Screen recordings of the Tap presentations:
part 1 (from 6’24”) http://water-wheel.net/media_items/view/4956,
part 2 http://water-wheel.net/media_items/view/4957
discussion http://water-wheel.net/media_items/view/4958
MUTATOES

Uli Westphal
Berlin, Germany

As part of the Waterwheel World Water Day Symposium 2014 – ‘Water Views: Caring and Daring,’ I presented two of my long-term projects, Mutatoes and the Cultivar Series. Both are photographic collections of diverse fruits and vegetables. Mutatoes is a collection of photographs of fruits and vegetables that have by chance grown different than required by market regulations and are therefore rejected and discarded in our food system. The Cultivar Series consists of photographs of hundreds of different traditional fruit and vegetable varieties that are today on the brink of extinction. They are no longer grown nor utilized because they don’t fit the requirements of our globalized industrial food system. Both projects are indirectly, but intrinsically, linked to water: Agriculture is the biggest consumer of water. The way we produce and the way we handle food has a major impact on our water consumption. ‘Mutatoes’ addresses the enormous amount of food that is wasted due to purely cosmetic marketing standards. The Cultivar Series is showcasing the incredible diversity of open pollinated, traditional varieties. These, as opposed to modern high-yielding hybrid varieties, can adapt to a broad range of different soil and climate conditions and are much less dependent on external inputs such as irrigation or petrochemical fertilizers and pesticides. This genetic plasticity is crucial for a future in which the climate will change and water will become a scarce resource.

Mutatoes & The Cultivar Series

The complete absence of botanical anomalies in our supermarkets has caused us to regard the consistency of produce there as natural. Produce has become a highly designed, monotonous product. Today we have a clearly defined image of how, for example, an apple or a tomato should look like, and we regard anything that deviates from this norm with mistrust, at times even disgust. Because these “ideals of beauty” have become so established, massive amounts of fruit and vegetables have to be discarded, even though they are perfectly edible. Only those that are visually flawless can reach the market.

But it is not only the natural occurrence of morphological irregularities in the growth of single plants that is being suppressed and filtered out by our food system. Even though there are literally thousands of varieties of any domesticated fruit or vegetable, only a tiny fraction is being grown and distributed today.

Since the dawn of agriculture we have shaped and transformed a broad number of organisms towards our needs, while at the same time promoting their survival and geographic range. Through breeding and artificial selection we have developed a seemingly infinite diversity of shapes, colours, flavours and other properties from the wild ancestors of today’s domesticated plants. However, since the industrialization of agriculture, particularly since the “green revolution” of the 1960s, our focus has shifted to only a few modern, high yielding, robust, “good looking,” uniform and predictable varieties. This change has led to the displacement of traditional crop varieties. A vast majority of all varieties developed by humans have already become extinct during the last
With them we not only lose genetic diversity, but also a living cultural and culinary heritage. Without commercial utilization, the remaining varieties may only survive in seed vaults, through the work of dedicated farmers or in our own backyards and gardens. Yet, the genetic plasticity and adaptability of these plants are of critical importance for the sustainability and security of our global future food supply.

The separation of people from the land, from the processes of food production, has allowed this extinction to take place behind the scenes, without public awareness. The ever-increasing amount of processed foods and food imports have also contributed to the illusion that the diversity of our food supply is increasing, not declining.

We have forgotten, and in many cases never experienced, the way fruits, roots, and vegetables can actually look (and taste).

The ‘Mutato Project’ and the ‘Cultivar Series’ serve to document the rich spectrum of colours and shapes of agricultural crops and cultivars and to win back public interest and acceptance of visual and culinary diversity.

**Fig.1** ‘Mutatoes’ close up.

**Fig.2** ‘Mutatoes.’
Fig.3 ‘Cultivar Series: Phaseolus vulgaris I’ (Common Bean).

Fig.4 ‘Cultivar Series: Lycopersium III’ (Tomato).

Fig.5 ‘Cultivar Series: Phaseolus vulgaris II’ (Common Bean – work in progress).
Fig. 6 ‘Cultivar Series: Brassica oleracea’ (Cabbages – work in progress).

Fig. 7 ‘Cultivar Series: Capsicum’ (Peppers – work in progress).

Fig. 8 ‘Cultivar Series: Cucurbita’ (Squashs and Pumpkins – work in progress).
Fig. 9 ‘Cultivar Series: Cucumis sativus I’ (Cucumbers).

All images: © Uli Westphal.

BIOGRAPHY

Uli Westphal (Bochum, Germany, 1980) is a freelance visual artist, based in Berlin, Germany. His works deal with the way that humans perceive, depict and transform the natural world. They frequently consist of collections, classification systems, simulations and experimental set-ups. In particular, he is interested in the misconceptions, ideological ideas and fantasies that people have about the natural world. In recent years he has focused on the portrayal and perception of nature through food and the food industries.

Having exhibited worldwide in galleries and museums and been featured in a wide variety of magazines and books, he is best known for his work Mutatoes, a photographic collection of non-standardized fruits and vegetables that has spread virally through the web and various print media since 2007. Uli studied multimedia and environmental art at Maryland Institute, College of Art in Baltimore and at the Academy of Visual Arts in Enschede, the Netherlands (BFA). He obtained his Masters Degree (Art in Context) at the UdK – University of Arts in Berlin.

REFERENCES & LINKS

http://uliwestphal.com

Screen recordings of the Tap presentation and discussion:
http://water-wheel.net/media_items/view/4957
http://water-wheel.net/media_items/view/4958
Presentation

‘You eat 3,496 liters of water daily’

Angela shared her professional journey following her fascination with water science explained by visual narratives. She told of the struggle and joy, the conflicts and mediations, the wonder and uncertainty in discovering, understanding and visualizing the invisible data of our everyday water consumption.

‘We are not going to win simply by pouring more and more facts on our audience, no matter what degree of scientific literacy or numeracy they have. We have to communicate with people through telling the story in a way that is both clear and has meaning for their way of life.’

Presenter

Angela Morelli is an information designer. She gained her MA in Information Design from Central St Martins. She previously gained a degree in Engineering from Politecnico di Milano and an MA in Industrial Design.

She is currently working with the scientists at the Knowledge Centre in Oslo with the aim of communicating health information to doctors, patients and policy makers. Angela serves as an ambassador for virtual water and water footprint research, and was named a Young Global Leader by the World Economic Forum.

She is Associate Lecturer at Central St Martins in London and at the Oslo National Academy of Art and Design.

Links

www.angelamorelli.com
www.angelamorelli.com/water
http://www.youtube.com/watch?v=p8YHa1W_neI
http://www.foodisforeating.org

Screen recording of the Tap presentation (from 8’50’’):
http://water-wheel.net/media_items/view/4956
Top two images: Angela Morelli’s presentation on the Tap. Screen captures. On the right side of each image, from top to bottom: Uli Westphal, Angela Morelli and Peter Hall. On right-hand image, Morelli discussing with scientist Tom Allan, working on visualizing water footprints and his concept of “virtual water.”

Middle two images: ‘The Global Water Footprint of Humanity.’ Spreads from the 900-page book showing 1. the hydrological cycle, and 2. maps showing the amount of water that is used to produce food in each country every year. Source: Water Footprint Network.

PERCEIVING THE LINKS AMONG WATER, FOOD AND CHOICE

Dr. D.L. “West” Marrin
Water Sciences & Insights, California, USA

Abstract
Sharing perceptions to more creatively approach or represent our challenges with water will necessarily encounter the hurdle of effective communication among diverse practitioners and the public. Spatial and temporal relationships are often used to describe water topics ranging from watershed and precipitation dynamics to conveyance networks. Visualization techniques transform otherwise arcane data into graphic, animated or time-sequenced images that allow people to more easily perceive complex data, processes or relationships and scientists to more quickly discern subtle correlations. Unlike my symposium presentation that focused on a wide range of water topics as patterns or rhythms, this paper examines infographics and images as a way of communicating how food choices and wastes affect the quality and quantity of water.

Introduction
In the midst of the worst drought ever in California, residents are now being asked to fund a number of grandiose and very expensive infrastructure projects to secure the water that they require. But there are serious questions as to whether building more infrastructure can substitute for a change in user priorities and behaviors when addressing the water shortages. Perhaps more importantly, do people realize what actions on their part will result in the greatest water savings? A recently published article in the PNAS (Attari, 2014) surveyed Americans about their perceptions of water use for household activities and the best ways to conserve water. A majority of respondents mistakenly identified curtailment activities (e.g. taking shorter showers), rather than efficiency improvements (e.g. low-flow toilets), as the most effective means of water saving. They also underestimated their daily water use by a factor of two. While saving water in the household is something that people can directly observe and that assists in conserving local water supplies, this saving represents a small fraction of a person’s or family’s total water footprint, which includes the water required to produce the goods and services they consume on a daily basis.

Surprisingly, about 90% of personal water footprints (somewhat less in industrialized nations and slightly more in developing nations) is devoted to food in the form of crop and animal production. By contrast, domestic water supply and industrial product contributions are relatively small (Mekonnen & Hoekstra, 2011). Personal footprints are generally calculated for three types of water, including green water as the rainfall directly consumed by food crops or by grasses that feed grazing animals. The more familiar blue water is present as surface or subsurface reservoirs (e.g., lakes, rivers, aquifers), serving as the source for domestic and industrial uses and for irrigated agriculture (see Figure 1). Finally, grey water represents the volume required to dilute the contaminants produced by the various sectors (i.e. agricultural, industrial, domestic) to concentrations that meet water quality standards for human health or the environment. The portion of a water footprint dedicated to food production is normally dominated by green water except in arid regions such as California, where blue water in the form of irrigation is a major contributor.

Complex formulas exist for calculating how much water is theoretically exchanged among importers and exporters of agricultural and industrial products; however, the focus of this paper is how communicators, innovators, and scientists deliver the message that altering food choices and reducing food wastage can lead to the greatest overall reduction in our water footprints. How can recognizing the patterns and cycles of consumption in our lives facilitate actions that will reduce the often-unseen water, food and energy that we routinely use and waste? I have selected presentations from a diverse group of scientists, advocates and designers in coalencing examples of unique,
effective or interesting strategies. These strategies are of considerable importance because they address the demand side of the water-food nexus, as opposed to the supply side (i.e. producing more food with fewer resources such as water) that has garnered most of the focus and funding thus far. How can visualizing data patterns lead to making different choices?

**Framing the Issues**

Although food comprises the major portion of a person’s water footprint, some of the tools for educating people and influencing their behaviors around water have been developed to address more tangible uses. A tool addressing the aforementioned difference between blue and green water is illustrated in Figure 1. This graphic clearly shows that green water (rainfall) is the ultimate source of blue water, although only 40% of the green water ever turns blue because of losses from plants (including crops), soils and surface waters. Water utilities in drought-stricken California have enlisted the help of software developers to devise applications for smartphones and tablets that can track household water consumption and display spatial or temporal trends that people can compare with neighboring households (Wang, 2014). The goal is to personalize the data in a manner that will prompt discussions and, perhaps, a friendly competition among users (see Figure 2).

![Fig.1 The graphic shows the relationship between green and blue water and the respective losses of each (Lundqvist et al., 2008).](image1.png)

![Fig.2 The graphic represents one of many different types of displays for a household water-tracking program on a tablet (WaterSmart, 2014).](image2.png)
Angela Morelli is an information designer who collaborates with research organizations in Europe and specializes in communicating complex topics to non-technical audiences as a means of raising awareness about sustainable choices. Her website (Morelli, 2014) contains an animated presentation of the ways in which we “eat” water, including graphics of how much water we consume as a component of the various foods we consume and how one person adopting a meat-free day each week can save thousands of liters of water. She delivers this point by graphically stacking one-liter water bottles in an 8-meter wide by 40-meter high array that towers over a human. The pattern of stacked bottles gives perspective to the vast amount of water that we eat and waste as a result of our food habits. This message might have otherwise gone unnoticed or misunderstood had it been presented to a non-technical audience as raw data or statistics alone. Figures 3 and 4 include a graphic from Morelli’s presentation highlighting the water we eat, and a graphic designed by Timm Kekeritz (2014) illustrating the unseen volume of water required to produce similar quantities of common food items. Both of these infographics are based on data generated by the Water Footprint Network and by many other researchers who are investigating the intimate relationship between water and food.

The issue of food waste is one that significantly impacts water (accounting for as much as a quarter of our freshwater resources), but it also impacts energy consumption (via the transport and harvesting of food) and creates millions of tons of landfill garbage that biodegrades over time and increases the atmospheric loading of methane, carbon dioxide and other greenhouse gases (NRDC,
2013). In developing countries, much of the food waste occurs as a result of harvesting and storage practices; however, most of the food waste in industrialized countries occurs in either marketplaces or households, where over-purchasing and spoilage are the primary culprits. Ironically, the most wasted food is meat (comprising about one-third of the total in the USA), which requires the most water to produce when compared to other foods on either a caloric or weight basis. Assuming that current trends in diet and food wastage continue, the demand for water by global agriculture is projected to increase 2.5 to 3.5 times by 2050 (IME, 2013), coinciding with water shortages that are increasing in both their severity and frequency throughout the world.

Two of the most thought-provoking images regarding food waste are shown in Figures 5 and 6. The first photo represents the entire trash load generated by a Chicago restaurant in a 2-year period. Owner Justin Vraney has adopted recycling and buying techniques that have developed into one of the first zero waste restaurants in the country, and he is the subject of a short film that documents his methodologies and philosophies (NationSwell, 2014). Maintaining zero waste requires menu planning, local purchasing, and knowing how various food scraps can be utilized (Bellware, 2014). If food wastes cannot be fed to animals, composted for gardens, or converted into bioenergy, perhaps they can be used to produce an eco-friendly commodity. Microbiologist Anke Domaske is using milk that does not meet Germany’s food safety standards (totaling millions of gallons wasted every year) to manufacture a hypoallergenic fiber from the milk protein known as casein. Moreover, she uses 80 percent less water in making the fiber (shown on Figure 6) than do conventional production techniques (Shaikh-Lesko, 2014).

**Fig.5** The photo shows the total amount of trash produced by Justin Vraney’s restaurant in about two years (Bellware, 2014).

Fig.6 The photo displays Anke Domaske’s intricately-patterned fiber created from milk that would otherwise have been wasted (Shaikh-Lesko, 2014).
Similarly, the fibers from pineapple leaves are being used in Thailand to reinforce plastics in lieu of man-made materials such as fiberglass. These technologies go one giant step beyond waste-to-energy systems in keeping food scraps out of the waste stream entirely.

Surveys suggest that people are genuinely interested in conserving the quality and quantity of their water; however, food habits are rarely cited as a means of doing so. In fact, many urban dwellers do not realize that their food is transported long distances and is dependent on multiple natural resources (Lundqvist et al., 2008). Paradoxically, the demand side actions of altering one’s food selections and of decreasing household food waste are the most effective means of reducing personal water footprints and, unlike supply side approaches, do not depend on technology breakthroughs or initiatives from policymakers, businesses or institutions. So, what exactly can consumers do about reducing their water footprints?

Fig. 7 The chart depicts differences in food composition and water demand for Western European diets (Vanham et al., 2013).

Considering the Alternatives

There is no shortage of alternatives that have been proposed for the demand side of the water-food nexus. Lester Brown (2012), author of the Plan B series of books and articles, suggests that among the most pressing needs are reversing biofuel policies that swap food for energy and reducing meat consumption in industrialized nations. Similarly, the 2013 UNCTAD Review suggests that a predominant focus on supply side factors (e.g. producing more food) and a tacit acceptance of current trends in biofuel production, excessive meat-based diets and food wastage is unlikely to yield permanent solutions (Hoffmann, 2013).

The effect of altering our diets is presented graphically in a scientific article (Vanham et al., 2013) that compares various diets in Europe and their influence on people’s water footprint. Figure 7 illustrates that the typical European diet (REF) is more water consumptive than either the recommended (HEALTHY) or vegetarian (VEG) diet, which contains a lesser contribution of meat, sugar and crop oils and a greater contribution of fruits and/or vegetables. The numeric scale on the left (lcd) refers to the water requirements of the three diets in the units of liters per capita per day; hence, healthy and vegetarian diets decrease a person’s food-dependent water footprint by 26% and 41%, respectively. Figure 8 displays the various foods that are consumed in China in terms of weight, dietary energy, and per capita water requirements (CWRF). Cereals+roots provide people with the most energy (calories) and vegetables+fruits provide them with the bulk of their food intake; however, animal products require the most water and provide less than 20% of the dietary calories or the bulk food intake (Liu & Savenije, 2008). In addition to its high water demands, meat production is a major contributor to water pollution, greenhouse gas emissions, global deforestation, energy consumption, a range of chronic human diseases and, perhaps, antibiotic-resistant bacteria (WWI, 2004).
The water demands of producing ethanol from biomass, which is represented primarily by grain crops, is substantially more than those of producing conventional fuels, leading many experts to question whether the use of grain-based biofuels is even effective in reducing greenhouse gas emissions. Returning to the metric of one-liter water bottles, the graphic on Figure 9 was produced by Euromoney Energy (2014) to illustrate the relative amount of water required to produce similar quantities of fuels. With respect to the water-food nexus, the consumptive use of water resources is only one of the issues. The other is that the increasing use of grain crops to produce bioethanol, rather than to feed people, has been partially responsible for the post-2011 spike in food prices and the associated food shortages in many developing nations. Between 2005 and 2011 nearly one-third of the grain harvest in the USA was used to produce ethanol for automobiles—such that the grain required to fill a 25-gallon fuel tank of a sport utility vehicle with ethanol could feed a person for an entire year (Brown, 2012).

In the midst of proposed high-tech solutions to address the water-food nexus, some of the simplest things that people can do to reduce their water footprint is buy locally grown food or install a backyard garden. Growing or buying food locally can reduce water and energy required for the long-distance transport and preservation of food that often results in damage and waste. Moreover, small-scale farms that contribute the most to local markets consistently use less water, energy,
fertilizers and pesticides per unit of food produced than do mega-scale agribusinesses. Organic farms and agroecology practices in the USA have expanded substantially over the last decade despite the higher retail prices of organic foods. Agroecology is the application of ecological principles to agriculture, which now includes the entire food chain from production to consumption and has been identified as an alternative to mainstream agriculture in reducing energy/water consumption, soil degradation and pesticide application. Relationships between water and energy (see Figure 10) are especially critical because it is impossible to increase the supply of one without simultaneously utilizing substantial amounts of the other—and both are required to increase the food supply.

Fig.10  The schematic illustrates the interdependency of energy and water as it relates to the sectors that support our conventional food chain and all aspects of daily life in the industrialized world (USDOE, 2006).

Conclusion

In a complex world where most people have no clue where their tap water originates or where their food is grown, looking to governments, corporations and new technologies to solve today’s water challenges is understandable. The revelation is that water represents one challenge upon which individuals can have a direct effect through the decisions they make and actions they take on a household or neighborhood level. By slightly altering our diets (e.g. eating less meat and more locally-grown produce) and wasting less food (both at home and in the marketplace) we can reduce our water footprints and, at the same time, save money and eat healthier. To do so, the issues and options must be presented in understandable formats that demonstrate individual people and communities can have a discernable effect. Visualizing data or behaviors as patterns and depicting the probable outcomes of our food choices as relevant schematics, graphics or images may be a first step in our perceiving water issues in a broader context.

AUTHOR BIOGRAPHY

D.L. “West” Marrin, Ph.D. is an applied scientist, educator, and founder of Water Sciences & Insights, a multimedia forum for assisting environmental, entrepreneurial, and educational groups on diverse water-related projects. He has authored three books on the science and perception of water, as well as journal articles on the topics of biogeochemistry, greenhouse gases, pollutant dynamics, and water remediation. He is a former Adjunct Professor at San Diego State University and holds degrees in the biological, environmental, and water resource sciences.
REFERENCES & LINKS


Bellware, Kim. (28 April 2014). ‘This Restaurant Hasn’t Taken out the Trash in Nearly Two Years.’ Huffington Post, 3 pp.


5. Hydrology – Past & Future
Presentation

Participatory Groundwater Management (PGWM) framework (in the alluvial flood plains of north Bihar) is a platform to understand lateral separation between different uses of groundwater – drinking water, sanitation utility, agriculture practices, irrigation systems, and contamination classification, and the impacts associated with each one of these and sometimes in combination with each other.

The comprehension of the framework is based on scientific arguments of the utilities based on a micro-hydrogeological set up embedded within the aquifers of the alluvial flood plains of north Bihar, including the context of large-scale river systems.

In addition, understanding of the different constituents of isolated and multiple uses of groundwater helped in developing a comprehensive body of knowledge around challenges.

The knowledge and information generated had a twofold benefit: firstly, it has assisted in deciphering the patterns and impacts of the multiple uses of groundwater, and secondly, it has facilitated in evolving contextual practices related to the present uses.

Presenter

Dr. Himanshu Kulkarni from the Advanced Center for Water Resources Management and Development, Pune, Maharashtra, is attempting to create space, both in practice and policy, on the importance of the science of groundwater. He believes that aquifer-based participatory groundwater management can imbibe the principles of “commons” in both practice and policy. He is actively involved in the advocacy of stronger programmes on groundwater management in India, through his inputs as Chairman, Working Group on Sustainable Groundwater Management for India’s 12th Five Year Plan. Groundwater resources have held Himanshu’s interest for nearly 30 years now. He is currently working on groundwater management in different hydrogeological typologies in India – with Indo-Gangetic alluvial systems being one of them.

Eklavya Prasad is a social worker, artist photographer and managing trustee of Megh Pyne Abhiyan (Cloud Water Campaign), a Public Charitable Trust committed towards behavioural change amongst the rural communities to effectively revive, innovate and institutionalize water and sanitation management practices and mainstream issues concerning floods through collective accountability and action. MPA works through a network of grassroots organizations, social development professionals and resource institutions/individuals in five flood prone districts (Supaul, Saharsa, Khagaria, Madhubani, and Pashchim Champaran) of north Bihar, India.

Links

http://meghpyneabhiyan.wordpress.com
Participatory Groundwater Management (PGWM) framework in the alluvial flood plains of north Bihar, a presentation by Eklavya Prasad & Himanshu Kulkarni. Photos by Eklavya Prasad for Megh Pyne Abhiyan (Cloud Water Campaign).
Presentation

Yamuna Beach Project is the dream of seeing clear water flowing in Yamuna, a river that runs through the city of Delhi. And along with it, a flourishing beach culture right in the heart of India’s capital city. The performance was dedicated to the purity of Yamuna, who is the daughter of the river.

‘Sin;drome’ is the result of many years of collaborative audio-visual work between Vinny Bhagat (Shivnakaun) & Ashhar Farooqui (Toymob), who have been involved in technology-driven art practices. The beauty of the river is a stepping-stone to establishing what is envisioned as sustainable art practice for Yamuna.

Presenter

Vinny Bhagat is the founding member and Director of Shivnakaun MediaArts – a creative research lab performance group, media production house & experimental art studio based in New Delhi, India & Adelaide, Australia. He is a sound artist-designer, electronic music composer & performer, visual & projection artist, film maker, and contemporary artist.

Ashhar Farooqui, alias Toymob, is an independent composer / sound and visual artist from New Delhi, India.

Links

http://sindrome.shivnakaun.com
Excerpt: http://youtu.be/4T3N1Plly5nQ
http://sindrome.shivnakaun.com/32-2/yamuna
Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4894
Vinny Baghat presented the Yamuna Beach Project, a homage to the Yamuna River which flows through Delhi. Screen capture.
Presentation

Mysterious, beautiful and utterly captivating, ‘Zameen’ is a contemporary dance and multimedia work that pulls you into the heart of a remote Indian community fighting for their way of life. Within this world, two dancers from one of India’s leading contemporary dance companies, Attakkalari, perform an intense, controlled and intricate dance score, inspired by the stories and movement of the community. An immersive audiovisual environment, built entirely out of recordings done on site with the community itself, sustains the show, pitching you from the very start in the midst of their song and struggle to secure land in the face of large-scale dam development. Both politically provocative and deeply emotional, Zameen simultaneously depicts both the success of this incredible social movement and the ongoing sacrifices made to preserve it. ‘Zameen’ is the first major outcome of ‘The DAM(N) Project,’ a venture which began in 2011 when a group of artists from Australia and India journeyed deep into India’s Narmada Valley. They met and lived with communities that are gradually being submerged due to large-scale dam development in their region. To date, over 30 million people have been internally displaced, and the resulting Indigenous activist movement—the Narmada Bachao Andolan—has become one of the most successful and sophisticated in contemporary history. This presentation included a preview of the ‘Zameen’ performance and short presentations of the artists talking about the creative development of the project.

Presenters

Attakkalari Centre for Movement Arts is a one of its kind organisation in India creating a context for the development of contemporary cultural expressions, particularly the performance arts, by facilitating new expressions in dance and digital arts and spearheading pioneering projects internationally. Ronita Mookerji and Sylvester Mardi are dancers with the company who were selected to participate in ‘The DAM(N) Project’ and tour internationally with ‘Zameen.’ S. Shakthidharan (Director / Visual Artist) has led CuriousWorks to deliver a series of creative initiatives that have had sustainable and innovative outcomes for all Australians. All of his work has focused on respectful collaboration with some of Australia’s most marginalised communities and the ongoing sharing of contemporary, untold Australian stories through traditional and digital distribution methods.
Leah Barclay (Composer / Sound Designer) is an Australian composer, sound artist and curator working internationally. She has been the recipient of numerous awards and has directed and curated intercultural projects across Australia, India and Korea. She is passionate about the role interdisciplinary art can play in community empowerment, social activism and cultural change.
Jehan Kanga (Producer) is an interdisciplinary creative producer, multi-instrumentalist and published researcher in materials chemistry undertaking a PhD. His scientific research comes from his interest in the intersection between science and art, and the relationship those fields have with major social and environmental movements around the world.

Links

www.thedamnproject.com
Slides used for the presentation http://water-wheel.net/m/38/15/06/8760615382.pdf
Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4892
From top left clockwise: video of the Narmada Valley community, Jehan Kanga in Sydney, Leah Barclay in Arizona, and Ronita Mookerji and Sylvester Mardi in Bangalore. Screen capture.
UNDERSTANDING CONFLICTS AROUND FLOODS IN INDIA
Eklavya Prasad and K. J. Joy
New Delhi & Pune, India

Abstract

The September 2014 floods, in the state of Jammu and Kashmir (J&K), resulted in colossal impact on human life, infrastructure, agriculture, trade, horticulture, handicraft and tourism. This latest incidence of large-scale flood and destruction, once again reiterated the necessity of engaging with floods, from the point of view of contestation and conflict, for furthering an understanding of the reasons for the unprecedented occurrence. The Kashmir valley is well-known for its wetlands, and natural and human made ponds and lakes. They have played a crucial role in controlling flood in the region. However, the present flood, according to environmentalists, was triggered by the skewed, short-visioned development approach, which promotes urban development, by compromising ecological security and sustenance.

Overview

According to recent news reports [1], the conflict between development and restoration has manifested in urban floods in cities around India—Mumbai, Maharashtra (nine times), Ahmedabad, Gujarat (seven times), Chennai, Tamil Nadu (six times), Hyderabad, Telangana (five times), Kolkata, West Bengal (five times), Bengaluru, Karnataka (four times) and Surat, Gujarat (thrice). With increasing phenomena of urban floods in India, the ramifications of flood-induced conflicts are becoming prominent, frequent and having an impact. Keeping in mind the present trend of rural and urban floods in India, it is becoming crucial to recognize the links between flood and conflicts, and the cumulative impact.

This paper is a revised version of the introductory article, ‘Understanding Conflicts around Floods in India’ by Prasad and Joy, from the flood compendium titled ‘Agony of Floods: Flood Induced Water Conflicts in India’ [2], an initiative of The Forum for Policy Dialogue on Water Conflicts in India (the Forum [3], in brief). The paper argues, with reference to the case studies in the above mentioned compendium, that it is crucial to engage with floods from the point of view of contestation and conflict to develop better strategies to deal with floods and their after-effects. Also, water conflicts are very often conceptualized around water scarcity and flood; representing a situation of plenty has not been the subject of water conflict enquiry. The article also points out that conflicts around floods
arise out of multiple causes. In fact, this aspect has been one of the central gaps in the discourse on floods in India. Floods have both sub-regional and very local characteristics, and it is important to capture both. There is a need to develop a more nuanced understanding of the sub-regional variations of floods (during all three stages—pre, during and post floods) in order to develop conflict resolution strategies appropriately. This can also help agencies involved in addressing flood concerns to comprehend the different impacts of floods on various social sections, which might help in developing intervention strategies that will be more contextual. Local experiences are of crucial importance as they vary greatly between and within communities according to culture, experience, and (especially for poor people) the pressure to survive.

The paper begins with a discussion on the extent of the problem of floods in India, and then moves on to issues like the different impacts of floods on various social sections, fragmented institutions dealing with floods, and so on. This sets the larger context for the next section of the paper that discusses the link between floods and conflicts. Subsequently, some of the case studies from the compendium are highlighted to articulate the different dimensions of flood induced conflicts. The paper concludes with certain broad suggestions as how to engage with floods in general, and flood induced conflicts in particular.

The Agony of Surplus

According to Rashtriya Barh Ayog’s (RBA) National Flood Commission 1980 assessment, the total flood prone area in the country was 40 million hectares (mha). The RBA arrived at this estimate by adding the maxima of flood affected area of 34 mha in any year to the protected area of 10 mha, and deducting from this 4 mha of protected area where protection works have failed [4]. The sum of the maxima of flood affected areas in any year considered by RBA has gone up to 49.815 mha by 2010. However, there is no credible database maintained by the states as required by judicious criteria based on the frequency of flooding, duration and depth of inundation. The flood damages reported by the states in India from 1953 to 2010 have been projected at the 2011 price level as Rs. 812,500 crores approximately. Based on information provided by the Planning Commission of India about the expenditure incurred in various Five Year Plans, it has been assessed that about Rs. 1260 billion (at the 2011 price level) have been spent in the flood control sector till date [5]. As per government records (as of 1991), 137 districts are vulnerable to floods. As reported by the Central Water Commission (CWC) under the Ministry of Water Resources, Government of India (GOI), the annual average area affected by floods is 7.563 mha. This observation was based on data for the period 1953 to 2000, with variability ranging from 1.46 mha in 1965 to 17.5 mha in 1978 [6]. It accounts for one-fifth of global deaths due to floods and, on average, thirty million people are evacuated every year. India is considered to be the most flood affected nation in the world after Bangladesh.

Fig.2  Photo by Eklavya Prasad for Megh Pyne Abhiyan.
In India, twenty-two states and one union territory (Andaman & Nicobar) are vulnerable to floods. Of these, the most vulnerable states are Uttar Pradesh, Bihar, Assam, West Bengal, Gujarat, Orissa, Andhra Pradesh, Madhya Pradesh, Maharashtra, Punjab, and J&K [7]. More than the loss of life and damage to property, the sense of insecurity and fear in the minds of people living in the flood plains is a cause of great concern. Floods are the most feared natural disaster due to their disastrous impacts such as the agony of survivors, spread of epidemics, collapse of local livelihood opportunities, erosion or inundation of arable land, non-availability of drinking water, essential commodities and medicines, and loss of dwellings. Heavy flood damages occurred in the country during the monsoons of the years 1955, 1971, 1973, 1977, 1978, 1980, 1984, 1988, 1989, 1998 and 2004 [8]. Floods have been affecting urban and rural centres, rainfall abundant and scarce regions, upstream and downstream habitations, within and outside embankments, cold and hot desert, land locked and coastal areas, etc., as indicated by the case studies in the Compendium. The case studies also establish the enormity and expanse of the disaster. As per a GOI report, there is a dearth of documentation on floods and the damage they cause [9]. A disaster that has prodigious continuation cannot be seen merely from a water surplus standpoint. The sheer magnitude and frequency of floods necessitates further examination into their diverse and complex ramifications on the affected population.

Floods to be Viewed in their Own Right

Floods occur due to various reasons including drainage congestion and waterlogging, river bank erosion, snow-melt, glacial lake outbursts, formation and subsequent bursting of landslide dams, littoral drift in river estuaries, monsoon/cyclones/cyclonic circulations and cloudbursts [10]. Reservoirs which are constructed as flood cushioning structures, because of improper reservoir operations, also give rise to floods. Experience also shows that embankments that are supposed to protect flood prone regions either cause or exacerbate floods. Floods occur in both rural and urban centres, and are one of a few catastrophes which manifest in such diverse ways. Floods also have varied impacts. In rural areas, people and livestock are particularly susceptible to becoming casualties of floods because of high population densities, an absence of zoning regulations, a lack of “effective” flood control, and lack of emergency response infrastructure and early warning systems. Other factors like the lack of adequate evacuee sites above flood levels, accessible routes for reaching safe places, a lack of public information about escape routes and other appropriate response activities renders communities more vulnerable. Floods also compel vulnerability among women, adolescent girls, children and senior citizens. Urban deluges in the recent past have added a new dimension to the existing flood discourse. Urban floods trigger mass displacement of slum dwellers. Shortages of basic conveniences and the sky rocketing price of fundamental essentials, coupled with a high inaccessibility quotient, makes it difficult for poor and lower middle class people
to overcome the catastrophe. Being stranded in flood waters without refuge for several days has a detrimental impact on these vulnerable groups. Hence, it becomes essential not only to categorise a flood situation as another water conflict, but also to view it as a problem in its own right because of its local variations and differential impacts. Bracketing it as a part of a singular problem can lead to generalisations which will prevent addressing it comprehensively.

**Fragmented Institutions**

There is a web of institutions in the country that are responsible for policies, programmes and schemes and financial arrangements concerning floods in India. They are both at the national and at various state and sub-state levels.


Some of the state and sub-state level organisations include Disaster Management Departments/Commissioners, State Disaster Management Authority, State Executive Committee, Irrigation/Water Resources/Flood Control Departments, District Disaster Management Authority, Local Authorities, State Disaster Response Force, Intra-state Multi-sectoral Coordination [12].

One of the important governance issues of the water sector in general and floods in particular in the country has been the lack of coordination across different institutions and departments dealing with water and floods. There are too many institutions leading to institutional fragmentation and lack of coordination and turf wars amongst them leading to what is generally called in India “departmental fundamentalism.” This is also a source of conflict. The state government is solely responsible for flood management and this also makes it the most obvious conflicting party in the entire process. This is why very often in the post-flood scenario the anger of the affected people is directed against the state government and the concerned departments. Also, unlike many other water related conflicts where there are clearly identifiable conflicting parties, in the case of flood related conflicts, the situation is rather hazy or grey, and apart from the people venting their anger and frustration against the state and its various arms, the other conflicting parties are often not visible.

**Reactive and Relief Centric Approach to Floods**

As large parts of the country perennially reel under recurring drought, the GOI has tried to address the crisis through a set of programmes and measures like the Drought Prone Areas Programme (DPAP), the Desert Development Programme (DDP), the Integrated Watershed Development Programme (IWDP), the National Watershed Development Programme for Rainfed Areas (NWDPRA), etc. The Department of Land Records in the Ministry of Rural Development has now merged the DDP, DPAP and IWDP together into a comprehensive programme called the Integrated Watershed Management Programme (IWMP). This programme is to be implemented according to the Common Guidelines on Watershed Development [13]. Also, the Common Guidelines of 2008 [14] are binding on all government supported watershed programmes in the country. In addition, both individuals and civil society organisations have undertaken diverse works to address drought preparedness, mitigation, relief and drought proofing work, as well as research and documentation work concerning drought. There is a vast amount of scholarly work within and outside India to highlight and induce understanding, develop coping mechanisms, identify solutions and highlight corrective measures to combat drought. However, in the case of floods, such work has not been undertaken in a systematic manner or at a substantial scale. The National Disaster Management Authority’s (NDMA) guidelines on the management of floods claim that the extent of devastation of livelihood systems, property and damage to infrastructure and public utilities, loss of human and animal life, and ruination of the ecosystem by floods has largely been met with a reactive response [15]. The guidelines mention that
the response to floods has, by and large, focused on rescue and relief after the flood. Preparatory, preventive and mitigative aspects of flood management have not received due attention. The overall recognition that floods cannot be prevented, and that technical and infrastructural interventions can work towards their control and minimisation, inevitably leaves only the option of rescue and relief operations for individuals and civil society organisations working in flood prone areas. There have been efforts by civil society organisations to intervene in preparedness work. However, the flood prone area in India is approximately 49.815 mha, which includes 137 districts across 22 states and one union territory, and floods can occur in any area within and beyond these 49.815 mha. Therefore, preparatory work often trails a post-flood situation for the next season, with an assumption that floods are going to occur in the same place or region. As a result, other flood prone areas remain unattended, leading to complete mayhem if hit by a flood. The techno-centric arguments, analysis and prescriptions to address floods in India are also being supported by similar academic works, because of which various other facets of floods remain unattended. This points to a need to understand floods beyond structural measures.

Varying Impacts of Floods across Social Groups

It has been claimed that a catastrophe like a flood impacts all social groups without differentiation. However, on assessing the nature, intensity and duration of the devastating impact (both in rural and urban contexts), a specific impact trend emerges. Assessments have indicated that the vulnerability of the population depends on several social factors like age, gender, economic status, social construct, population density, health status, race/ethnicity, residential status, culture, etc. In rural areas, another factor can be added, namely caste and social discrimination. The vulnerability quotient of floods is possibly linked with the very factors that cause them. Further assessments should be carried out to ascertain the degree of this connection. Also, as floods impact different sections of society to different extents, it is essential to delve into these differences to develop a comprehensive understanding of the issue at a local level.

Linking Floods and Conflicts

On one hand, conflict in the context of floods can be defined as contradictory perceptions (between centre and state; state and non-state actors; vulnerable and secure groups; amongst vulnerable groups and development and ecological sustenance) about the course of action to be undertaken in order to prevent, limit or mitigate their negative impacts on the areas and people concerned. On the other hand, what actions are taken and how they are taken in the pre, during and post aftermath of a flood provides the immediate context of flood induced conflicts. Conflicts also proliferate because of factual disagreements between individuals, groups and institutions with different values, priorities, interests, resources, survival mechanisms, hopes and skewed development plan and its execution.
Flood induced conflicts take place between groups, affected and displaced communities, within and outside the embankment, states, regions, and nations. Water conflicts engendered by floods might correlate with the very reason for and scale of the devastation; extent of inundation; degree of exploitation and deprivation; resource crunch and allocation; inadequacy in attending to the immediate and long duration problems; inaccurate damage assessment leading to misplaced allocation of rehabilitation packages; forced compromise to accommodate the needs of other dominant groups; gender specific inequality and inaccessibility; constrained livelihood options; resettlement of displaced population; damage compensation; flood induced migration; political provocation; etc. Many other factors might have remained unexplored. The issue of flood induced conflicts is not limited to what happens before, during and after the flood takes place. In fact, there are conflicting perceptions about structural measures like dams and embankments to either prevent or mitigate floods. It is as though the solution itself is leading to problems. Also, there are differences in worldviews about how one conceptualises rivers and floods, and the limit to “tame” rivers. There are differences in the epistemology itself. This difference in worldviews and epistemology get carried through what needs to be done to prevent floods. For example, the viewpoint that it is “natural” for rivers to flood gives rise to conceptualisations of “living with floods.” Cortesi calls these epistemological contestations over floods as “struggles of knowledge” [16].

Contestation and conflicts

The eleven flood induced conflict case studies included in the compendium represent a fairly wide range of situations, locations and issues (See Figure 5. for the titles of the case studies and their locations), ranging from embankments and floods, erosion, reservoir operations and interstate disputes, encroachments leading to urban floods and floods in low rainfall areas like Rajasthan, rehabilitation related conflicts, etc.

Fig.5 Location of Flood Induced Water Conflicts in India

1. India’s First Geo-Tube Embankment: Erosion of Community Hopes
2. The Char Dwellers of Assam: Flowing River, Floating People
3. Bridge over Kosi: Connecting People or Banishing Them?
4. Floods in North Bihar: A Recurrent Source of Conflicts
5. Flash Floods in Eastern UP: Hill Rivers Flood the Low Lying Region of Eastern Uttar Pradesh Causing Annual Distress Migration
6. Ghaggar Floods: A Manmade Disaster with Tragic Consequences
7. Floods in South West Punjab: Flood in the Arid Regions?
8. Floods in Western Rajasthan: Life after the Deluge
9. Mumbai under Floods: A Natural Disaster or Manifestation of an Underlying Conflict in Mumbai City’s Skewed Urban Planning?
10. Flood in Krishna Basin: Institutional Responses to Flood Regulation
11. Floods in Bengaluru: No Respect for Water Bodies and Water Courses
For facilitating a better understanding of flood induced conflicts, this paper has widely categorized the conflicts into three sections, based on the flood period—pre, during and post floods. Though, it is difficult to clearly demarcate any flood induced conflicts into compartments, still this modus operandi has been adopted, to remove the myth that floods are just a phenomenon of water in abundance and also to bring out the specific issues related to these phases more sharply.

The paper, ‘Will Someone Share Our Extra Water?’ by Dinesh Kumar Mishra (not a part of the eleven case studies, but more of an introductory piece in the Compendium) has appropriately highlighted the issue of conflicting priorities as one of the causal factors of recurring floods in Bihar province. According to Mishra, ensuring free drainage is one of the most crucial strategies in tackling floods. However, in reality, drainage has been completely ignored by the establishment, despite official reports and recommendations reiterating its importance. Structures that impede drainage are built—be it embankments, canals, roads, rail lines, diversions and so on—at the cost of drainage. Since these structures obstruct the free flow of the river, hence they ought to be provided with adequate drainage. Restricting drainage for flood management and infrastructure development itself is conflicting with disastrous ramifications. Similarly, Jitendra Choubey in his case study in the compendium, ‘Bridge Over Kosi—Connecting People or Banishing Them,’ highlights how conflicting priorities lead to the creation of circumstances that trigger floods or related problems. Choubey in his paper has pointed the responsibility to the ill planned infrastructure development project (for “connectivity” in the region) for the displacement of more than 70,000 villagers. The villagers had to abandon their houses and take shelter along the National Highway- (NH) 57, as they were left without any option. The displacement meant abandoning their community relationships, their ancestral legacies of past, and more importantly, their houses.

The case study, ‘Mumbai under Floods A Natural Disaster or Manifestation of an Underlying Conflict in Mumbai City’s Skewed Urban Planning?’ by Nidhi Jamwal details the contradictions that were created as a result of skewed urban planning and neglect of its poor people. The conflict was about the interaction between the city and its natural resources. “Till flood waters inundated Mumbai on July 26, 2005, neither its citizens nor the authorities nor the government had ever heard of any river called Mithi flowing through the metropolis. They were only aware of dirty nullahs (open drains) that carried the city’s untreated sewage and wastewater into the Arabian Sea” (Compendium, p. 92). According to Jamwal, in the last two decades, the city of Mumbai witnessed rapid growth and expansion, as a result, the once extensive mangrove ecosystems along the Mithi river and the Mahim creek were engulfed by the urban development processes.

The government promoted “legal” encroachment on riverbanks, thereby officially changing the course of River Mithi. Two major “legal” encroachments on Mithi riverbed are the existing Mumbai airport and the Bandra-Kurla Complex (commercial and financial hub of the city). The illegal and legal encroachments along with conversion of Mithi, a 15 km long river and a confluence of tail...
water discharge of Powai and Vihar lakes, could not drain the excess rainwater due to heavy rains that lashed Mumbai city from about 12.30 pm on July 26, 2005 till 5.30 am on July 27. As a result one third of the area of Mumbai was flooded.

Floods, unlike the claim by many, are not always a natural phenomenon. The previous three examples have clearly indicated how conflicting priorities, inappropriate technology, experimentation, preferential and skewed development paradigm (pre flood situation) have led to devastating floods, irrespective of the location. The nature of the conflict undergoes a change during the floods. In such circumstances, conflicts emerge from the fear of losing their natural resource base, livelihood opportunity, local lifestyle and values based on co-existence with nature. In addition, the other areas of conflict during floods are survival, rescue work, insecurity, relief work undertaken by government and non government organizations, false political declarations, delayed intervention, financial and resource misappropriation. Lack of transparency with regard to factual information about the catastrophe along with dissemination of regular updates leads to chaos and rumours, which often takes the shape of a conflict.

Post-flood scenario and conflicts have a complex linkage. Many ideas and plans concerning rehabilitation and reconstruction get tossed in the name of development. But these solutions tend to create more problems in the future. Finalizing development plans for the rehabilitation of flood-affected areas without any regard for the importance of people’s participation adds to the already existing difficulties. Conflicts also emerge due to the struggle to be heard, accessing rehabilitation, reconstruction and compensation facilities.

Flood control measures have been one of the reasons of conflicts in all the three phases. Local informal monitoring of the execution of faulty or archaic control measures, have often been contested by those existing with the perpetual threat. The failure of the control measures, resulting in deluge, thereby loss of life, resources and opportunities leads to conflicts.

Space constraints do not allow us to get into a discussion of each of the case studies in the Compendium. Instead we end this section with the concluding remarks of Cortesi in her analytical chapter, “Nature is hard to know: conflicts over floods as struggles of knowledge” in the compendium that very well captures in nutshell what the case studies are trying to tell us on flood induced conflicts. To quote Cortesi:

To conclude, semi-scholarly representations of nature are vitally necessary, not simply for democratic representation, but also for knowledge formation. The case studies proposed here read like rich, original, honest, well-informed representations and reflections of (hardly-discussed) floods in today’s India. At the same time, they provide a window on how different social group understand nature and their troubles in doing so. The ways in which nature is described, known and communicated follows political mechanisms, and civil society, sensitive to the politics of nature, feels compelled by political responsibility to voice problems and therefore mobilizes discourses that are perceived to be persuasive to decision makers. However, by drawing attention to the ways in which the informed urban middle class focuses its understanding of nature on a scientific and technopolitical formation, this analysis has suggested that the public realm is currently impoverished of, or at least segregated from, sensorial, literary, cultural, references to nature. The codified understanding of nature deployed through standardized languages of political ecology and science and technology can be seen at the same time as a response to, and a basis for, conflicts (p. 136 in the Compendium).

Understanding Conflicting Parties

In the post-flood scenario, there are many factors that give rise to discontent among several contending groups. Some of these factors include: 1) the nature of efforts made to save lives and property, provide aid and security; 2) various insecurities that the flood affected people experience; 3) the way aid is distributed and relief work is handled; 4) loss of life (of humans and livestock) and
livelihood opportunities, and the process of rehabilitation; and 5) technical and administrative laxity and political rivalry. Apart from these very specific factors, there is a broader set of issues which lead to floods, such as the politics of controlling water, handling of floods as a recurring phenomena, infrastructure development processes, drainage problem due to construction and land reclamation, legal encroachments, urbanisation, local governance, etc. Certain support systems and groups are also formed to face the crisis of floods. We will call these “collaborating groups” as opposed to the “conflicting groups/parties.” These collaborating groups come forward to highlight problems, campaign against mismanagement, and take actions to identify solutions and implement them. The experience of the post-flood scenario shows that collaborating groups work together to overcome the problem or minimise its impact. Such groups are neither included in the institutional framework nor in the financial mechanisms of flood management. It is genuinely believed that there are only two contesting parties: the flood affected people and the state. However, as the case studies in this compendium and the overall experience of the post-flood scenario clearly highlight, there are more than two contesting parties as well as collaborating ones in each flood related conflict situation. The involvement of the collaborating groups/parties should be a pre-requisite in addressing concerns and in identifying plausible ways forward towards far more equitable and sustainable solutions.

In Conclusion

The sources of flood induced conflicts must be understood in order to engage with them effectively. Unfortunately, despite significant variations in their magnitude, character, locations, and the space they impact, floods have never been looked into through the lens of conflict and contestation. The problem of floods in itself has been colossal and diverse, hence the discourse has remained confined to issues, which despite reiteration, continue to be ignored by the concerned authorities. Therefore, understanding the relationship between floods and the conflict perspective will not only broaden the existing discourse around floods but also strengthen the effort to showcase the extended impact of human induced disaster in the country leading to better strategies in dealing with them.

There is also a need to view floods from the conflict perspective because the efficacy and dangers of the present flood control measures need to be viewed and debated as a source that can trigger multiple conflicts. More often than not, the debate concerning floods has been appropriated by techno-managerial arguments or the relief and rehabilitation discourse. An effort is being made to bring forth issues that will challenge/confront/address the rhetoric of floods through a conflict and contestation framework which has not been included in the debate till date.

AUTHOR BIOGRAPHIES

Eklavya Prasad (New Delhi, India) is a social worker, artist photographer and managing trustee of Megh Pyne Abhiyan (Cloud Water Campaign), a Public Charitable Trust committed towards behavioural change amongst the rural communities to effectively revive, innovate and institutionalize water and sanitation management practices and mainstream issues concerning floods through collective accountability and action. MPA works through a network of grassroots organizations, social development professionals and resource institutions/individuals in five flood prone districts (Supaul, Saharsa, Khagaria, Madhubani, and Pashchim Champaran) of north Bihar, India.

K. J. Joy (Pune, India) has a Master’s degree in Social Work from the Tata Institute of Social Sciences, Mumbai. He has been an activist-researcher for more than 25 years and has a special interest in people’s institutions for natural resource management both at the grassroots and policy levels. His other areas of interests include drought and drought proofing, participatory irrigation management, river basin management and multi-stakeholder processes, watershed based development, water conflicts and people’s movements. He was a Visiting Fellow at the Centre for Interdisciplinary Studies in Environment and Development (CISED), Bangalore, for a year and was a Fulbright Fellow at the University of California at Berkeley. Joy has been the coordinator of the Forum for Policy Dialogue on Water Conflicts in India.
REFERENCES & LINKS


[3] The Forum has been engaged in documenting several kinds of water conflicts in India since 2004-05. The Forum’s engagement with flood induced conflicts needs to be seen as part of its larger effort to understand water conflicts in India, which has been one of its core mandates. The Forum believes that the documentation and dissemination of water related conflicts can lead to more informed debates: the first step towards a possible resolution and/or prevention. Thus capturing, understanding, and disseminating knowledge, and initiating a dialogue around flood induced conflicts in different locations in India, are the core purposes of the Forum’s initiative. Problematising the relation between floods and conflict will not only broaden our understanding on water related conflicts in general and flood induced conflicts in particular, but can also help to develop better strategies to deal with floods and their impacts.


[14] This has been further revised in 2011 and 2012


Slides for the Tap presentation:
http://water-wheel.net/media_items/view/4431

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4893
CONTEMPORARY DEVELOPMENT BETRAYS ANCIENT BRILLIANCE IN WATER MANAGEMENT

Cheryl Colopy
Oregon, USA

Abstract

Much recent development in South Asia tends to be at war with the land’s age-old ability to store the monsoon. For centuries, local residents capitalized on the land’s contours and the aquifers below to store water for year-round use, domestic and agricultural. Now much of the natural drainage and storage seems irretrievable. This paper sketches some of the results of contemporary construction in two South Asian cities, Kathmandu and New Delhi. Both cities had successful traditional systems for managing water. Centralization and development have both destroyed much of those systems and abandoned the water-storage principles on which they were based. Specifically, in New Delhi, the recent Commonwealth Games venues along with construction during the previous decade have encroached on the flood plain of the Yamuna River, decimating groundwater recharge. And, in Kathmandu, an ancient system of ponds, canals and stepwells has been disrupted by roads and highrises.

When I was writing my book, Dirty, Sacred Rivers, I knew I wanted to talk in some detail about the problems I saw in New Delhi and Kathmandu—two large South Asian cities, located in the greater Ganges river basin. Though these two cities are very different, both have very serious problems in water management and sanitation.

Having a predilection for ancient history, I decided right away that I would start the Kathmandu story in the mists of the past. According to the myth of the Kathmandu valley’s creation, the Boddhisattva Manjushree, embodiment of wisdom, used his sword to crack open the rocks that blocked one end of the valley. This event is said to have happened long before the birth of the Buddha himself. As a result, a large primordial lake drained away, revealing a wide valley, sheltered by hills, fed by streams, possessing rich soil and alluvial aquifers, and filled with special sites for worship. The water engineers of the ancient rulers of Kathmandu—the Lichchhavis and later the Mallas—eventually capitalized on the gradients and soil porosity of the valley to establish an ingenious system of canals, ponds and stepwells.

Stepwells are what they sound like: wide sunken structures with stairways that allow people to walk down into them. Ponds allowed rainwater to be captured and stored, which helped replenish groundwater so that the waterspouts inside Kathmandu’s stepwells would always run with fresh water. An elaborate drainage system recycled water from stepwells located at higher elevations to lower ones. Filtration devices in the waterspouts—employing sand, gravel, and burnt brick—purified the water to standards that elude current water managers in Kathmandu. Protected by priests, this system provided water for both domestic and ritual uses for almost two thousand years. In quite a few places, very old stepwells still function despite heedless contemporary construction: roads and foundations for highrise buildings have destroyed both the sources of many stepwells and the connections between them.

Figure 1. on the page opposite shows a stepwell still in use in Kathmandu.
Perhaps at times I romanticize the glories of Kathmandu’s hiti—the local Newar word for stepwell. But the persistence and the revival of some of these water sources even to the present day argues that the system was based on solid science and engineering—not to mention artistic flair. The stone spouts, or dhunge dhara, are beautifully carved.

To bring the story of water in Kathmandu up to date, I chronicle over several chapters in my book the ostensible modernization of the Kathmandu valley’s water supply system. Nepal’s government and various international organizations set about creating a new water supply system for an expanding population. But despite interventions and millions of dollars loaned by the World Bank, starting in the 1970s, and later the Asian Development Bank—combined with well-meaning efforts on the part of many bilateral and non-governmental organizations—the effort has largely failed. Kathmandu still has no functioning sewage system; and it can boast of water shortages year round to accompany its electricity black outs. And this in a country where there is really no lack of water at all. In fact it has an enviable wealth of water that neighboring countries might like to have.

There are multiple reasons for this failure, and enough blame to go around to everyone involved probably. But surely at least one reason for the failure leads back to what I was talking about before: the contemporary solutions seem wholly disconnected from the valley itself, its history and geography. As I looked into these issues, I talked with many water experts in Nepal. They all said pretty much the same thing: there was really no shortage of water in the valley, and no need to build
the proposed Melamchi tunnel which would create an interbasin transfer of water from the river valley to the east of Kathmandu. The problem was not water shortage but water management. Fast as Kathmandu has grown, better planning could have avoided what has become a yearly shortage of water.

It seemed that the many multilateral organizations that were trying to “help” Nepal—in the form of loans—pretty much had one model. It was a model that had nothing to do with the actual lay of the land in the Kathmandu valley, but it involved a lot of money flowing into the country. That model was the American one laid down in the middle of the 20th century: a big dam with a deep reservoir, or some variation of that theme, involving diversion of a river to some place other than where it usually flowed. The Melamchi plan would grab water from a neighboring valley in order to bring cascades of clear mountain water into the leaking pipes of Kathmandu and also flush out the horribly polluted Bagmati, the city’s sacred river.

By the time I finished writing about the boondoggle of the still incomplete Melamchi tunnel and diversion system, there were few people still arguing to do something less invasive and cheaper, such as repair all the leaky pipes in the city and work on recharging the valley’s groundwater and conserving it. Too much money had been spent and wasted already. Environmentalists and other advocates of less expensive and less invasive water management all said: let’s just get the Melamchi diversion over with and try to do smarter things from now on. They said that even with the water from Melamchi (when and if it ever comes!) Kathmandu would still need to implement widespread rooftop rainwater harvesting, groundwater recharge, pipe repair and maintenance, meters, and billing. As things stand now, the Melamchi diversion tunnel is still only about one quarter completed. The completion date, now set for 2016 has been pushed back multiple times for more than a decade.

On to Delhi. As I said earlier, I immediately knew how I wanted to start the story of the Kathmandu valley’s water history and problems. But when it came to Delhi, I was stymied. I didn’t know how to find the story—and journalists must tell stories to make the facts or situations they want to document come alive for readers. Maybe my quandary arose because Delhi is so huge; and in my visits there, spanning only weeks, I could never quite get a handle on the place. Whereas Kathmandu was my home for several years during the past decade, and it is small enough—despite the influx of a couple of million people in recent years—for me to have walked through much of it.

In order to grasp at least some aspects of Delhi’s story, I ended up latching onto the much-abused Yamuna River as my anchor, combined with the massive efforts to get the city ready for the Commonwealth Games of 2010.

The Yamuna River flows through Delhi and is a major tributary of the Ganges. The river begins in a glacier high in the Indian Himalaya; but as it flows through Delhi it is horribly polluted by industrial effluent and sewage. It is also heavily diverted for agriculture before it reaches Delhi. The result is that only in the monsoon is the river’s flow strong enough to wash out the sewage and effluent. And that is not a long-range solution in any case, because it just dilutes the pollution and sends it downstream to become someone else’s problem.

There are regulations intended to control industrial pollution in India, but they are not well enforced. And though Delhi, unlike Kathmandu, does have functioning sewage treatment facilities, they are not adequate to deal with the amount of sewage generated by the number of people hooked up to the system, so the sewage goes into stormwater canals and on into the Yamuna. Furthermore, many areas of this fast growing mega-city of about 17 million people are not hooked up to any sort of sewage infrastructure. Most of that sewage also finds its way into the Yamuna.

I discovered that the Yamuna was being ill treated in other ways—in ways connected to the Commonwealth Games. Some of the construction slated for the Games was encroaching into the floodplain of the Yamuna. This construction was readily sanctioned by the Delhi Development Authority and the former Chief Minister of Delhi, who saw in the Commonwealth Games a chance to put India’s capital on the map as a world-class city. There’s nothing wrong with that goal. But encroaching on the flood plain of a major South Asian monsoon river as part of the plan just might prove to be a little misguided in the long run because dramatic floods are fairly regular events in the greater Ganges river basin.
The floodplain had already been encroached upon some years earlier with the construction of a massive Hindu temple complex, sanctioned by the government. The temple was built on land that had been slated in perpetuity for agriculture at the time of India’s independence. Perhaps city officials didn’t seek advice from water experts as they proceeded to plan new construction for the games. And they certainly didn’t listen to the environmentalists who expressed their dismay and eventually took them to court. The environmentalists won their case to halt construction in Delhi’s high court, but that decision was overruled on technical grounds by India’s Supreme Court. And soon after, tall apartment buildings sprang up on land that was part of the recharge zone for Delhi’s groundwater—land that was already being eaten away by the construction of the new metro system and other development.

The cluster of high rises was called the “athletes’ village.” For purposes of the Commonwealth Games, the apartments would house athletes. But these condos sold for high prices to Delhi-ites who would live in them after the games. Apparently things haven’t worked out so well, though. Some of the condos cost well over half a million dollars; but most are still unoccupied because the general area is not livable and some of the apartments aren’t either. As you probably know, something like the Commonwealth Games preparation is going on right now in Brazil, where government officials want to show off their country to the world in the next Olympic games. Meanwhile residents and environmentalists alike are saying: “hey wait a minute—you’re displacing people, spending tons of money that could make a healthier more habitable city, and doing damage to the land.”

As I explored Delhi, I met a water expert some of you may know named Nitya Jacob, who enlightened me about Delhi’s ancient methods of water management. They included stepwells and ponds in a landscape that had a lot more trees and open spaces than Delhi can currently boast. People built small dams on seasonal streams to prevent the monsoon rains from flowing into the Yamuna too quickly; this created ponds and allowed water to percolate into the aquifer. And deep stepwells like Ugrasen ki Baoli, near the center of contemporary Delhi, could hold water for a long time.

![Ugrasen ki Baoli, a stepwell in Delhi.](image)

The historical water systems in Delhi and Kathmandu look very different, of course. One city is hilly and the other spread out on the plains; but their traditional systems share a basic philosophy of water management, based on a set of observable facts that centuries ago people throughout the subcontinent analyzed. Rain comes intensely in a short period of time—the summer monsoon. Very little rain falls in other times of the year. The modern method of dealing with such dramatic alternation of surfeit and shortage—which we see in the summer monsoon in Asia, and the winter monsoon on the west coast of the United States—is to build high dams with deep reservoirs. These as you all know have drawbacks that I don’t need to go into here. But two thousand years ago, even several hundred years ago, fortunately these were not options.

So for hundreds—if not thousands—of years, people in the Indian subcontinent capitalized on the
land’s contours and the aquifers below to store water for year-round use, domestic and agricultural. They made brilliant use of the land’s natural drainage and storage capacities. Most of the recent development I saw in South Asia tends to be at war with the land’s age-old ability to store the monsoon—development, for example, like the very admirable Delhi metro. Structures like the metro or the unplanned development in Kathmandu renders traditional systems of groundwater collection irretrievable in those areas.

But in places outside of cities like Delhi, there are still opportunities to recapture traditional methods. And this has begun to happen. Take Rajasthan, for example. Whole villages traditionally got together and built small earthen dams with their own hands to close the gaps between low hills and thus trap ponds-full of water all across the landscape. The water in the ponds could be used for irrigation and they also recharged groundwater. Thanks to a rejuvenation of this system in parts of Rajasthan, today a river that was flowing only in the monsoon has started to flow again year round. There are other rural areas of India where traditional groundwater storage methods may be retrievable, boosting water supply while avoiding large, expensive and destructive engineering projects. Efforts to recharge groundwater are underway in parts of Madhya Pradesh, a state to the southeast of Delhi. There I also found some beautiful, if derelict stepwells, almost like temples: once again testimony to how people harvested and stored water on the subcontinent with aesthetic flair and reverence.

Fig.4  Deep Stepwell in Madhya Pradesh.

Fig.5  Stepwell in Madhya Pradesh.
In the hilly areas of the lower Himalaya in India, I saw people beginning to restore their ponds and return to using ancient springs. In the foothills of the Himalaya people can rely on the hills themselves to soak up the water like sponges and release it year round through springs and streams. But people in these regions also managed ponds. And, like the Newars did in Kathmandu, they cleaned out the ponds in the dry season to ready them for the monsoon. Variations of these methods can be seen still in use all over the subcontinent.

Now you might say: okay fine—but people don’t want to carry jugs down to the nearest pond or stepwell. They don’t want to take baths in a semi-public setting still wearing their saris or lungis. They want water that comes to them in pipes to their kitchens and can be heated for showers in their bathrooms. And I would say, you’re right for the most part—even though I encountered some people in South Asia who still seem to prefer the taste of the water from springs and the communal activities around their water sources.

But I am really not arguing that people should live the way they did two hundred or two thousand years ago. What I am saying, based on my slender knowledge of the region, is that if some of the ancient principles of groundwater recharge are not reinstituted and soon—the coming crisis of water supply in South Asia looks very dire. Groundwater recharge needs to go hand in hand with much better protection of water sources. This would entail not taking too much water out of rivers, and instead allowing them to flow. It would also mean not filling them up with effluent so that nothing can thrive in them except sources of disease. And efforts toward water conservation and rainwater harvesting are badly needed. Locally appropriate, water-saving methods of sewage management are crucial as well.

In South Asia, the monsoon is shifting already. Forget about the glaciers melting for the moment, and what that is going to mean for the entire Gangetic plain. Changes in the monsoon are ominous enough. Where and when the rains fall is becoming less predictable. The monsoon’s late arrival could mean entire crops that don’t take root and animals that die. The monsoon seems to be coming in fewer weeks and in more intense bursts, and that means even less opportunity to capture the rainwater. Meanwhile India has over-pumped its groundwater and not focused on recharging it. And cities like Delhi and Kathmandu have done hardly anything yet to institute rooftop rainwater harvesting.

Water management in South Asia used to require the participation of the entire community. Now, of course, we live in a very different world. Services are centralized. I’ve often heard the argument that it’s too late to do things the old way in South Asia. Too many people live on the land now. Too many trees that once protected the land from the intense subcontinental sun have been cut down to make way for farms and roads and houses. Well, maybe. But more dams in the Himalaya, or the much criticized and flawed “river linking” plan for India will create as many problems as they might solve. Public awareness and participation may be the only remedy to prevent further mistakes in water management.

AUTHOR BIOGRAPHY

Cheryl Colopy researched and wrote Dirty, Sacred Rivers during six years of travel and residence in South Asia. With the help of a Fulbright fellowship she undertook her exploration of the looming catastrophes in the Ganges river basin. She is an award-winning reporter, formerly with National Public Radio affiliate KQED in San Francisco.

REFERENCES & LINKS


Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4896
GREEK NODE
Curated by Keti Haliori
Athens, Greece

Keti Haliori curated seven Greek projects and organised a node in Athens at the Technohoros Gallery, which hosted four of the presentations: ‘World Water Museum’ (p. 280), ‘Ask the Flask’ (p. 30), ‘Vital Space’ and ‘Amorgos Water Oracle.’ The other three projects are: ‘One Hundred Boats, One Hundred Waters’ (p. 55), ‘Promises to Children of the Future’ (p. 70) and ‘Message in a Bottle’ (p. 50).

Vital Space
by Maria Papanikolaou, at Technohoros Gallery in Athens

‘Vital Space’ is built on the belief in the power of art to change the world. It is a participatory platform for all those who believe that an artistic perspective can help civilise, humanise and even rationalise the debate on the current confluence of environmental and economic crises. The platform functions as an open invitation to artists, scientists, activists, theorists, historians etc. to contribute diverse viewpoints from which to relook at the mounting problems regarding humanity’s relationship with Nature and with itself.

Fig.1 Vital Space.

‘Vital Space’ aspires to create a deeper awareness about the most pressing issues of our time and to discern how art can be used to reach and influence a wider audience across the world. Acting as a cross-media art platform on which to pose questions concerning globalization and the plight of the environment, ‘Vital Space’ creates a dialogue regarding the most vital issues of our time and how these can be addressed and expressed through art. It revolves around two main axes: (a) the creation and production of visual art works; and (b) the initiation of research programs, conferences, publications and the formation of educational and media products designed to reach and influence a wide and diverse audience.

Vital Space is a non-profit organization founded in 2010 by artist Danae Stratou and economist Yanis Varoufakis.
Fig. 2 Maria Papanikolaou introducing Danae Stratou, co-founder of Vital Space. Screen capture.

Inspired by her first degree in law and by practicing law, Maria Papanikolaou has attempted over the past 10 years to redefine the contemporary art world’s critical stance on the topic of imprisonment. She uses a variety of art media in order to redefine the conception and visual representation of jails. Her installations revolve around cases of human rights violations. She uses stories told by prisoners to create sculptures based on fictional jailbreaks.

Artists who have dealt with similar issues throughout history have pointed out the abysmal conditions and the cruelty of imprisonment (Piranesi, Goya, etc.). On the contrary, Maria has chosen to express herself through forms that highlight the strength of the human will and desire for freedom. Therefore, she prefers not to use images that shock or focus on the misery of the prisoner or the inhumane conditions of detention, although she has access to such information. Rather, she has chosen to conceptualise the act of escape, using it as a tool through which she sketches out the portrait of a prisoner, not as the tormented other, but as the “acting self.” She creates images that tell stories of successful escape attempts, where the prisoner is not presented as a helpless victim but as an active subject with creative imagination. In creating the images, she experiments with the representation of the prison as a place left desolate with the absence of human presence as a result of the prisoner’s escape.

Fig. 3 Vital Space organised a video competition ‘Raising Awareness in 60 seconds.’
Maria Papanikolaou works with Danae Stratou at ‘Vital Space,’ an Art Platform in Athens, which focuses on creating dialogue on the most vital issues of our time and how they can be addressed and expressed through art. In addition, she prepares the research and photo documentation for articles Vital Space publishes in the online magazine Witte de / With Review.

Amorgos Water Oracle
by Zoe Nikitaki, at Technohoros Gallery in Athens.
See details of the project p. 232

The worship of water plays a significant role the world over; the magic and prophesy associated with it was part of life in ancient Greece. The art of water divination was one of the most important of the prophetic arts, regarded as a significant power.

‘The Water Oracle of Apollo’ represents a rare space; a sacred, open gate of deep communication between the human and the divine. In antiquity, the Water Oracle operated under the supervision of the Hierophant.

In Amorgos, a Greek island in the Cyclades Archipelago, the Water Oracle continued to operate during the Christian period. The holy water from the Oracle was intimately connected with the religious tradition of the inhabitants of the island, a tradition with roots that are thought to date back to the dawn of time. These traditions demonstrate a fundamental need for humans to be reconnected to an inner Source, to the core of existence, and to one’s Soul. Inhabitants of the island used to consult the holy Water Oracle every time they needed to make important decisions in life, or start a new job, a marriage, a long journey, an important deal, or a new beginning in life.

In the area surrounding the Oracle, many springs, and the ruins of an old watermill, continue to issue to this day. Old shepherds will say that they have often seen the fairies of the water sources dancing before dawn in the fashion of circular dances.

In my own art practise, I focus on the healing power of storytelling and its power of transmission; it is a process of initiation for the journey of the soul and the evolution of consciousness. I tell, write and illustrate stories for children and for adults who continue to dream and want to reconnect with their inner child. I remember having painted since I learnt to stand on my two feet. I painted on whatever surface I found in front of me. Painting was second nature to me and a vital part of my
life. The impulse I have to create and express a parallel inner reality remains unquenchable. I paint what arises spontaneously on whatever material is available to me at any moment; everything comes from my connection to the inner Source, from where all dreams, all wishes, and all prayers spring.

Fig.5  Mr. Vagelis Theologitis narrates his experiences of the Oracle of Amorgos.

Fig.6  Athens Node, at Technohoros Art Gallery.

Fig.7  Live presentation of Greek Node at the History Museum of Hydra Island.
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Technohoros Art Gallery http://www.technohoros.org

Screen recording of the Tap presentations:
Vital Space http://water-wheel.net/media_items/view/4983
Amorgos Water Oracle http://water-wheel.net/media_items/view/4984
THE WATER-ORACLE OF APOLLO ON THE ISLAND OF AMORGOS
Zoe Nikitaki
Athens, Greece

Abstract
This is a presentation of a rare space; a sacred open gate of deep communication between the human and the divine powers. The Water-Oracle of Apollo was in continuous operation, under the supervision of the Hierophant—the interpreter of the sacred mysteries—from antiquity to the middle of the 20th century, at the site where, at present, there is the church of St. George Valsamitis on the island of Amorgos.

Introduction
The human desire to know the future—connected to an inner need to approach Eternity, break the barrier of time and disprove the presumption of the finite, material dimension of existence—has always been more than obvious. In ancient Greece, people depended on several kinds of divination so as to receive advice concerning both public and private affairs. Prophecy and divination appeared to be closely related and connected to each other. According to the ancient Greeks, the divination, which was practised in various ways, was the “science” of the omens. In the Archaic period, there were numerous oracles, which dealt with the forecasting of the future, and their prophecies were understood to be the will of the Gods, verbatim. Specifically, water-oracles, where divination was practised, were prevalent in the Mediterranean and in ancient Greek culture.

There are plenty of myths in ancient Greek mythology about the secret and magic world of waters found deep inside the Earth, and about the “tears of Mother Gaia.” The worship of water played a significant role in the ancient Greeks’ lives through its magic and prophetic dimension. Water divination was one of the most important prophetic arts and practices, involving great mystical power. As a “child of the Earth,” water is involved in the destiny of the whole of nature; it goes from the darkness to the light, carrying the double meaning of Life and Death. The “Water of Life” or the “Immortal Water” has been known since ancient times and even nowadays, it is preserved as a treasure in the magical world of the Greek folk tales. The “Water of the Dead” is known, in ancient Greek mythology, as “Styx,” the river of the dead people below the earth, the “Black Water.”

The water-oracle of Amorgos was a sacred gate of communication between human beings and the divine powers. Holy water was intimately connected to the religious tradition of the inhabitants of the island; a tradition with roots which go back to the dawn of time and to the fundamental human need to reconnect with the “Inner Source,” at the core of their existence, with their own “Soul.”

Fig. 1  The holy water.
Location of the ancient Water-Oracle dedicated to Apollo and surroundings

The ancient water-oracle was located on Amorgos, a Cycladic island, in the Aegean Sea. In the past, at the place where the oracle of Amorgos was found, the Christians of the island built a church, protected by St. George (Agios Georgios Valsamitis). The ancient spring can still be seen here though, in the southern corner of the vestibule of the church.

The area where the ancient water-oracle was located was a natural environment of special beauty, full of trees, plants of every kind, and a lot of water all around. There used to be so much water in the area that it was used for the motion of a water mill, the ruins of which survive still today. Furthermore, some of the water sources existed up until the first decades of last century, and some old shepherds even claim that they used to see water fairies, dancing before dawn in circles near the springs and streams.

The area around the temple and the water-oracle was overgrown by an aromatic, medicinal plant, “balsam” (mentha longifolia). Because of the presence of native balsam in the region, the temple of St. George took the name Valsamitis. Nowadays, taking the road connecting the town of Chora with Kato Meria towards the south, you can see the deep ravine on the right where the church of St. George Valsamitis was built. A descending alley 450 m long leads to the monument, surrounded by plants. Even now, the old source flows, and carries along its journey great tradition and history.
Fig. 4 The space outside the church (a).

Fig. 5 The space outside the church (b).

Fig. 6 The Church of St. Georgios Valsamitis.
Fig. 7  The view from the church.

Fig. 8  The surrounding water (a).

Fig. 9  The surrounding water (b).
The operation of the water-oracle of Amorgos over the years

The water-oracle operated, in ancient times, in a temple which was dedicated to Apollo, one of the twelve principal gods of the ancient Greeks. Apollo was considered to be a personification of light and harmony, the god of divination and visions, the patron of poetry, music and the fine arts. Thanks to the water-oracle, Amorgos enjoyed great fame, mainly during the period from the 8th to the 5th century BC. At that period, many rulers and kings from Asia arrived at the island in order to consult the water-oracle of Apollo, in accordance with the typical form of the religious ritual of antiquity.

The temple and the water-oracle of Apollo on the island turned Amorgos into a sacred place. As a result, the island became a religious and trade center, something like a spiritual lighthouse across the eastern Mediterranean Sea. During ceremonies dedicated to Apollo, thousands of pilgrims arrived in Amorgos to make offerings to the god and consult the water-oracle.

The temple of Apollo with the water-oracle survived until early Christian times, in the same location where the Christian church of St. George Valsamitis stands today. There was a specific point inside, where the water sprang through the temple itself. That was actually the water-oracle which operated under the supervision of the Hierophant, a prophet who interpreted the omens of the water through rituals such as prayers and offerings to Apollo. This oracle was as precious as the oracle of Delphi. The oracle of Amorgos was widely known and influential, spreading its reputation throughout the eastern Mediterranean.

In post Christian times and during the race for the foundation of Christianity in the Greek area, many ancient temples—architectural miracles of unique value—were destroyed and Christian temples devoted to saints were built instead. That is what happened to the ancient temple of Apollo as well. St. George Valsamitis replaced it and the water-oracle functioned, during Christian times, as “the holy water of Valsamitis” under the auspices of the Church and the authority of the priest, who was responsible for the liturgy during the abstraction of the water from the source.

Occasions on which people consulted the Water-Oracle

People used to consult the water-oracle whenever they needed advice on a commercial deal, a journey, a new job, a marriage, a matchmaking, a deal to resolve a legal issue or in case of a health problem. Every time they had some important decision in life, or when they decided to make a new beginning, they asked the holy water for advice. Their faith was so deep and strong, that nobody started anything in Amorgos without consulting the water-oracle first. If the holy water was “good,” the work would become “good” as well, with beneficial effects. Otherwise, the work was not possible. Those who had seen bad omens in the water, and finally did the work, were all destroyed.

The current position and description of the water-oracle in the church of St. George Valsamitis

Entering the church, in the space of the vestibule, there is a source of water flowing from the rock, which is maintained until today. Moving to the left of the vestibule, we enter into the main temple of St. George Valsamitis, where—in the middle of the right side—there is a cabin with interior and exterior Christian paintings of saints. On the floor of the cabin there was a stone—a “remnant” of the ancient temple of Apollo—the center of which was carved in a round shape, creating a cavity of 0.3 m depth and approximately 0.2 m diameter. In that cavity there was always clean water—coming from the source mentioned before—at a certain level. In ancient times, water was taken in white cups from that cavity in order to be interpreted by the oracle. When St. George Valsamitis replaced the ancient temple of Apollo, that same cavity hosted the “holy water” of the Christian church.

Examples of Oracular Utterances

The water obtained from the stone cavity was said to be completely clear. However, when the interpreter brought it in the light various microorganisms and other items in various colors, styles and forms could suddenly appear depending on each case. For example, if red spots appeared, that
meant death. If black spots appeared, the issue was complicated and would be difficult to deal with. Finally, white color meant that the omens were good and the outcome of the case would be extremely good.

**A “traditional” explanation of why the ancient Water-Oracle of Amorgos was maintained in the Christian church of St. George Valsamitis**

There is an old tradition, which survives still today and really sounds like a fairy tale. Once upon a time there was a shepherd suffering from vision impairment. One day, he was hit on the face and started bleeding. The shepherd approached a source: the source at the water-oracle, actually. Putting aside some dry grasses that were inside, he took water and washed his bleeding face. Suddenly, as it is said, something strange happened. The shepherd found his lost vision and, unexpectedly, he could see the light. That miracle, according to the tradition, convinced the founders of the church of the mysterious, divine power that existed in the area, and its beneficial and healing effects on the body, spirit and soul of patients. As a result, the faith in the “holy water” was maintained and, for centuries, it remained closely connected to the Christian tradition.

**The “silence” of the waters**

The “speaking water” of the oracle suddenly silenced in 1958 due to a decision of the Church. That year, for unknown reasons, the Metropolitan Gabriel of Thera arrived in Amorgos, opened the temple, operated a liturgy and then covered the stone cavity of the water with cement. This was meant to be the official end of the water-oracle, the valuable cultural treasure, which has been giving advice as a gate of communication between human and divine powers for thousands of years. However, the faith of the people still exists and this “flame” will always be alive. Nowadays, even though the main source inside the temple has been sealed by the Church, the people of Amorgos may still receive oracles using the water from the source at the vestibule. Despite the local veil of secrecy and mystery that seems to cover such practices, undoubtedly, for the people on the Amorgos island, “the water can speak; the water has memory and carries a sacred knowledge and a healing power since the dawn of Time.”

* All photos taken by Mr. Nikitas Roussos, Mayor of Amorgos, 2011–2014.
**Author Biography**

**Zoe Nikitaki** is a visual artist and a storyteller. She also writes and illustrates books for children and for adults who keep dreaming. She studied classic literature in the Philosophical Faculty of the University of Athens and worked as a teacher for many years. Since 2006 she has been working in the Museum of Greek Folk Art as a museum instructor and an illustrator. She has participated in painting exhibitions in Greece and in India. She tells stories from different cultures for children and for adults and she focuses on the healing power of storytelling and art generally.

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Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4984
THE STORY OF WATER IN THREE MAJOR SITES IN TUNISIA
Khémais Benhamida
ESAD, Tunis

Abstract
This presentation highlights the fascinating story, in time and space, of water in three major Tunisian sites, namely Carthage, Kairouan and Tozeur. Its purpose, in the context of the Waterwheel Symposium, is to shed light on man's ingenuity, skills and techniques, to ensure water security (and survival) in the face of geographical challenges and daunting obstacles.

Introduction
Except in the northern part and the littoral zones, the climate in Tunisia is arid and semi-arid and has always been so. Today, with a population approximating 11 million inhabitants, and like other countries with a similar climate, Tunisia has to resort to scientific know-how and modern technologies to solve the problem of water scarcity and to secure the volume of water necessary to meet the needs of its population (65% urban and 35% agricultural). Historically, however, such know-how and technologies were not available, and the inhabitants of Tunisia had to resort to different techniques, depending on the geographical environment in which they lived, to secure the water they needed for their survival.

This presentation illustrates the sophistication and ingenuity of the techniques those inhabitants used to secure water in three regions, namely Carthage during the Roman period, Kairouan during the Aghlabid era, and Tozeur in the 13th century.

The Roman Waterworks
Following a long drought that severely affected the city of Carthage, Emperor Hadrian (117–138) ordered the construction of an aqueduct to provide the city with water. Consequently, a gigantic aqueduct was built carrying water from the present-day town of Zaghouan to Carthage. The aqueduct meandered along hills, valleys and flat lands, over a distance of 130 km, and providing around 25,000 m³ of water a day. It was, after completion, the longest aqueduct in the Roman Empire, and as magnificent and imposing as Hadrian's Wall in Scotland (117 km).

The waters which originated in the Zaghouan Mountain, were collected in the Temple of Waters before they were carried by the aqueduct all the way to a place called Malga near Byrsa Hill. On its way to Malga, the aqueduct followed decreasing altitudes, starting at 371 m at the source of Ain Jouggar, 289 m at Zaghouan itself, then 152 m at Mograne, 47 m at Mhammedia, 24 m at Carthage, and finally 4 m at the Baths of Antonin.

At Malga (six meters above sea level), the waters were stored in impressive large cisterns, known as the cisterns of Malga. The ruins of 15 of these cisterns can still be seen. Each cistern was 100 m long, 7.5 m wide and 4 m deep, with a total capacity of approximately 44 000 m³. [1] From this huge reservoir, the waters were then channeled to the various destinations in the city of Carthage.

Time, events and colonization have left their deep marks on the monument. In 536 vandals destroyed parts of the aqueduct, which consequently became inoperative and was gradually abandoned. In the second part of the 13th century, the aqueduct underwent repair and diversion works in certain sectors. The French military, particularly during the colonization period, took advantage of the conditions of the aqueduct and the indifference of the authorities at the time, and used its stones to build constructions of their own.
Fig. 1 A view of the Temple of waters, the starting point of the Zaghouan aqueduct.

Fig. 2 The aqueduct at the outskirts of Tunis.

As Schulten noted, “Civilization is the worst enemy of ancient monuments; for in the face of the new, the old must retreat.” [2] But as Friedrich Rakob observed, “[L’utilisation continue de cette grande construction hydraulique est une preuve des capacités d’organisation et des ambitions de la civilisation romaine qui dépassent, dans l’une des plus riches provinces de l’empire, le cadre de la simple réalisation technique.” [3] (“The continued use of this large hydraulic construction is proof of the organisational capacities and ambitions of the Roman civilisation, which exceeded, in one of the richest provinces of the empire, the framework of simple technical realisation.”)

Whatever the aspect of the aqueduct we want to look at, whether it is the architecture, the path and decreasing altitude it followed, it bears witness to man’s achievement, to his ambition and ingenuity at a time when there were no technologies to help define altitudes, ensure the quality of soils or the resistance of construction materials, and transport the huge quantities of stone from distant places to the construction site.
Another epoch, another site: Kairouan in the 8th century. Situated in central Tunisia (150 km south of the capital Tunis), Kairouan has a semi-arid climate and, since its foundation about 670 as a garrison, has had to face scarcity of water supply. At the time, the homes and gardens of the city had their own wells and cisterns, but the quantities of water supplied by these homes and gardens did not provide enough water to meet the needs of the urban population and agriculture.

Sixty years or so after the establishment of the city, in the face of recurrent droughts and under order of the Omayyad Caliph in Damascus, the governor of Kairouan undertook waterworks to provide the city with drinking water. The order itself involved the building of fifteen reservoirs outside the walls of the city, and will be carried out mainly during the Aghlabid era (800–909). In this context, an ingenious system of drainage was established: through small dams, the rainwater and the overflow of the tributaries of the neighboring Merguellil River were collected and brought to the city.

Of the original reservoirs, only two (built in the early 860s) and a few cisterns, have survived the vicissitudes of time to illustrate the engineering know-how of the Aghlabid builders. The waters arrived first to the small basin, and from it to the larger basin. The aqueduct itself, which linked the Cherichera Djebel situated 36 kms west of the city to the large basins outside the city, was built only around 960.
These monumental hydraulic installations, considered to have been the largest during the Middle ages, have impressive dimensions. The larger basin is circular in shape; it has a perimeter of over 400 m, is 130 m in diameter and 5 m deep. The smaller basin is only 37.5 m in diameter. The two basins connect with each other, and together cover an area of 11 000 square meters, with a holding capacity of over 61 000 m$^3$. Water arrived into the smaller basin where it was filtered and decanted, before transiting to the larger basin. The latter was connected to a vaulted cistern from which water was then pumped. These basins show the technical expertise of Arab engineers at the time of the Aghlabids. Their size, architecture and aesthetics are witness to the sophistication and ingenuity of their builders.

![Fig.5 A view of the two Aghlabid basins.](image)

The Oases of Tozeur

Another site at another epoch: the oases of Tozeur. In southern Tunisia, at the doors of the Sahara, life would be unbearable, were it not for the Jérid oases. Here, water plays an essential role in the life and economy of the city of Tozeur, the birth place of the Tunisian poet Abul-Qacem Echebbi (1909–1934), and home to the production of the world-renowned Nour dates. In Tozeur, as in Carthage, the Romans were present and left their imprints in the oases.

Tozeur (450 km south-west of Tunis) was an active and flourishing trade center long before the Roman military occupation in the first century of the Christian Era. But the Romans brought to the area their technical expertise and hydraulic know-how. To make good and efficient use of the waters provided by the 200 or so sources running in the oases, they developed an irrigation system whereby water could be distributed to serve the palm groves. Essentially, the system was based on a network of small channels connected to the sources and then assembled into an artificial river. The latter is divided into a number of main streams (called seguia) through which water was carried to the gardens and distributed through small dams, each dam serving one garden. [5]

The system was operational for a long time, but as the number of gardens increased through division due to inheritance, it became necessary to improve it. This was done by the Muslim scholar and mathematician Ibn Chabbat (1221–1285). Ibn Chabbat developed a rational model for the management and distribution of the waters of the Tozeur River. The two important factors in this management system were time and the volume of water provided. Each garden received, for a given time, an amount of water corresponding to its size and the nature of activity/production involved. The model is still in use in several oases in southern Tunisia.

In a region where water has always been a scarce commodity, the elaboration of an efficient system of irrigation such as the one instituted by Ibn Chabbat is surely a remarkable achievement and shows man’s ingenuity in managing the bounties of nature.
Conclusion

These three waterworks, each in a special way, tell the story of man’s efforts to secure water in a poorly endowed or inclement environment, and man’s ingenuity in the face of necessity. In its magnitude, splendor and sophistication, each of these works demands our respect and admiration. And in the face of our indifference and sometimes our irresponsible behavior regarding them, they raise serious questions as to our ability to protect and preserve past achievements for the generations to come.

Looking at what has remained of these human achievements, one is strongly reminded of ‘Ozymandias,’ Shelley’s poem, where it says:

“My name is Ozymandias, king of kings:
‘Look on my works, Ye Mighty, and despair!’

Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare,
The lone and level sands stretch far away.” [6]
AUTHOR BIOGRAPHY

Khémais Benhamida is a retired professor of American civilization, a subject he taught at the Faculty of Letters/Manouba, University of Tunis (1976–2003). He is currently Director of the Ecole Supérieure Privée d’Audiovisuel et de Design – ESAD in Tunis, Tunisia.

REFERENCES & LINKS

[1] There is not much agreement on the number or characteristics of these cisterns. Greenhalgh (2014) provides a note in chapter two of his book (288 Bisson_1881_58 Tunis), in which a French military official reports that “En quittant la station Saint-Louis, on peut visiter d’abord les citermes de Malka; il n’en reste plus que des ruines où les Arabes abritent leurs troupeaux. Ces citermes comptaient vingt-quatre réservoirs ayant au moins 150 mètres de large sur une longueur de 225 mètres...

[2] Quoted in Greenhalgh, p. 106


[5] See Pousset, p. 183

[6] Percy Bessy Shelly, English romantic poet (1792–1822). The poem was published in 1818

Screen recording of the Tap presentation http://water-wheel.net/media_items/view/4942

BIBLIOGRAPHY

Boumaiza, Mohsen; Farhat, Mohamed; and ElBey, Khalifa (1997). ‘Les chemins de l’eau de Zaghouan à Carthage.’ Document submitted to the government of Tunisia to promote the role of the Zaghouan aqueduct in the development of tourism in the Zaghouan Governorate.


Presentation

TUNIS NODE: ‘Tell me about your water: vision, value and preservation’

Introduction of the node and its theme with Amin Hammami, Khemais Benhamida and Karim Mimita. Khemais Benhamida gave an overview of the itinerary of water in three Tunisian cities, followed by questions from the children of the Poitiers node. Ms Asma Belhassine presented ‘Water in the eye of my photo camera,’ a series of photographs illustrated by fragments of poems and quotations. Tahar Ben Ghedifa, a renowned film director, presented ‘from Zaghouan heights to my home tap,’ short documentaries of a maximum 90 seconds each. He made one remembering playful moments of his childhood.

Children from the Poitiers node showed their haiku animations to the Tunis node, who were in awe. ESAD students said they learned that in order to create, it’s important to be in the skin of a child / to find our inner child again. They asked questions to the children from Poitiers who were proud to share their processes.

Guest scientist from Saudi Arabia, Naoufel Souayah, was visiting Tunis and presented ‘The strategies of Plicosepalus acaciae to get free water in the desert environment’ at the node – see p. 178. Hachem Daghbari, student of Ms Asma Belhassine, presented ‘Symposium Phot(o-eau)’ a slideshow demonstrating a range of photographic techniques used to capture water (focus, movement, pose B, etc.), followed by a video.

Presenters

Amin Hammami, Khemais Benhamida, Karim Mimita, Ms Asma Belhassine, Tahar Ben Ghedifa, Naoufel Souayah, and Hachem Daghbari.

L’École Supérieure d’Audiovisuel et de Design (ESAD), previously called University of Arts and Design (UAD) is a private establishment of higher education, recognised by the Ministry of Higher Education, Scientific and Technological Research (agreement N°01-2004), and fully dedicated to the training of Architects, Designers, Visual Artists, as well as Audiovisual and Cinema students.

In addition to its training mission, ESAD is a laboratory of research and experimentation, always at the forefront of the most recent developments in the fields of its interest. Faculty include highly qualified university teachers and professionals. ESAD values individual and collective research in the context of courses, transversal and technical workshops involving practice and experimentation. Teaching is conducted through projects triggering transversality of knowledge and intellectual mobility.

Links

Screen recordings of the Tap presentations:
http://water-wheel.net/media_items/view/4942
http://water-wheel.net/media_items/view/4944
http://water-wheel.net/media_items/view/4946
http://water-wheel.net/media_items/view/4947
TUNIS NODE: ‘Tell me about your water: vision, value and preservation.’

Left top to bottom:
Amin Hammami conversing with children in Poitiers Node.

Asma Belhassine presenting her photos.

Tahar Ben Ghedifa’s childhood reminiscence about water and translation into film.

Hachem Daghbari showing a range of photographic techniques. Quote in red by Adonis: “They say imitating is easy, Oh! if I could imitate the sea.”

Right: Khemais Benhamida responding to questions of Poitiers children and giving an overview of water in Tunisia.
Presentation

HAYWARD NODE, CA, USA: ‘“What?! Sharks in My Backyard?” – A Community Responds to the Local Impacts of Projected Sea Level Rise on the San Francisco Bay Estuary’

Maggie Wenger from BCDC presented the findings of a two-year study of the local impacts of projected sea level rise on the San Francisco Bay Estuary. The community that will be directly affected by sea level rise discussed setting priorities for adaptation planning. Small group discussions took place in livestream and with Tap chat interactions, facilitated by Nancy Ceridwyn, naturalist, and included participation from local college students. The Tap stream was projected and included overlays of art from the concurrent exhibit ‘55” – Images of Sea Level Rise: Abstraction Meets Reality’.

Presenters

**Maggie Wenger** works with key park and recreation stakeholders to refine the ‘Adapting to Rising Tides’ shoreline park and recreation vulnerability and risk assessment, and develop adaptation response options and implementation strategies. Maggie received her Masters of Science in Environmental Policy and Planning at the University of Michigan in Ann Arbor and studied collaborative management of marine resources at the Olympic Coast National Marine Sanctuary.

**Jennifer Koney** has worked over 25 years in the recreation profession including supervising nature, arts and recreation programs for Hayward Area Recreation and Park District. Served as California Park and Recreation Society – District III President in 2006–2007. Exhibiting artist with a current emphasis on ‘Images of Sea Level Rise,’ Jennifer received her Bachelors of Fine Arts from the University of Michigan, Ann Arbor and her Masters from San Francisco State University.

**Nancy Ceridwyn** has served as a naturalist at Hayward Shoreline Interpretive Center since 2009. She has developed curriculum for the school programs at the site and recently has assumed duties in sea level rise education for the center. Ceridwyn has provided interpretive/environmental education to a variety of age groups from older adults to elementary school children in settings from farms to mud flats. She is a Certified Interpretive Guide awarded by the National Association for Interpretation. Her education also includes a Master’s degree in adult education and a certificate of Proficiency in Environmental Management.

Links

[Interpretive Center Website](http://www.haywardrec.org/150/Hayward-Shoreline-Interpretive-Center)

[Site for the San Francisco Bay Conservation Commission and Adapting to Rising Tides Project that Maggie Wenger works with](http://www.adaptingtorisingtides.org/)

[www.jenniferkoney.com](http://www.jenniferkoney.com)

HAYWARD NODE, CA, USA: "What?! Sharks in My Backyard?"—A Community Responds to the Local Impacts of Projected Sea Level Rise on the San Francisco Bay Estuary' with Jennifer Koney, Maggie Wenger and Nancy Ceridwyn.
This session focused on the diverse patterns and rhythms (cycles) in nature and their portrayal in artworks or applicability to understanding and perceiving the world in novel ways.

Jolian Solomon, an Australian artist and teacher, presented still photos and videos of shallow tidal waters in Queensland’s Great Sandy Strait. The combination of a shallow light-colored bottom and a filming schedule that spanned different seasons and weather conditions illustrated the ever-changing patterns of the water forms and permitted the viewer to experience a mosaic of merging rhythms and shapes.

Moving from the small-scale patterns of water flow forms to the mega-scale patterns and cycles of planetary water, William Waterway presented his interpretation of the interaction of three great water cycles: oceanic, atmospheric and cosmic. William is an author and water advocate who has presented his work on numerous radio and television programs and has spoken to the United Nations about water. The combination of these three cycles connects water from the core of the Earth to the outer reaches of the cosmos. His view of the water cycle reminds us that we share this substance with all existence for all time.

Lauren Elder is an artist and teacher from the San Francisco Bay Area who has worked with children at an education center that is particularly vulnerable to the projected rise in sea levels associated with climate change. Models of the shoreline, based on the intricate patterns of the Bay’s inlets and marshes, were slowly flooded with water to simulate sea level rise and the inundation of recognizable structures. As such, the children could see how temporal patterns of sea level rise interact with the spatial patterns of the shoreline.

All three presentations demonstrated the effectiveness and simplicity of perceiving water and its processes through patterns and cycles.
Presentation

‘The Art of A.R.T.’ (Adapting to Rising Tides)

Building on the great success of the five workshops that were held with Bay Campers at the Hayward Shoreline Interpretive Center (HSIC, Summer 2013), I chose to report on our activities at this science/art site in the marshlands of San Francisco’s East Bay. HSIC is in a low-lying area containing major public infrastructure that is highly vulnerable to sea level rise and so is both a study site for scientists and a place where the public is educated about on-going changes. There is a growing commitment at all levels of government (local/state/federal) to make use of our parks as “open classrooms” regarding climate change.

The workshop consisted in the following activities:

1. Children considered the elements of their built environment along the East Bay shoreline. They used modular blocks to represent elements such as wastewater treatment plants, the bridges, the airport, shopping centres, industrial parks etc. They cut up thin sheets of spongy plastic material to represent marshes, lakes, creeks, trails, parks—the major features of the natural environment.
2. While the 4 meter long sink continued to fill with water, we viewed and discussed images of human adaptation to “watery environments” around the world and throughout history.
3. With the model flooding to the anticipated waterline for end-of-century, everything was found floating or submerged. The children then used modeling materials (recycled plastics, corks, wire etc.) to create their own adaptations to the changed conditions.
4. The models were tested on the water table: Does it float properly? Did the dam hold? Are the elevated structures practical? Modifications and discussions ensued.

Presenters

Lauren Elder is an environmental artist and designer who practises “artful functionality” in her community-built projects. Since 2000, Elder has co-created or facilitated numerous urban farms and gardens in the S.F. Bay Area with students and community members. She has also developed various eco-projects throughout Latin America, collaborating with community-based organizations such as Nashira EcoVillage (Colombia), Franja Arte Comunidad (Ecuador), L.A.S.A. (Cuba) and has begun planning work with Niparaja (Baja California Sur, Mexico). Recent art works have been featured at Yerba Buena Center for the Arts and the Contemporary Jewish Museum of San Francisco. Elder received a B.A. in Fine Arts/Sculpture from UCLA and professional training in Landscape Architecture from UC Berkeley Extension. 2012– present: Elder received a Potrero Nuevo Environmental Award and subsequent multi-year project funding. She is on the Advisory Board of WEAD (Women Environmental Artists Directory).

Links

http://weadartists.org

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4930
Photos of the workshop.
Presentation

‘New Definition of Earth’s Water Cycle’

Based on recent science, we may now define Earth’s water cycle as the interaction of three water cycles – the oceanic, atmospheric and cosmic. The interaction of these three water cycles is vital to the renewal and survival of life. We now know that Earth’s water cycle is an open system that circulates water from the core of our planet to the far reaches of the universe. To differentiate the new definition of the water cycle from the old, this new definition is named the “waterway cycle.”

The Oceanic Water Cycle: Water circulates toward Earth’s core via water-saturated tectonic plates. As colliding plates sink, superheated oceanic water melts the overhead mantle and creates magma and related water vapor gas vents. These gas vents manifest across the ocean floor as mid-oceanic ridges that emit magma and super-heated recycled seawater into the ocean.

The Atmospheric Water Cycle is based on the discovery published by Bernard Palissy in 1580. The atmospheric water cycle is driven by the heat of our sun, and involves evaporation, condensation, precipitation, and collection. For over 430 years, Earth’s water cycle definition has been based on the myopic and limiting definition of the “atmospheric water cycle.”

The Cosmic Water Cycle: Each day, a small quantity of cosmic water containing bio-molecules finds its way into Earth’s atmosphere through meteorites and other sources. Recent research estimates that Earth loses a ton of atmosphere to space every hour. Even though the amount of cosmic water entering Earth’s atmosphere, and the amount of Earth’s water being lost to space is miniscule—we may now consider the gain and loss of cosmic water as an essential component to Earth’s waterway cycle.

To differentiate from the old water cycle, this new definition is referred to as the “waterway cycle.”

Presenter


Links

www.williamwaterway.com

Screen recordings of the Tap presentation & end discussion:
http://water-wheel.net/media_items/view/4931
http://water-wheel.net/media_items/view/4933
William Waterway presenting his 'New Definition of Earth’s Water Cycle.'
Presentation

‘Water Forms – Great Sandy Strait’

In collaboration with dancer Roseanna Anderson, guitarist Chris Glassfield and saxophonist Chris Scott-Francis, the collaborative piece ‘Water Forms’ was presented using video taken by Jolian Solomon in the Great Sandy Strait Queensland, filmed during different seasons and weather conditions. It was accompanied by two musicians and a dancer, improvising their response to the images of tidal water movement.

Presenter

Jolian Solomon has spent time living in both the UK and Australia, mostly in rural or remote areas and living in close contact with nature. An essential part of Jolian’s work involves spending solitary time in wilderness areas. Walking, observing, absorbing, drawing. Extracting some essence from that wilderness and then presenting it in a form that will enable the viewer to experience and participate in some way.

During the past decade her work has undergone a transition from 2D and 3D pieces to collaborative multi-media projects. Her works include installation combining sound and movement, installation and performance, environmental in-situ works using space, interval, movement and sound. The building blocks of her work are earth, rock, water, wind, movement, sound, natural cycles and rhythms. Jolian has collaborated with naturalists and ornithologists, in the creation of installations and performances for regional festivals and events.

She runs an ongoing program of art camping trips with students and teachers, and is currently exploring a project working across wilderness areas in both the UK and Australia.

Links

video of patterns
http://water-wheel.net/media_items/view/3993
http://water-wheel.net/media_items/view/4063
http://water-wheel.net/media_items/view/4097

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4932
Jolian Solomon presenting ‘Water Forms Great Sandy Strait.’

Top: Video of water patterns.

Middle: Installation performance with dancer and projection.

Bottom: Driftwood cairn constructed between tides at Tin Can Bay, Queensland.

Screen captures.
Presentation

Once the fourth largest lake in the world by surface area, the Aral Sea has been depleted by irrational water management policies. Since the 1950s, the sea’s area has decreased by 90% and its salinity has tripled, causing an extreme reduction of biological diversity in the region. The regional economy has also been negatively affected due to reductions in the fishing industry and depopulation. Today, only a few ponds and small lakes remain as a relic of the once mighty sea.

There have been a few ideas for preserving the Aral Sea. Central Asian states have come together in the International Fund for Saving the Aral Sea (IFAS), but their efforts have concentrated on the North Sea, and have left the South Sea to extinction. The project of the Aral-Progress Foundation concentrates on the total recovery of the Aral Sea. The foundation seeks to use a number of methods, including construction works, to achieve this goal.

Many research initiatives are also planned, such as satellite monitoring combined with real-time water flow measurement, which will allow even small changes in water levels to be noticed and show human impact on the environment. In addition to environmental and social effects, an Aral Sea reconstruction project would offer many business opportunities. Such an enterprise would demand huge amounts of labour, and if successful, would bring new life to the region, both social and economic.

Presenter

Karl Metchkin is the founder and chairman of the Aral-Progress Foundation for the total recovery of the Aral Sea. He is a student of Waterway Revitalization, at Kazimierz Wielki University in Bydgoszcz, Poland.

Links

The Araln Sea disaster timeline.
REBUILDING CONNECTION BETWEEN SMALL RIVERS AND LOCAL SOCIETIES DUE TO CONTEMPORARY NEEDS IN VISTULA MOUTH

Adam J. Czarnecki [1], Rodrigo R. Ramos Ribeiro, A. Lewandowska-Czarnecka
Nicolaus Copernicus University, Department of Biology and Environment Protection, Torun, Poland

Abstract

This paper presents analyses related to geographic facts of small rivers of the Vistula Delta Rivers in the north of Poland. Increasing the use of small rivers can be sustainable for the relationship between society, tourism and landscape. The main objective of this study is to analyse the process of rebuilding connections with small rivers in these ecosystem services based on the main characteristics of the ecosystem and local society. The study area is located in the north of Poland, where there is human interference on a large scale. Throughout this area’s history, a new relationship between man and the landscape has evolved. The methodology consists of qualitative data results of an investigation conducted during 2012 and 2013. The main results indicate that the ecological structure and functions at the Vistula Delta Rivers are worsened as a result of a decrease in use by fluvial transport.

1. Introduction

The impacts of climate change should result in serious changes on the delta of rivers and on the society living in these areas (Booij, 2005). Urban population growth creates unprecedented challenges, like the provision of water (UNW-DPAC, 2010). In the near future, climate change should affect the discharge and base level of rivers and thus cause changes in small rivers (Verhaar et al., 2008). The increase in human activities and climate change may have notable effects on river systems (Kiss & Blanka, 2012).

Across the centuries, people have founded cities along rivers: in many cities in Europe and in other continents. Rivers provide many important resources for the cities: drinking water, food and navigation. The concept of river management during the 19th and most of the 20th centuries assumed channelization and the flow of the river due to increased flood protection, almost eliminating a lot of small rivers from the cities’ landscape and greatly affecting river conditions, which led to significant changes (Neruda et al., 2012).

Most of the waterway systems of the Vistula River Mouth in Poland were built in the industrial era to transport goods. During that time there were no viable alternative forms of transport (Czarnecki & Lewandowska-Czarnecka, 2007). The historic context of the study area is characterized by canalised rivers, which were used by local industry, and for the drainage of land including polders lying below sea level. Nowadays, this area is characterized by a network of unstable rivers, mostly abandoned. This shrunken network is used less for transport. Less need for using the waterways for transport can be understood as a result of change in the local economy, which is still focused on agriculture, and very lastly on industry. The direct cause is the attraction of new roads in the region.

The importance of the concept of connections between small rivers is because of the active tourism in the economy and the effects of industrialized agriculture in the study area. The water becomes more polluted because of the higher inputs of chemical fertilizers and pesticides. The management of the canalised rivers in the Vistula delta, with straightened riverbeds and compacted flood valleys, cannot cope with the overgrowth of the river and the deposition of sediments. So far, this unstable area could be used for ecosystem services used in urban development and tourism attraction for the benefits of the local economy. The main stakeholders in improving this situation are cities crossed by
the small rivers and the local environment.

The concept of river restoration involves understanding the natural system, looking at the changes that have occurred and working with natural processes to achieve some form of recovery to a restoration or rehabilitation of the fluvial system (Janes et al., 2005).

This article proposes a simple concept to better understand and rebuild the landscape. The interactions between ecosystem services and social economy are characterized by landscape change in the study area of the present research. The aim of this paper is make a preliminary literary reference in order to analyse the possibilities of improving the canalised small rivers system in the area of North East Poland.

2. Material and methods
This research was designed to collect information related to small rivers and local society. It started by collecting information about the concepts and techniques used to rebuild the water system in the area of the Vistula mouth. It was followed by the bibliographical survey. The field visits by the authors during 2012 and 2013 completed the research. Qualitative investigation resulted in the database that represents the current state of the Vistula Delta Rivers.

2.1 Study area
The study area includes the small rivers of the Vistula Delta Rivers in the North of Poland, situated between the Baltic Sea and the two main cities of Gdansk and Elblag. Figure 1 shows a map of the study area in Poland. In comparison to the rest of the country, nature in North East Poland has relatively little human influence (Slesicka et al., 2002). The Vistula is one of the biggest European rivers, more or less undisturbed between dikes (Pastuszak et al., 2012). The Vistula River basin forms an important ecological corridor for animal and plants connecting southern and north parts of Central Europe Lowlands. The Vistula River basin forms an important ecological corridor for animals and plants, connecting the southern and northern parts of Central Europe’s Lowlands.

The river floodplains are highly productive areas with diverse ecosystems (Keizera et al., 2014). The landscape of the Vistula River (considered an estuary area) has floodplains, with meanders and islands, that are also a specific habitat for many aquatic and terrestrial species. Because of the water and floods, it is characterized as an unstable area, forming a lowland landscape, with an average of 1.5 meters above sea level. The dynamic floodplain environments have changed and undergone natural processes such as channel migration and avulsion, as well as changes in depth due to channel incision, avulsion and sediment formation (Little et al., 2013).

Fig.1 Location of the study area in Northern Poland.
The delta of the Vistula River has been influenced by human activities. The presence of dikes, pumps, channels and an extensive drainage system, control water systems from 10 meters above sea level to the wetlands, reaching the sandy spit. The delta is in the shape of a triangle formed by the Vistula River branching into: Leniwka, Nogat and Mierzeja.

The main landscape is arable land, with corridors of rivers that serve mostly for transport and water drainage. This area is characterized by a minimal decline to the sea. In the past, the water level has been dependent on the state of water in the Vistula River, which was feeding the river water into the sea at three separate mouths. After the embankment of Zulawy and the Vistula main riverbed was closed, the water was sent into a built channel directly into the Baltic Sea. Thereafter, the Zulawy riverbeds discharge mainly rain water and water that is pumped out of the polders. The natural threat to this area of the Vistula River in the past came under control. The changes induced that water level has become restricted to smaller differences. The changes that occurred after the embankment and the closing of the riverbed there were smaller differences however causing the rivers to become shallow.

The delta of the Vistula River, as a result of long-term human interference, became the area with three big and many small streams. The human process of channelization creates changes in their streambeds and it is usually undertaken for flood control, navigation and drainage improvement (Gorzel & Kornijów, 2007).

Figure 2. illustrates the small rivers in the study area, the Baltic Sea, the Vistula Lagoon, Vistula River and red circles representing the locations of the two main cities in the area: Gdansk and Elblag. The presence of drains and canals and other infrastructure enables the development of agriculture including the area located below sea level and, depending on their distance from the sea, there are cropfields and meadows.

2.2 Identification of the main problems

The study area is presently characterized by an abandoned zone of unstable canalised rivers without adequate maintenance, resulting in a network of waterways that is less efficient for transport. This small need for transport along the rivers can be understood as the result of economic change in the local economy. Before, the society focused mainly on industry, but now it is oriented more toward agriculture and attracted by the road system in the area.

Figure 3. (2013 photo) presents the different surfaces on the landscape of the Vistula River: areas which are not exposed to floods are used for agriculture (a); dike (b); barrier area for the water from the Vistula River (d); and floodplain (c) the land adjacent to the Vistula River not switched around.
The main obstacles for the small rivers to be more connected are that the waterways of the delta of the Vistula River are only occasionally used by ships and some are even partly abandoned nowadays. As a result of this situation, many of the canalised streams are losing the navigability that could be used, for example, for tourism. In Figure 4, observe an abandoned small river crossing city. The yellow arrow indicates an abandoned industrial building near the canal in Figure 5. In both, it is clear that the urban landscape is not exploiting the capacity to create unique urban features.

3. The Solution to the Problem

This study showed how the small rivers are important in the area. They form a system of rivers and waterways located in an area where there are numerous nature reserves. The open landscape with the historical legacy and rich cultural heritage together may be an explicit way to improve the area of the delta of the Vistula River. An accessible river connected by the smaller rivers that can become a tourist attraction and substantially contribute to the small cities’ economy in the region.

Most of the canalised small rivers are abandoned and overplanted, being polluted from agriculture. The photographs presented in this article were taken during the field expeditions, where the historical and natural value of the area can be observed, of which some aspects are discussed in this
The system of the canals and dikes analysed have a very clever and sophisticated environment, which are still working in order to avoid floods and as important ecological corridors. 

![Small river changed by canalization and close remains of companies situated on the left border (yellow set) (Photograph: A. Czarnecki).](image)

Intensive agriculture in conjunction with climate change can deteriorate the state of the ecosystem, which in turn can benefit from ecosystem services by local communities. Future research for improving connections between small rivers and the local society from the perspective of ecosystem structure and functions in the study area is needed. The next step is applying knowledge of the concepts to restore an accessible network of small rivers on the delta of the Vistula River by improving the ecosystem. Adequate infrastructure could turn the whole area into a tourist attraction.

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REFERENCES & LINKS

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Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4890
Presentation

‘Pour une gestion durable de l'eau’

L'urgence de concevoir des maisons, des quartiers, des collectivités et à une plus grande échelle, des villes durables pour diminuer les coûts d'exploitation et créer des espaces agréables à vivre est l'un des plus grands défis auxquels sont confrontés les architectes et les urbanistes d'aujourd'hui.

Bien qu'il n'y ait aucun modèle à suivre, les équipes de conception qui relèvent le défi ont adopté un certain nombre de principes de conception universels. La gestion efficace de l'eau, ou la gestion de l'eau qui imite le cycle hydrologique naturel, est l'un des éléments fondamentaux de la conception durable.

La conception, urbaine et architecturale, axée sur une gestion durable de l'eau fait référence aux outils et techniques utilisées pour atteindre cet objectif. Il est désormais essentiel de gérer l'eau le plus efficacement possible dans les villes et de la réutiliser plusieurs fois avant de l'évacuer pour qu'elle soit assainie et utilisée à nouveau. L'une des façons les plus efficaces d'y parvenir, c'est de tenir compte des cycles naturels et de profiter des processus écologiques naturels pour capter, stocker, purifier et distribuer l'eau.

La présente participation tente d'aborder la problématique de la gestion durable de l'eau à l'échelle microscopique et macroscopique dans un contexte urbain.

Presenter


Links

Diapositives utilisées pour la présentation
http://water-wheel.net/media_items/view/4336
Fatine Jarrad présente ‘Pour une gestion durable de l’eau,’ Capture d’écran.
BETWEEN COMMERCIALISATION AND DEVALORISATION OF WATER! THE “GUERRAB” AS A RESEARCH TOOL IN MOROCCAN SOCIETY

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Abstract (English Translation)

This essay attempts to detect and explain the mechanisms of change in the relationship between the Moroccan citizen and “water.” The state of this relationship reflects a phenomenal degradation in the citizen’s practice that is in complete opposition to his tradition and culture. Thus, the “Guerrab”* may be viewed as the instrument through which we can study the perception, past and present, of this profession, which has gone from a “noble mission” to a “necessary role,” and, in the end to “folk status,” without any recognition from the Moroccan community. This evolution in the perception of the Guerrab reflects the fading of the notion of ownership in Moroccan society, which means that the water distributed by The Guerrab is no longer viewed as a “common” and “shared” good. Consequently, and from the point of view of this research, the unit of water—like the one of space—is in fact considered “mine” only if I pay for it directly.

*The Guerrab: a man considered in the past as pious, and of great elegance and cleanliness, who distributed fresh water in Moroccan Souks for a nominal price. With the birth of public places in Morocco, he became an itinerant water seller, reminding passersby that water is from God and that the price they will pay depends solely on their charity.

ENTRE COMMERCIALISATION ET DEVALORISATION DE L’EAU ! L’GUERRAB COMME OUTIL DE RECHERCHE DANS LA SOCIETE MAROCAINE

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Résumé

Cet essai est une tentative de détecter, puis de comprendre, les mécanismes de changement de tout le relationnel entre le citoyen marocain et l’eau au moyen d’un outil d’une grande particularité. En effet, l’état des lieux de cette relation montre une dégradation phénoménale dans la pratique de ce citoyen en opposition complète à ses traditions et à sa culture. L’Guerrab* serait alors cet outil d’étude à travers lequel on questionne le passé ainsi que le présent à propos de ce métier qui a connu le passage d’une “mission noble,” à “un rôle nécessaire,” et finalement à un “statut folklorique,” sans reconnaissance de la part de la communauté marocaine. Ce passage témoigne de l’estompage de la notion de copropriété dans la société marocaine, et signifie que l’eau distribuée (ou vendue) par L’Guerrab n’est plus perçue comme un bien “commun” et “partageable.” En conséquence, et dans l’optique de cette recherche, l’unité de l’eau comme celle de l’espace n’est actuellement considérée “mienne” qu’au moment où je la paye directement.

* L’Guerrab : Homme considéré, dans le passé, comme pieux et d’une grande élégance et propreté, et qui distribuait l’eau fraîche dans les Souks marocains à un prix symbolique. Avec la naissance des places publiques au Maroc, il devient vendeur d’eau ambulant rappelant les passants que l’eau est bien de Dieu et que le prix qu’ils payeront ne dépendra que de leur charité.
1. Introduction

En l’absence presque totale de documentation sur l’un des métiers qui, de nos jours, fait partie de la mémoire sans avoir de fonctionnalité, il était motivant de creuser ces éléments invisibles et négligés, dont le Guerrab fait l’objet par excellence. Cet outil d’observation, de compréhension et d’analyse permet de lire les mutations que connaît la société marocaine au niveau des rapports que ses citoyens entretiennent avec “l’espace” - dans sa dimension globale et ses composantes. L’eau est considérée alors comme un élément de cet espace où le citoyen vit et pratique ses droits et ses devoirs vis-à-vis de soi et de l’autre.

Le changement de perception dans la mentalité marocaine peut se lire alors à travers son nouveau regard et sa réaction vers une composante qui représentait un ensemble de notions comme le Don, le Partage, le Bien Commun, qui ont disparu ou du moins, ont été diluées et déformées.

Ainsi ce cheminement expliquerait comment naissent de nouvelles définitions des valeurs, notamment la définition de la propriété de l’eau.

2. Matériel et Méthodes

Après avoir tenté une prospection de recherche, le manque de documentation nous a obligé à suivre une méthode analytique déductive, à partir des constats historiques et d’observations sur le terrain, suivie d’une phase conceptuelle:

Les rares écrits trouvés sur le Guerrab ont été rassemblés dans les limites du possible au sujet des mutations socio-spatiales, afin de mettre en évidence les mutations que ce métier a connu en premier lieu, en tant que fonction qui se pratiquait dans l’espace public et qui, en contact direct avec les citoyens, les influençait. En parallèle, ces mutations ont modifié la valeur de l’eau qui se vendait gracieusement ou à bas prix et se buvait communément dans les bols en cuivre du Guerrab. Finalement, nous avons resitué ces observations dans le contexte de la “modernisation” qui est à la source de ces grands changements du comportement et de la conception des humains.

3. Résultats & Discussion

La discussion des constatations rassemblées a suivi un schéma d’analyse de la relation entre l’eau (en la personne du Guerrab) et le Marocain. Cette problématique représente ici, les différents mécanismes de mutations que la société peut connaître sur le plan culturel et psycho-social.

L’organisation de cette analyse relationnelle s’est faite sur le plan de la culture, des traditions et de la religion, afin de pouvoir détecter avec précision les nouvelles pratiques, perceptions et notions, et voir comment se définit différemment la propriété de l’eau dans le concept des marocains modernes.
La compréhension des mécanismes de changement qui ont modelé le statut du Guerrab en premier lieu, puis qui ont redessiné le relationnel entre l’eau - partagée - et le citoyen marocain, a suivi une lecture comparative de récit entre le passé et le présent. Ce parcours d’observation a pour objectif de retracer les étapes de la destruction de la symbolique que portait ce métier, comme “le sauveur et le donneur d’eau ,” pour devenir, avec la technicité de la bouteille, un demandeur de charité ou un simple décor folklorique.

![Fig.2 Schéma d’analyse de la valeur de l’eau via l’histoire du Guerrab au Maroc.](image)

Afin de cerner l’historique de métier de Guerrab et de le contextualiser, on a élargi la recherche à d’autres pays pour vérifier l’originalité de son existence. Les résultats ont indiqué que ce n’est pas une spécificité marocaine, mais bien un ancien métier qui existait dans plusieurs pays arabes et musulmans, notamment au Yémen (figure 3 à gauche) et en Tunisie (figure 3 à droite). Cette première constatation ouvrira certainement l’horizon vers une deuxième étude plus globale, visant une généralisation de synthèse spécialement si les mutations socio-culturelles se montreront similaires dans tous les pays étudiés.

![Fig.3 A gauche : ancienne photo d’un Porteur d’eau au Yémen, à droite : ancienne photo d’un Porteur d’eau en Tunisie.](image)

Un deuxième cadre de contextualisation s’est basée sur d’anciennes photographies du Guerrab afin d’analyser son aspect et son statut développés à travers l’histoire. Au début, il était un personnage pieux et généreux, héritant son métier de ses ancêtres. Maintenant, il représente un personnage folklorique, qui survit en marge des places publiques et touristiques, tout en plongeant dans le mépris des regards des habitants qui n’acceptent plus ses gorgées d’eau.
Afin de résister au changement, le Guerrab a développé et enrichi son aspect vestimentaire ainsi que son matériel, et ce, par des éléments qui le rendent plus attractif, plus respectueux, plus hygiénique et qui le revalorise. Une Taraza (chapeau) multicolore à dominance rouge, des coupelles en cuivre bien polies, un sac à outils décoré de pièces de monnaies, une tenue rouge et une cloche en cuivre annonçant la présence de ce monsieur qui désaltère les assoiffés. Malgré cette sophistication, la source d’approvisionnement de l’eau est restée la même depuis des siècles, c’est-à-dire les fontaines publiques et gratuites au sein des médinas, à partir desquelles tous les porteurs d’eau de la ville remplissent leurs outres avant d’aller la vendre en contrepartie d’un dirham et parfois d’un simple sourire.

Dans le manque d’organisation et de protection de ce métier, plusieurs prétendus porteurs d’eau demandent la charité sous la peau du Guerrab : “Il y a même des faux Guerrabs qui ose inciter les gens à se balader avec leurs outres vides pour demander de l’argent, ils nous font honte !” déclare un Guerrab qui a 45 ans de service et représente la quatrième génération dans sa famille de “purs” Guerrabs.

Fig.4 Ancienne photo d’un Porteur d’eau à l’entrée de la ville de Meknès.

Fig.5 Ancienne photo d’un Porteur d’eau à la place Jamaa Lafna à Marrakech, 1952.
Sur ce terrain de recherche qui est aussi vierge, cette phase de constat et d’analyse a permis principalement de dégager une série d’hypothèses et de questionnements sur la situation actuelle de la relation entre l’Eau et le Citoyen Marocain :

– Jusqu’à quel point les notions sociales, culturelles, et spatiales reflètent leur changement à travers la mutation du rôle du Guerrab face à la bouteille d’eau?
– Jusqu’à quel point la commercialisation d’un produit sème la confusion, dans les consciences des gens, par rapport à sa rareté et son abondance?
– Jusqu’à quel point, peut-on lire le rapport psychologique du citadin avec l’espace urbain, par rapport à sa nouvelle relation au Guerrab?
– S’agit-il d’une simple disparition d’un métier? Ou est-ce un aspect de tout un processus de dissolution de valeurs d’une société?

Les réponses à ces questions semblent difficiles à justifier de prime abord. Cette difficulté réside principalement dans la dualité de la question qui d’un côté montre l’importance du Guerrab comme une jauge de la déformation de l’image de l’eau, et de l’autre, la notion traditionnelle du partage d’un bien commun avec un minimum d’argent en contrepartie, ainsi que sa signification psychosociale et culturelle dans les liens et les rapports entre l’individu et son semblable, et l’individu et tout ce qui est partageable comme l’eau et l’espace urbain.
Cette complication peut certainement être vaincue en analysant les faits et en les dissociant les uns des autres. Une première donnée relève de la notion de besoin de ce Guerrab et de son eau (et de toute chose partageable). En fonction de cette notion se définit l’importance de la chose. L’évolution de la question d’hygiène est un deuxième facteur qui a diminué la présence du Guerrab en faveur des bouteilles d’eau (qui ne sont pas forcément sans danger) mais qui sont visiblement plus acceptables. La grande force du système de commercialisation écrase sans pitié les différentes valeurs d’ordre immatériel et “déshabille” la vie sociale de ses valeurs extra-matérielles. Finalement, et dans la même optique de la mondialisation, on touche en zoomant sur le Guerrab, à l’état actuel des tendances dominantes où “mon bien à moi” est un nouveau concept qui fait partie de l’ère de l’Individualisme.

Cette pré-étude n’a pas pour but de soutenir l’idée de restaurer le métier du Guerrab afin de rétablir la société marocaine du passé. La société marocaine actuelle n’est pas moins marocaine que celle d’avant, et il n’y a pas lieu d’en créer une autre. En revanche, la dégradation du métier et de l’image du Guerrab ne représente qu’un symptôme d’un problème plus profond, dont les causes sont mondiales. Ceci dit, la restauration de la société, de ses valeurs et de ses fondements propres, est un travail d’éducation à faire, qui re-modèlera probablement les mentalités et les redressera vers l’essence des valeurs humaines de partage, de copropriété et d’échange.

4. Conclusion

La transformation de la symbolique du métier du Guerrab témoigne de la mutation de plusieurs notions dans la société et révèle des nouveaux concepts adoptés par la société contemporaine. Ceux-ci ne sont qu’un aspect de la mondialisation qui renforce les pratiques individualistes.

Le citadin marocain de nos jours exprime de plus-en-plus des idées perplexes mais dangereuses :

– L’eau qui m’appartient est celle que je paie directement!
– L’espace qui m’appartient est celui que j’achète directement!
– Les choses qui ne m’appartiennent pas, n’appartiennent à personne!
– Les choses n’appartenant à personne ne sont pas partageables non plus!

Offrir la possibilité aux citoyens d’acheter et de s’approprier des choses à l’écart des autres, cultive dans la société une impression d’abondance de ce tout ce qu’ils peuvent “avoir” en leurs noms propres. Or, le système de la mondialisation avec ses objectifs économiques ne reflètent pas la vraie situation de la rareté de ces choses (l’eau comme premier exemple). Par conséquent, la propriété s’individualise et la sensibilité au droit de l’autre à acquérir le même bien s’affaiblit et pousse l’ensemble vers une illusion de développement et de confort.

Fig.8 A gauche : photo de Guerrab dans une ville de l’Est du Maroc; à droite, dans le Nord du Maroc.
BIOGRAPHIE DE L'AUTEUR


REFERENCES & LIENS

Figure 1: Schema personnel. 22 Février 2014
Figure 2: Schema personnel. 22 Février 2014
Figure 3A: Album n°92 des photos de Adan, d’Ataouahi et de M’alla. 19 Octobre 2012, in alamree.net, http://alamree.net/alboum-aden_92.htm
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Figure 4: Figure 8: Cartes Postales de Collection d’Afrique du Nord, rubrique Maroc. 14 Novembre 2013, http://www.cartespostales-afriquedunord.com/maroc/197.jpg
Figure 5: Le Nouveau Marrakech De Claudine, Le Jubilé, Posté par TIMKIT. 05 Juillet 2011, in mangin@marrakech, http://mangin2marrakech.canalblog.com/archives/2011/07/05/21480659.html
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Figure 7: Cartes Postales de Collection d’Afrique du Nord, rubrique Maroc. 14 Novembre 2013, http://www.cartespostales-afriquedunord.com/maroc/218.jpg
Figure 8A: Un vendeur d’eau à la place Hedim-Ville de Meknès-Maroc, photographie par Mohamed h. l. 1 Juin 2011, de linternaute.com http://photos.linternaute.com/photo/1458620/1971214234/1777/le-vendeur-d-eau/
Figure 8B: Porteur d’eau (Carte espagnole), Vieilles cartes postales du Maroc. 03 Mai 2008, in blogspace.fr, http://leblogababa.blogspot.fr/40968/Vieilles-cartes-postales-du-Maroc/27/


Enregistrement d’écran de la présentation sur le Tap: http://water-wheel.net/media_items/view/4954
6. Conservation & Transmission
This panel, from Session #17, called ‘Past & Future’, was moderated by Paula Vélez with scientist/artists: Carine Fortin, Keti Haliori, Amy Sharrocks, and Man’ok. Topics explored were: the future of water as a resource and object of the imagination. The panel focused on shrinking global supplies and implications of scarcity through their art, artists discussed the power of history and water as a “commons.”

First panelist, Carine Fortin, French scientist from the Espace Mendes in Poitiers, set the tone with a slide presentation on the attention to water cleanliness and quantity in a specific region. The presentation, given in French, showed strategies for data gathering drawn from differing points in Poitou-Charentes, as well as information regarding the network of actors and events including conferences, strategies, and local organizations working on water covering the region. The presentation talked about the future of water from the perspective of environmental issues and concerns for its quality and permanence.

Keti Haliori’s ‘World Water Museum’ installation and Amy Sharrocks’ ‘Museum of Water’ have different intentions, yet both alert audiences to challenges of keeping clean water on the planet. Haliori’s artistic-scientific inquiry positions drought, climate change, pollution—and water—as precious “items” to be viewed both as collective vat and individual samples. It is duly fetishized. Haliori activates the public’s participation through asking for precise samplings of rivers and lakes. Because drastic environmental changes at individual sampled locations are not prerequisite, the “museum” successfully draws a hypothetical “frame” around a resource that is hardly static. The work comments, thus, on the state and history of world water supplies as both changing and limited. Indeed, in Greece, where Haliori is from, fresh water has a long and erratic story of abundance and scarcity.

Sharrocks is known for her large performances, ‘SWIM’ (2007), ‘drift’ (2009), and ‘London is a River City,’ (2011). The latter is a series of public walks tracing seven of the city’s buried rivers and mapping urban water as a series of specific places and intimacy and non-intimacy with the waters’ history. Participants encounter the city in new ways, including one-on-one paddling and group bathing. ‘Museum of Water’ also engages the public. In this moment of relative plenty, it is a growing collective vision of 300 plus bottles for future generations to consider. Like Haliori, Sharrocks focuses upon access to clean water, providing a “water bar” near the sidewalk “museum” vitrines. She aims to show how we can explore water now and save it for the future. But the two artists’ “museums” differ, too. The samples are fresh water: highly personal first morning pee, tears, water from a holy river in India, a burst London water main, ice from a Sussex field, a melted snowman, 20-year-old evaporated snow from Maine, condensation from a Falmouth window, Hackney rainwater, a newborn baby’s bath water. Sharrocks’ work ends up posing questions around “entitlement” and class, as determinants of access to water.

Finally, Man’ok theater joined online to discuss ‘Rhapsodie Aquatique’ (‘Aquatic Rapsody’), a skit-like work taking place on a floating set, which, at night, in the pitch black, is all color, flashing lights, and plastics transforming the unlit natural setting. Utilizing the lake, Man’ok is forced to engage the natural environment while consciously controlling it. Audiences are transformed as mundane “nature” becomes culture. Water is an absence disappearing without light, or when
illuminated, reflecting the piece. Similar to other events they have staged, this piece activates a public space. ‘Rhapsodie Aquatique’ video report – http://vimeo.com/54089227.

Session #17 was an exciting panel despite small technical issues. Non-French speakers could still see, listen and ask questions in English, at least, on the chat. Because the Symposium drew upon “location” itself as an international event on the web-based http://water-wheel.net, the provocative artworks exhibited and discussed connected the idea of “location”; both natural, cultural and chosen to the geographical and historical. One came away thinking about water, globally, as necessity, fetish and flow. Who has kept water for whom? How do we remember or erase water in today’s spatial landscape?
WORLD WATER MUSEUM
Keti Haliori
Athens, Greece

The ‘World Water Museum’ installation is an interdisciplinary, interactive and activist project. It aims to raise public awareness on the issues of degradation, contamination and depletion of the planet’s clean drinking water.

Influences

I come from a beautiful but completely dry and rocky island located in the Saronic Gulf of the Aegean Sea. In the past, the islanders depended solely on rainwater gathered in cisterns and in the island’s few wells for their drinking water. They are aware what water economy and water management means. They respect water. They are happy when it rains and consider rain to be a blessing. The water shortage is still felt today, since the water brought by the municipal services from one region to another is not potable. My childhood memories are filled with deep concerns about having enough water and images of faucets in the kitchens, of cisterns, buckets, and even the “old water bearer” who carried water and distributed it with his donkey. So, I think that those childhood experiences drove me as an artist to create water-themed projects.

Aims, media, auspices, scientific collaborations, process

The ‘World Water Museum’ installation is an interdisciplinary, interactive and activist project. It aims to raise public awareness on the issues of the exploitation, contamination and depletion of the planet’s clean drinking water. Despite the fact that it is simply a work of art, it surrealistically pretends to be a museum. Thus, apart from the collection of samples, in the name of a virtual museum, exhibitions are organized, and so are performances, events, presentations, and participation in other exhibitions, and conferences, both in Greece and internationally.

The project is under the auspices of the Greek Committee of Hydro-geology and involves both the participation of the Laboratory of the Environmental Department of Chemistry of the University of Athens, as well as private chemistry laboratories.

The participants of the ‘World Water Museum’ installation are individual citizens from around the world, educational institutions, cultural organizations, scientists, environmental associations, municipalities, communities, companies, and generally those who wish to become co-creators in the installation, by sharing the subject and its approach.

Following the given instructions, participants voluntarily send one and a half litres of water. In addition, they must record the sampling process, note the coordinates, send information about the lake or river and finally, if they are willing, submit a biography and a photo of themselves.

The samples received go through a chemical analysis in order to assign each an individual identity based on their natural characteristics. They are then stored in fireproof cone-shaped, glass lab flasks, which are sterilized and placed in a facility, which is constantly added to. In a separate container, 100 ml of each sample is mixed together with the others, in this way gradually raising the level of the ideal “Water of the Earth.” Along with the analyses done in a laboratory in Greece, the profile of each sample is taken and posted on the respective page of the ‘World
Water Museum’ website. The installation is constantly evolving and continuously receives water samples from lakes and rivers from around the world. At this point we must mention that the project does not carry out documented scientific studies on the global state of river water.

The virtual museum does not aim to create a beautiful image out of a collection of elegant and shiny flasks, but rather it aims to shock in order to activate the visitor’s desire to protect the earth’s precious water resources. The water contained in the lab flasks constitutes a cold, formalistic collection of immovable, sterile and imprisoned samples, gathered in a facility-museum so that we never forget the crime that is being committed right now on the planet. It is a contrast with the vivid gurgling flow of life-giving river water and the pulsating lake water that we are losing each day. Each sample acts as evidence, indicating that the specific river or lake actually existed at some point on Earth and it was available to quench everybody’s thirst.

At this moment the count is 18 samples from Aliakmon, Greece; the Arga River, Spain; Kifissos River, Greece; the Rhine near Chalampe, France; the Rhine near Cologne, Germany; the St Lawrence River, Canada; the Struma River, Bulgaria; the Tigris River, Iraq; the Vouga River, Portugal; Riera de San Joan, Spain; Alpheus, Greece; the Swarnamukhi River, India; Nedura, Georgia; Lake Geneva, Switzerland; Lake Iliki, Greece; Lake Kourna, Greece; Lake Ohrid, Fyrom; and Castalia Spring, Greece.

Activities

A great moment for the Museum and I was the collaboration with world famous performer, Ulay, when we conducted the project titled ‘Synergies,’ over two days, on the 1st and 2nd of June, 2013. On the first of June, the project was inaugurated together with about 50 friends who accompanied us and conducted a symbolic sampling from the Castalia Spring at Delphi, simultaneous to an exhibition at the Delphi Museum. On the 2nd of June, Ulay’s year-long activist project on water, along with the Water Museum’s efforts towards drawing attention to the global water crisis, were presented at the Technochoros Art Gallery in Athens.

Apart from Castalia Spring, in the past there have been performances in-situ such as that at the Ilisos River in Athens, but also in galleries such as Technochoros (located under the sacred rock of the Acropolis). This year, an international online workshop was organized under the title ‘Ask the Flask,’ which was presented during the Waterwheel Symposium. The workshop involved young people from countries with water shortage, who exchanged their life experiences with young people from countries with abundant water resources, communicating through Skype and other social media. Within their respective locations, the groups agreed to work together to create works of art.

As part of World Water Day, the ‘Water Museum’ organised the Greek Node of the Waterwheel Symposium, while simultaneously participating in the IWA Regional Symposium on Water, Wastewater and the Environment: Traditions and Culture, held at the University of Patras and the Hellenic Open University. Furthermore, on the project’s official website there is a designated area where people from various scientific faculties, as well as from the world of art, are able to post their research findings on water.

The Museum has worked with artists from Australia, Brazil, Canada, Colombia, Egypt, Greece, Kenya, Iraq, Slovenia, USA, UK and Spain. Apart
from the main installation with the vials, the visual aspect of the 
project includes the analyses of the samples, the sampling videos, the 
vials in which the samples were transferred and the world map of the 
sample location points.

![World Water Museum Installation](image_url)

Fig.1 ‘World Water Museum’ installation.

Conclusion

Water “flies.” It draws aerial routes from any point on the globe towards its conservation within the installation of ‘World Water Museum.’ It draws digital paths through the videos that volunteers send. It flies towards the analysis and sterilization in laboratories. It connects the sampling points worldwide. Most importantly it connects people, ideas and intentions and, as I would like to believe, it contributes to public awareness. We invite citizens from all over the world to send water samples, as well as scientific work.

BIOGRAPHY

Keti Haliori is a new media artist living and working in Athens, Greece. She creates interdisciplinary projects, concerning evolution, the divine, cosmic information and consciousness. She also addresses humanitarian and environmental issues. Between 2008 and 2010 she created public actions and installations, and protested at the entrance gates-host for refugees who survived or were killed in shipwrecks or minefields. In 2011, she founded the ‘World Water Museum.’ She creates and curates water projects.

REFERENCES & LINKS

www.worldwatermuseum.com

Laboratory of Environmental Chemistry, Department of Chemistry at the National and Kapodistrian University of Athens www.chem.uoa.gr

Greek Committee of Hydro-geology www.iah-hellas.geol.uoa.gr

Technochoros Art Gallery http://www.technohoros.org

Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4900
Presentation

‘Museum of Water’

From Artsadmin’s Toynbee Studios in London UK, Amy Sharrocks discussed the ideas behind the project, ‘Museum of Water,’ the water that she has collected and the stories that people have shared.

Amy Sharrocks has spent a year gathering an extraordinary collection of publicly donated water and accompanying stories for her live artwork, thereby creating the ‘Museum of Water.’ As she explained, the museum is an invitation to ponder on our precious liquid and how we use it. At each site, the public was invited to donate some water of their choosing, as well as to discover the existing collection and share a free glass of tap water at the pop-up Water Bar. It is the nature of museums to house something that is gone, and water is a fast disappearing resource around the world.

‘Museum of Water’ houses over 200 bottles including water from a holy river in India, a burst London water main, a melted snowman, the midpoint of two Croatian Islands, a new-born baby’s bathwater, Norwegian spit, three types of wee, two different breaths and water from a bedside table. The water has been donated from all kinds of people from school children, to scientists and bicycle couriers and we have received donations from as far away as New Zealand. The interactive artwork is a detailed gathering of information—through hand-written labels and lovingly imparted stories—mapping the journey of the water from source to bottle to cabinet, combining a rigorous investigation with personal experiences and memories.

Presenter

Amy Sharrocks is a live artist, sculptor and film maker based in London, who invites people on journeys in which their own experience, communication and expression become a vital part. For many years, she has been investigating our connection to water. Amy is best known for ‘SWIM’ (2007) where 50 people swam across London via 15 lakes and pools, from Tooting Bec Lido to Hampstead Heath ponds, ‘DRIFT’ (2009) where she invited people one at a time to drift with her on swimming pools in an inflatable dinghy and ‘LONDON IS A RIVER CITY’ (2009–2011); a series of public walks tracing London’s buried and forgotten rivers.

Links

http://www.artsadmin.co.uk/projects/museum-of-water
http://www.museumofwater.co.uk
http://www.flickr.com/photos/museumofwater
From Top to bottom

‘Museum of Water.’ Photo by Ben Blossom.

Amy Sharrocks presenting on the Tap.
Screen capture.

‘SWIM.’ Photo by Ruth Corney.
Presentation

Since 2005, Man’ok & Co. have been working on the theme of water, both artistically, with the production of the show ‘Aquatic Rhapsody’ and through holding creative and environmental education workshops.

‘Ao. Aoo. Oo. Oooa. Eooao. Eau’ (‘Ao. Aoo. Oo. Oooa. Eooao. Water’) is a proposal for a travelling, artistic and convivial festival, to be held in the Greater Region (Lorraine, Luxembourg, Wallonia, Saarland, Rhineland-Palatinate), in Europe, during the summer of 2014 and 2015. It brings together a range of interventions in the form of a “transhumance” near aquatic areas. The proposal is being developed in partnership with partners and local bodies (communities, associations, artist groups, foundations).

During the Waterwheel World Water Day Symposium 2014, we presented the Festival project, which aims to put water at the centre of public debate by posing the question of people’s relationship to water and its significance for mankind. The Festival does not claim to represent a vision, but rather by bringing together different approaches to water issues, through exhibitions, performances, debates, and creative and engaging spaces, the Festival encourages the awareness and intelligent public perception and understanding of water, including the fact that each human being is comprised of 70% water.

The presentation included an account of the progress of the project—how it is developing and how it is perceived, including excerpts from performances of ‘Aquatic Rhapsody,’ with readings of the “water sounds.”

Presenters

Emmanuel Fleitz is a self-taught composer, bassist and performance artist with an eclectic background. In the intimacy of his studio, he works on finding a language made of the exchange of ideas, music, words, movement, matter and light. He invests any space, interior or exterior, conventional or uncommon, with his own story and transforms it.

Pierre Christophe recently joined Man’ok & Co. He is a journalist and an ecologist, and is responsible for the coordination of ‘Ao. Aoo. Oo. Oooa. Eooao. Eau.’

Links

Two videos about the show ‘Aquatic Rhapsody’
https://vimeo.com/53581759
https://vimeo.com/54089227

Bottom: Emmanuel Fleitz presenting on the Tap. Screen capture.
Presentation


Presenter

Carine Fortin is the Missions Officer for the Regional Observatory of Poitou-Charentes Environment.

Links

http://www.observatoire-environnement.org
http://www.biodiversite-poitou-charentes.org
slides http://water-wheel.net/media_items/view/4504
Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4897
Carine Fortin presented 'The Future of Water in a Region: How to Take Care of Water. Network of Actors and Water Issues in Poitou-Charentes.'
JOINING RIVERS PROGRAM
Alireza Hejazi and Aristi Costopoulou
Tehran, Iran and Athens, Greece

The ‘Joining Rivers Program’ was designed to conduct research on the image of water and its role in human culture. All world citizens who want to take part in the program are welcome. The program is ongoing and focused on finding the ways in which our ancestors thought about water. The project consists of the following three parts: Past, Current, and Future.

Joining Rivers

Water is a material substance that gives life to the earth and living things, but also influences human attitude to life. Mother Nature, with its regulatory mechanisms, cannot survive without water. Interference in the landscape is justified in order to make land habitable and promote so-called “development.” As a result of these infractions on natural resources, water scarcity, pollution and the transformation of climate, becomes inevitable. Despite this, there is still a chance to protect the earth’s treasures by adopting a new approach that employs a more equitable and responsible use of resources. It seems that as society has become less dependent and further from the natural world, there is less consideration. To remind people living in big cities of the kind of consideration that existed in the past, the image of nature and its components in human culture will be traced and re-classified. ‘Joining Rivers’ has been developed to address alienation and to heal the connection with the natural world. The program offers a meeting point for world citizens; a meeting that is like the joining of water drops and the confluence of rivers. ‘Joining Rivers’ is also an invitation, where the program can be taken up by people to raise awareness on water issues anywhere in the world.

In short, the ‘Joining Rivers’ program will remind participants and audiences of how our ancestors thought about water and what they did with it, and will consist in the following parts:

- Past—focus on the cultural heritage of water (myths, the Arts & Literature),
- Current—explore water related traditions and rituals (the impact of the cultural heritage of water on local contemporary societies), and
- Future—increase the global awareness of the dimensions in which water exists.

The first conversation between representatives of Hellenic and Iranian cultures was presented to an international audience as part of the Waterwheel World Water Day Symposium 2014, in this way initiating the ‘Joining Rivers’ program.

The first team consisted of Aristi Costopoulou of Hellenic culture and Alireza Hejazi of Iranian culture, coming together as two citizens of the world living respectively in Greece and Iran, and meeting like two water drops, two rivers, and the confluence of two rivers. The research material from this ‘Joining Rivers’ project will result in a book series. The LinkedIn group of ‘Joining Rivers,’ which is a subgroup of ‘Water Sense,’ will report on the project’s progress.
Fig. 1  Left: Aristi Costopoulou, Hellenic culture & Right: Alireza Hejazi, Iranian culture.

Fig. 2  Top right: Aristi Costopoulou talks about Hellenic culture.

Fig. 3  Top right: Alireza Hejazi talks about Iranian culture.
BIOGRAPHIES


**Aristi Costopoulou**, BFA and M.A. in Museum Practice and Management. Research interest: Cultural geography and anthropology

REFERENCES & LINKS

Linkedin groups
Water Sense [https://www.linkedin.com/groups/Water-Sense-4710962](https://www.linkedin.com/groups/Water-Sense-4710962)
Joining Rivers [http://www.linkedin.com/groups/Joinning-Rivers-6668004/about](http://www.linkedin.com/groups/Joinning-Rivers-6668004/about)

www.aristi.net

Screen recording of the Tap presentation
[http://water-wheel.net/media_items/view/4901](http://water-wheel.net/media_items/view/4901)
- **Absorbing Red Photons**
  - Michelle Atherton
  - London, UK


### Absorbing Red Photons

What might be at stake in an act of submersion in a place of perpetual darkness? How might it be to find oneself submerged in a state that is overwhelming and fluid, with no perceivable exterior? What might it feel like when (for a while which could become forever) there is no bearable, liveable outside? To be totally immersed on all sides, and crucially from above: to be surrounded by a different state—liquid, fluid, yet solid in its pressure? How would it be to be in suspension between what is solid and what is gaseous—no land, no air—in a space where molecules move freely from one state to another but do not fly apart?

We are now overly familiar with the language of fluidity. The terms liquid states and liquidity now have economic reference. There is a state of being liquid which refers to the ready conversion of assets into cash, with the minimum loss of value. Of course cash has value, movable and contingent. Its very abstractness is also about the ability to maintain value through a fluid movement between states, some of these geographical.

If we dig a little deeper, the phrase ‘submerged economies’ refers to a sector of the economy based on illicit working or illegal activities that do not appear in national statistics. In the rhetoric of the submerged economy what is legitimate remains on top—on the surface. The illicit remains suppressed.

‘Absorbing Red Photons’ approaches contemporary conditions and ramifications of submersion. How is it to be submerged in fluidity—to be set into an unfixed state? A particle suspended in a solution that is in constant motion and where time becomes lost in an everyday sense. If the slogan still holds true that it is easier to imagine the end of the world than the end of capitalism, could this failure to imagine a coherent alternative be the result of a long-term condition? A condition, that is overwhelming and fluid with no perceivable exterior, or does such a state allow for another space to be imagined?

### The Artwork

‘Absorbing Red Photons’ uses as a starting point raw video footage recently shot from a tourist excursion undertaken through the Roatan Institute of Deepsea Exploration with Stanley Submarines. I and two other passengers travelled 2,000 ft below sea level, just off the coast of Roatan, Honduras. It continues a trajectory in my work that uses certain cultural phenomena as a starting point to discuss structures, systems and indeterminate preoccupations. The work often mines resistant spaces for political and material ends in considering current states and future possibilities.
'Absorbing red photons’ reveals a four-hour view of the ocean’s abyssal zone through the submersible’s thirty-inch porthole; the latter is only intermittently visible. There is no human presence, no-one behind the wheel, only an audible reference to released oxygen, creaking steel and the occasional distant song lyric reinforcing the separation of the confined and claustrophobic space of viewing the sub and fluid space of submersion. The footage presents a space where the human is unmoored from the terrestrial, from time and perhaps known centralities.

The final installation of the video aims to test a new sculptural approach through the editing process. I want to move beyond the usual dark immersive screening space and experiment with the possibilities of objectifying the footage by producing a series of projected digital sculptures. These projections will be installed in partially constructed buildings that can now be found across the U.K. after the 2008 economic collapse.

The piece will present a disjointed collage over numerous screens—creating an aesthetic of brute submersion in the form of a visual and audio onslaught through the combination of the soundtrack and images. Different perspectives will clash, as an ambivalent spatial drift is languidly mixed with a frustrated and thwarted roving point of view/camera eye. The surface of the work will be of seduction and frustration, assault of drift and constant anticipation. The expanse of the ocean and other material is presented not as a mere backdrop nor metaphor but a digital material substrate both aesthetic and political. A liquidity, which when illuminated in its blue-black state, has a real visual presence that offers, indeed is heavy with, its surrounding submersive condition.

The following sequence of stills from ‘Absorbing Red Photons’ presents a section of spatial drift from the video.

**BIOGRAPHY**

Michelle Atherton’s artwork explores the way we move and are moved in our everyday life. She is currently working on a trilogy of videos. The first in the series, ‘Dreams of Flying’ (2011) has been exhibited at the Tatton Park Biennial, RAF Museum Cosford, UK and Zeppelin Museum, Germany. The work considered what played itself out in taking a ride in a military jet fighter. ‘Absorbing Red Photons’ is the second work and is due for completion in 2015. Other recent exhibitions she has participated in include ‘Object Abuse Spinach,’ London (2013), ’Tegel: Flights of Fancy,’ Kino Babylon, Berlin, (2012). Her work has been exhibited and published throughout Europe. She is based in London and is a Senior Lecturer in Fine Art at Sheffield Hallam University.

**REFERENCES & LINKS**

Slides used for the Tap presentation:
http://water-wheel.net/media_items/view/4329

Screen recordings of the Tap presentation:
http://water-wheel.net/media_items/view/4902
Fig. 1 & 2 ‘Absorbing red photons’ installation by Michelle Atherton. A four-hour view of the ocean’s abyssal zone through the submersible’s thirty-inch porthole.
DEEP LIKE THE RIVERS
Fo Wilson & Students
Center for Black Music Research (CBMR) at Columbia College Chicago, USA

‘Deep Like the Rivers’ is a multi-media collaboration between Assistant Professor Fo Wilson and graduate and undergraduate students from various departments at Columbia College Chicago. Under the auspices of the Center for Black Music Research (CBMR), a research center at the College, we have researched and collected visual media and environmental sounds of water, and gathered historical and contemporary sound recordings from their archives. This material is from diverse musical genres over various periods that reference water as a central theme. Our Waterwheel symposium presentation features Chicago artist and poet Krista Franklin and mixes video, images, musical recordings and environmental sounds, into a media-rich narrative that uses the symbolism and presence of water as a way to connect diverse communities to a shared humanity and history.

We advanced our project throughout the entire semester and shared some of our work during the Waterwheel Symposium as a multi-media, contemporary “mixtape.” In addition, the collaborators in the CBMR Research studio, members of the Columbia College community, as well as the Chicago community-at-large, shared brief individual narratives of significant and memorable experiences they have had with either black music and/or water as a part of our performance.

Water can be a destructive, transformative and redemptive force: from the destruction of a tsunami, the joyful baptism of a newborn baby, to the water that we need to nourish our bodies everyday. Water in its many forms is a prominent force of nature, essential to our well-being, and an important element in human ritual. It is said that planetary water is not newly created, but rather continually transformed and recirculated though our oceans, streams, atmosphere and bodies. If this is true, then the Earth’s water truly connects us, and all the beings that have lived here throughout time.

We invite an international audience to share their own brief experiences with black music and/or water as a response to our presentation on the Waterwheel platform.
Black Water
A Collage Poem by Krista Franklin

Just look at the world around you
Right here on the ocean floor
This water tells my story
This water knows it all
New world water make the tide rise high
Come inland and make your house go “Bye”
Old black water, keep on rollin’
Well, I built me a raft and she’s ready for floatin’
Yeah, we in luck here
Down in the muck here

(My goodness if you ain’t the baddest
Mermaid I done seen around here in years)

My momma was raised in the era
When clean water was only served to the fairer skin
Pimpin’ people is the rule
Polluted water in the pool
You never miss the water
Til the well runs dry
I have had enough bad love
So I’m telling you goodbye

Fluorocarbons and monoxide
Got the fish looking cockeyed

You take my love for granted like water
Water you spill and you waste
Darling it’s better
Down here where it’s wetter
Take it from me
Backwater blues done called me
to pack my things and go

I’ve been licked and washed up for years
Fools done upset the Old Man River
(Yes, we’ll gather at the river
The beautiful, the beautiful river)
And do I love you my oh my
Yeah, river deep mountain high
Oh, how long I cry til the river runs dry

I want to be (I want to be)
On the seaside of love with you

Go ahead and spill some champagne in the water
Because this water drown my family,
This water mixed my blood
(The sea, the majestic sea
Breaks everything
Crushes everything
Cleans everything
Takes everything)
It spills quicker than water

Though love is thicker than water


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**BIOGRAPHIES**

*(in alphabetical order):*

**Sarah Colbert** is a Fine Art student at Columbia College Chicago with a practice concentrated in fibers, sculpture, and installation. She will graduate in May 2014. Sarah will be featured in a two person show titled ‘crossed t’s and dotted i’s’ at The Kitchen Space in Chicago, IL on 4 April 2014.

**Janelle Vaughn Dowell**, a second year Interdisciplinary Arts & Media MFA student, is from Chicago, Illinois. Her work explores such themes and subject matter as: Black Americana, self-portraiture as memoir, nature, water, fish, and music. The Chicago Filmmakers and the Chicago Instructional Technology Foundation awarded her funding in 2012 to produce the civil rights docu-curriculum Malden & Zariff. Before attending graduate school, she completed the digital publishing program at Stanford University and received a BA from the University of Arkansas at Pine Bluff.

**JJ McNeal** is a sound artist/designer and composer working under the moniker “Naoize” (pronounced Noise). He is a senior Interdisciplinary Audio student concentrating in Electroacoustic Composition and Music Technology. He has a deep interest in cross-disciplinary collaboration, audiovisual work, and the intersection of art and media technologies.

**Andrea Mikeska** is a junior at Columbia College Chicago. She is studying and working towards a career in Advertising Art Direction. She has entered competitions like the YWCA poster competition and her work uses many different media such as paint, pencil, and various computer programs. Andrea specializes in Photoshop, Illustrator and InDesign.

**Cristabel Tapia** is a student attending Columbia College pursuing a Bachelors degree in Fine Arts. Her work focuses on technology and online communities, which she documents through videos and photographs. Cristabel specializes in Photoshop, painting, and mixed media and will be studying the painting styles of her culture in Puerto Rico.

**Fo Wilson** is an Assistant Professor of Art at Columbia College Chicago in the Department of Art and Design and received her MFA from the Rhode Island School of Design. Her work uses the language of furniture and other media to investigate ideas around identity and culture and to re-present histories that counter dominant Western historical narratives. She works as an artist, educator, writer and independent curator and is Columbia College’s 2013–14 CBMR Faculty Fellow.
Krista Franklin is a poet, visual artist and performer who lives and works in Chicago. Much of Franklin’s creative output concerns itself with the intersection of the literary and the visual, and often explores the conceptual concerns of AfroFuturism and AfroSurrealism.

REFERENCES & LINKS

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www.sarahcolbert.virb.com
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Video documentation https://vimeo.com/89657084
WATER & MEMORY – OVERVIEW
by Russell Milledge

Some time has passed since session #32 of the Waterwheel World Water Day Symposium online event. It is now June 2014 and session #32 took place back in March. What kind of online event was this? That it might constitute a memory, experience or embodiment for an observer distanced by time and place. What form could this temporal separation take? There is no longer anticipation of the event unfolding—it has unfurled. Its occurrence has generated residue and traces. These are traces of difference and interpretation in the minds and experiences of individuals and communities involved. What is there to gain from the physicalisation of the residue cast by session #32 now? What is the nature of reenactment to a network performance? Replay or recast? The remains are only the attestation of the minds eye—memory transposed to abstract textual symbols—the filter of words. Can the act of writing about #32 claim a commensurate liveness? Already re-generational in re-mediation from the physical gesture of the instigating moment of the now—that was then. What can a distant witness contribute through the feebleness and fallacy of words but another instance of action—another embodiment of the moment?

A transmission of presence in the moment of action—networked performance must be impaired or interpolated. There is an inherent contradiction when liveness is mediatised. Rather than the state of sense-awareness inherent in the term “liveness,” we become sense-impaired when sensation is mediatised. Experience is limited to the transmission of telematics. The embodiment is an extension of the machine—the zero dot one dot zero dot one dot zero of network settings conveying the velocity of 0101010. The network is conspicuous for its intermediality—at its best a doorway or portal to a parallel dimension and at its least a reduction to an insignificant epitome.

Where then does this leave the recasting of #32? What chance is there to re-spatialise the event, but to reduce its function to the mechanistic extension, just so to claim for it a portentous re-enchantment. A synesthetic re-enactment through the deftness of telaesthesia, as follows:

I am looking for the Sunshine Biscuit Factory in East Oakland, it is early Friday evening and the traffic is horrendous. Finally, I get past the Oakland Coliseum and soon give up as Google Maps is deceiving me. However, taking the second left I arrive at the factory, locate the tunnel and the stairs. Relieved to find the event is running late—a moment to breathe. The MilkBar is an excellent venue, there is a nice light filtering through the windows. I am using the moment to take in the dark timbers and the group of art students preparing their content. Molly Hankwitz and Ian Winters are readying the space and equipment, there are about ten of us. There is an alternative energy associated with the event and, like similar events around the globe, speak of artistic resilience against the political rationalization of everyday life.

It begins. First up is a historical film introduced as a seminal work of experimental filmmaking. It is Ralph Steiner’s ‘H2O.’ The projection, already a digitized copy of a black and white 1929 film is remediated as a webcam experience for an online audience participating in the 3WDS14 symposium. There is no online sound, but the visual rhythms represented in the film are so evocative of sound that synesthesia takes over.

Two more experimental works are screened, ‘Metamorphosis,’ a 2013 colour
video by the Iranian environmental artist Atefeh Khas, that uses time-based techniques to show in a very short duration what is happening to Earth on a bigger scale. The third screening is from the San Francisco based artist Allison Holt, ‘EXPERIMENT 2’ produced in 2008, with sound by BJ Wilsen and Stillupstepyapa.

The noise emanating from a BART train on the tracks outside the venue interrupts the proceedings, but it is of little consequence to the teleportation I experience that has immediately relocated me to the opposite side of the Pacific Ocean. An act of great transmogrification now demands that my experience of session #32 is concluded as a member of the online audience. There is a laptop in front of me. The only consolation to this predicament is being in the relative comfort of the balmy, tropical location that I now find myself in.

My sudden absence from the MilkBar in San Francisco appears un-noticed and has been masked by the sudden arrival of a group of six new audience members to the venue. I know this as I am privileged to the Waterwheel Tap chat, to which Molly Hankwitz has been keeping the online audience informed of the comings and goings at the venue.

The experience of #32 is now extenuated, the encompassing awareness of the venue as a spatial volume inhabited by the substantiation of individuals and their orientation and vectors in space has gone. Reduced to a limited pallet of sensory information, the visual and aural has become intensified. My personal orientation is now from a single perspective, which is provided by the venues camera lens pointing to the Internet video stream. My presence and gesture has transferred to the rant of the chat window. The rest of the evening performances unfold. I discover that the online experience is much more didactic. There are voices here, coming through the medium of the chat text, that convey all manner of additional information and context to the performances at the venue. For example, I learn how to make perfectly clear blocks of ice, about photons of light masquerading as liquid——water-refracting light opposing the camera's perspectival eye.

On the screen, I watch a dancer’s body whose movements are visceral, more interpretive of a body of water than the shimmering illusion of the fluid patterns being projected. Is it improvised? Now contained and framed, the generative chaotic pattern transmits a liquid code—the code-reader is the dancer’s tacit intuition. The dance installation is a work by Susan Sentler and dancer Tiffany Tonal. Susan Greene and Yaser Murtaja conclude the evening after Ana Labatista’s group present documentation of the work ‘Speaking Tributaries.’

I see in these works displacements and other modalities. Questions are drawn about the ways we mediate between the structures and architectures of these modalities. For example, questions between the gallery’s surface and the performance paradigm of embodiment; between liveness and the mediatized; between the temporal and the static; the spatial and the monoptical?

The session #32 event ends and the portal closes. Tomorrow I will go out, into the torrid world of northern Australia, thinking about temporal displacements and subjective embodiment, and how these constitute new ways of participating in aesthetic experiences.
HYDROLOGIES+HISTORY::WATER AND MEMORY
Curated by Molly Hankwitz
Milkbar Node, in Oakland, USA

Screening of three films, which explore the nature and culture of water: as a surface, wave, flow and time, through the mediums of cinema and video.

‘H2O’ (1929) 14:00, B&W, is an experimental film about light, movement and other fluid and transitory properties of water, directed by pioneer filmmaker, Ralph Steiner. It is considered one of the seminal works of experimental film of all time. Steiner’s other works involve investigations of water through shorelines and, also, forays into industrial mechanics. 14 mins.

‘METAMORPHOSIS’ (2013) 2:04, color, is a time-based video addressing climate change, particularly global warming by Atefah Khas. Khas: “I think we must pay more attention to this problem, which people ignore, but which progresses on a daily basis. In order to create a clear ice cube, I boiled water twice over to remove the bubbles in the water. Then I placed the cube outdoors and let it melt according to the ambient temperature, from morning til evening. A webcam captured the melting process over the entire day. This happens every day on Earth, though on a bigger scale!”

‘EXPERIMENT 2’ (2008) 4:00 by Allison Leigh-Holt is a live-mixed video experiment using CCTV video processed with voltage control and the Wobbulator invented at the Experimental Television Center by Nam Jun Paik. One in a series of three made immediately after Holt began ongoing field research in Java, Indonesia, and focusing on traditional methods of navigation between the natural and supernatural worlds. Original music by puta BJ Nilsen and Stillupsteypa.

Fig.1 Molly Hankwitz introducing the session, at the Milbar Node in Oakland, USA. Screen capture.

BIOGRAPHIES

Molly Hankwitz is an interdisciplinary artist and curator based in San Francisco, California. She has produced events in old and new media art in numerous contexts since the 1980s. Contributing to the 1993 edition of Architecture and Feminism on the work of Niki St. Phalle and was lead
curator for ‘Housework: Domesticity and Subjectivity in Feminist Art’ at the University of the Pacific in 2010. She holds a doctorate in Media and Communications. Dr. Hankwitz’s work includes numerous print and web publications, films, installations and curatorial initiatives.

Ralph Steiner was an American photographer, pioneer documentarian and a key figure among avant-garde filmmakers in the 1930s. In 1929, Steiner made his first film, ‘H20,’ a poetic evocation of water that captured the abstract patterns generated by waves. Although it was not the only film of its kind at the time, ‘H20’ made a significant impression in its day and has since been recognized as a classic. Among Steiner’s other early films, ‘Surf and Seaweed’ (1931), the concept of H2O expands as Steiner turns his camera to the shoreline.

![Fig.2 ‘H20,’ film by Ralph Steiner (1929) viewed on the Tap. Screen capture.](image)

Atfeh Khas is an Iranian artist. She has an MA in Art Research from Alzahra University and a Bachelor in Painting from Shahed University in Tehran. She has been a member of the environmental artists group “Open Five” since 2005. Her specialty is Environmental Art. She has participated in more than thirty Environmental Art Festivals in Polour, Hormuz, Shoushtar, Uremia, Isfahan and Nowshahr since 2005 to the present. Her works have been exhibited internationally in Canada, United States, Nepal, Belgium, Romania, South Korea, France, Greece, Poland. She was selected for the Environmental Art Residency Program in South Korea in 2012.

![Fig.3 ‘EXPERIMENT 2’ by Allison Leigh Holt (2008). Still from the video.](image)
Allison Leigh Holt is a San Francisco-based artist and scholar whose work combines video and sculpture, sound, diagrams, and performance to investigate and model interstices between multidimensional reality, knowledge and cognition. She is the recipient of numerous fellowships and grants including J. William Fulbright Fellowship (Indonesia), San Francisco Arts Commission, and the San Francisco Artist Award. Exhibitions include Stanford University; SFMOMA; Headlands Center for the Arts; Axiom Gallery for New and Experimental Media (solo); Cemeti Art House (solo, Indonesia); the Boston Cyberarts Festival; and the Urban Screens Conference (Australia). She holds a BA from The Evergreen State College and an MFA from Massachusetts College of Art + Design.

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http://en.wikipedia.org/wiki/Ralph_Steiner
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video ‘H20’ by Ralph Steiner http://water-wheel.net/media_items/view/4264
video ‘Metamorphosis’ by Atefeh Khas http://www.atefehkhas.com/Metamorphosis.html
video ‘Experiment 2’ by Allison Leigh Holt: http://water-wheel.net/media_items/view/4266
Screen recording of the Tap presentation by Molly Hankwitz: http://water-wheel.net/media_items/view/4935
A film by Ain Media ‘Gaza Above the Storm’ (2013), shows the devastation of flooding in Gaza due to conditions of occupation and siege, and the efforts made by community members to provide for its own needs, in order to survive the crisis.

Rushdi Al Sarraj & Yaser Murtaaja started Ain Media in January 2012. The goal of Ain Media is to offer alternatives to mainstream media regarding life in Palestine. Ain Media creates documentaries and offers training courses in photography, public affairs, editing, lighting, translation and reporting. [1]

Fig.1  Flooding in Gaza City. Photo Ain Media.

Fig.2  Gaza citizens arrange for aid to flood victims. Photo Ain Media.
The ‘MAIA Mural Brigade’

The water crisis in Palestine continues to worsen, particularly in Gaza where desalination plants were bombed during Israel’s Operation Cast Lead assault in 2008/2009 [2].

The ‘MAIA Mural Brigade’ ("Maia" means "Water" in Arabic) is a multi-media public-art project in Gaza, Occupied Palestine, organized by Art Forces. In 2011, Art Forces brought together artists, activists and youth from Palestine to paint murals on sites of water purification and desalination systems that are being installed by the Middle East Children’s Alliance (MECA). The purification systems provide clean water to more then 50,000 children and their families. In 2011, the ‘MAIA Mural Brigade’ painted eight murals with Estria Foundation’s #WaterWrites. The last mural was painted in 2013, at Al Azhar University in Gaza City. The ‘MAIA Mural Brigade’ works in collaboration with EWASH, Emergency Water and Sanitation Hygiene.

MECA, Berkeley CA, has worked for twenty-five years to provide on-the-ground humanitarian aid to children in the Middle East. MECA’s MAIA Project was a response to the Student Parliament at Bureij Refugee camp who voted that clean water is the most important thing needed in their lives [3].

Working in partnership with community organizations in Gaza, MECA’s MAIA Project has provided clean water to more than fourteen large UN schools in Palestinian refugee camps and thirteen kindergartens in refugee camps, towns, and villages. Funding for these systems comes from grassroots organisational efforts in the USA.

‘Gaza City, Palestine’ by Josue Rojas, MAIA Mural Brigade member, 2011: “As the news of the ‘Flotilla’ and ‘Flytilla’ bring messages of solidarity to Gaza through the twittersphere, I sit overlooking the Mediterranean Sea, almost lying in wait. I am not the only one.

I’m here as part of an artist collective called the ‘Maia Mural Brigade’ in conjunction with the Estria Foundation’s #WaterWrites Project and Break the Silence Mural and Art Project (now called Art Forces). Our aim is to collaborate with local artists and youth to paint public murals on the water conditions affecting the people of Palestine. We’re lined up to paint eight murals in the next seven days on water purification systems at
UNRWA schools providing potable water for residents of the Gaza Strip. We meet with Dr. Mona El Farra, Director in Gaza of MECA’s Maia Project, which raises funds for and implements the purification systems. She is our community liaison. We sit on her porch and discuss the details. Drinking mango nectar, eating cucumbers and pita with hummus, it is easy to forget we’re steps away from piles of rubble that were people’s homes before the siege.”

Dr. Mona’s approach is warm and open, “I won’t tell you what to paint. Artists need to have space to fly.” She sends us to schools to gather material for our murals from the children of Gaza. We bring crayons and questions, and leave with drawings and stories. They draw about raw sewage spilling into the sea where the treatment plant stood before the bombs began to fall. They show us sketches of rain and clouds, fishermen and boats, soldiers and warships, drinking water and growing plants. “You can’t separate art from politics,” Dr. Mona tells us. Therefore, we will paint, knowing that our work will speak to people whose basic needs are not being met, and hoping that our images translate their reality into the world and attract solidarity from across the seas. Israel has stopped the Flotilla and Flytilla many times.

Fig.4 Painting with Local Artists at the Shati Refugee Camp in Gaza City, ‘MAIA Mural Brigade,’ #Waterwrites, Art Forces, MECA. Photo Art Forces.

Fig.5 MAIA Mural Brigade, #Waterwrites, Art Forces, MECA, Jabaliya Refugee Camp. Photo Art Forces.
My colleagues and I are witnessing what the eight-hundred activists and committed cultural workers from across the world were denied. As I sit here, in the lobby overlooking the sea, my mind goes to what I’ve seen: drawing inspiration for art. Tomorrow we will paint, and begin the first in a series of eight murals. These murals will stand as our statement, and we will testify via our craft: bearing witness to Gaza. The message: Give these people the water they deserve and need.”

‘Roses Grow From Concrete,’ by Nancy Hernandez

On our seventh day in the Gaza Strip we painted a mural at a kindergarten in Beit Hanoun, a town along the Northern Border. As we approached, the driver pointed out rubble and empty lots where rows of houses stood before the 2006 bombings, and then parked in front of a cement wall, riddled with bullet holes. “Yalla” (Lets go!) he told us, walking towards the gate, I wondered what it would be like to drop your child off at a school with bullet holes across the front wall. One of the most densely populated places on earth, Gaza is a one hundred and forty square mile piece of land that is home to over 1.7 million people. Raw sewage contaminates more than half of the ground water since the bombing of the sewage plant, and due to over pumping salt water from the Mediterranean has spilled into the aquifer.
Children and babies are susceptible to the water borne illnesses caused by the lack of sanitation. Over sixty-percent of the population is under eighteen and scientists predict that within the next fifteen years there will be no water left in the area [4]. After a tour of the school (and rounds of children practicing their English: “What is your name?” and “Hello!”, the principal showed us the water purification system, part of MECA’s MAIA Project, that has brought drinkable water to their school in this small piece of the desert. Author Alice Walker funded this particular purification system after the Israeli government denied permits to rebuild the sewage plant that it had bombed.

Our group of artists from the United States and Gaza unpacked paint and brushes and began to talk about what images to create. We worked on a sketch that would both inspire the children who attend the school, and help the international community understand the impact of the occupation and take action. As we began to paint, Alice Walker was on a boat near Greece as part of an international protest against the blockade attempting to reach Gaza by Sea. We painted an image of boats sailing with banners proclaiming, “To Gaza with Love” in English and Arabic.
denied entry by the Israeli government in the week following our arrival. Behind the boats, messages of faith, love, peace, and human rights float in bottles. Talking with the teachers and the school Principal we agreed, that even if the boats and planes are all turned away, we have delivered messages of solidarity.

As we painted in the hundred-degree sun, playing Lupe Fiasco and Nancy Ajram songs, children kept popping their heads over the wall to watch us, and practice English. One of the artists, Vyal from Los Angeles walked around the corner to see how they were getting up the wall and found that they were using the bullet holes in the wall as footholds. Using sign language, he asked if they would like to paint the wall and they gathered around him. He began to spray-paint flowers growing from the holes and turned some into eyeballs. As the kids coloured in the petals and leaves, he wrote across the bottom “Bear Witness, Free Palestine.”

Fig.10 Bombed Water Purification Plant, Gaza City. Photo EWASH.

BIOGRAPHIES

Yaser Murtaja is a filmmaker and photographer living in Gaza and is co-founder of the recently formed Ain Media production house. Yaser directed the film, ‘Gaza above the Storm’ (2013), documenting the Palestinian community in the face of adversity during recent floods in Gaza.

Susan Greene is an international interdisciplinary artist, educator and clinical psychologist. Her practice straddles a range of cultural arenas, new media, and public art; focusing on borders, migrations, de-colonisation, resilience and memory. Through public art projects Greene conducts research on the intersections of trauma, creativity, resilience and resistance. Originally from NYC, she has been a resident of the Bay Area for thirty years. She lectures widely and has a private psychotherapy practise.

REFERENCES & LINKS


Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4940
**SPEAKING TRIBUTARIES**

Ana Labastida, Kate Lee Short, Sadie Harmon & Jesus Landin-Torrez
Oakland, USA

Speaking Tributaries is a collaborative project by Ana Labastida, Sadie Harmon, Kate Lee Short, and Jesus Landin-Torrez that explores the human relationship to the formless nature of water and time. This multi-layered project is site-specific to Oakland’s Sausal Creek and its surrounding neighborhoods.

The artists have been designing three stages of a one-year-long project, beginning with interviews with senior residents of a local, assisted living facility, focusing on memories of water.

Inspired by these conversations, the artists designed two public water performance-rituals at Sausal Creek, taking place during the spring and fall equinoxes of 2014. ‘Speaking Tributaries’ is partnered with Salem Lutheran Home for senior interviews and with the Friends of Sausal Creek for performance rituals.

For the symposium a video-based performance piece was shown, composed of the elements of the performance-ritual: interviews with the elderly around their memories of water, site-specific projections at Sausal Creek, sound and video from speakers made of ice that will be melting as they broadcast a soundscape of voices and the sounds of the natural habitat.

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**BIOGRAPHIES**

Ana Labastiba is a Mexican artist based in San Francisco, California. She holds an MFA in Social Practice from California College of the Arts. She has exhibited in Mexico, Spain and the United States. Ana Labastida is the lead artist for Speaking Tributaries, which has recently received an East Bay Community Foundation grant to develop a site-specific one year long piece. Currently, her art practice explores poetic strategies that deal with the forsaken, the intangible, the subtle, and the overlooked often where nature and urban systems meet. Her practice spans social practice projects, architectural interventions, sculptural projections and photography.

Jesus Landin-Torrez III is an artist residing in San Francisco. He holds an MFA in Social Practice from the California College of the Arts and was the recipient of the Murphy Cadogan Award. Jesus has exhibited extensively in the Unites States and has collaborated in several site-specific projects with the Inuit communities in Alaska. Jesus’ practice is based in the abstract telling of narrative through metaphor. He is interested in the places and moments in life where the metaphysical is channelled through the physical by ritual, and how contemplation and healing through ritual can bring understanding and closure to hard and meaningful subjects. Jesus is attempting to distill these moments into subtle poetic gestures that manifest themselves into sound and film installations and performances that reinterpret the original poetic gesture. He sees this as a way of mirroring the action of recalling a memory of one’s past.

Kate Lee Short is a sound and installation artist and teacher residing in Oakland. She holds an MFA from Mills College. She was the recipient of the Murphy Cadogan award as well as the Herringer Award. She has exhibited extensively in the Bay Area. Currently, her art practice questions the role of sound in creating and defining personal, political and social spaces within our culture.
Sadie Harmon is a social practice artist residing in Oakland. She holds an MFA from the California College of the Arts and has exhibited extensively in the United States. She currently also works at Salem Lutheran Home as an art enrichment therapist in the memory care facility. This project is especially exciting to her because it presents an opportunity for the often isolated community of seniors in an Alzheimer’s unit to contribute to something that is then disseminated to a larger group. A goal that she has in her work as a professional and an artist is to increase opportunities for this kind of dynamic exchange. This project allows her, along with other artists, to explore the poetic element of community engagement, and to explore this within the community in which she works every day.

REFERENCES & LINKS

http://www.speakingtributaries.com/

Documentation of earlier related work by each participating artist
https://vimeo.com/74582266

Interview with Peggy (resident at Salem and one of our collaborators) around her perspective on water and activism
https://vimeo.com/81105078

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4939

Fig.1 Ana Labatista (second from right) and her group presenting ‘Speaking Tributaries’ on the Tap, from the Millbar Node in Oakland, CA, USA.
SEE, SEA – AN EXPLORATION OF MEMORY AND TIME
Susan Sentler MACP
Trinity Laban Conservatoire of Music and Dance, London, UK

Abstract
The starting point for ‘See, Sea’ came from a significant episode with water that I experienced at the age of five when visiting my aunt’s swimming pool. I took a step too deep and found myself underwater, drowning. When I was under the water I remember it to be a calm, joyous sensation. From that moment on, I have had an extraordinary kinship with water. This has developed into a meditative and ritualistic relationship with the sea and with the activity of swimming.

The full work is that of a live durational installation of four assemblages: ‘Film 1,’ ‘Film 2,’ ‘the Grid,’ and ‘the Blanket/wave.’ The installation is a collaboration with performer Irina Baldini, composer Ronen Kozokaro, and designer Vanessa Gerotto. For the Waterwheel symposium only ‘Film 1’ and ‘Film 2’ are seen coupled with a “response” from a live dancer, Tiffany Tonel. ‘Film 1’ reveals a surreal non-narrative journey of triggers in the domestic environment that elude to the memory of the embodiment in the sea. ‘Film 2’ opens up the activity of the swimming ritual in the sea. The two films “speak” to each other in a sensorial conversation.

‘See, Sea’ was originally created for my final MA project, which culminated in the summer of July 2013. I was interested in working with a balance of film and live performative body within an installational form. Furthermore, as agent/author of the work, I wanted to explore the use of time in relation to the viewer and how the work itself could encourage and envelop the audience to allow for a temporal kinesthetic experience to evolve.

In a culture where time vanishes, or is exploded, as in our age of speed, the task of the arts seems to be to defend the comprehensibility of time, its experiential plasticity, tactility and slowness. (Pallasmaa 2011, p.78)

The research had as its starting point a significant episode with water that I experienced at the age of five. At my aunt’s swimming pool, I journeyed too deep and found myself underwater, drowning. I was under the water remembering it to be a calm, sublime sensation. My Mother pulled me out and saved me. Since then, I have had an amazing relationship with water wanting to stay within it for as long as I could. This has developed into a meditative and positive kinship with the sea and with the activity of swimming.

The complete installation unpicks the essence of the sensation of the activity of my personal ritual with water, with the sea. It combines moving image, still image, objects, and live performance orchestrated into a whole. It should be viewed not as a fixed object, but rather as an event, to be experienced in dialogue with the viewer’s senses. The use of both ritual and image become a trigger into the memory landscape. There are four assemblages that make up the work: ‘Film 1,’ ‘Film 2,’ ‘the Grid,’ and ‘the Blanket/wave.’ A succinct description of each of the assemblages within the whole of the installation:

‘Film 1’ is in a 15-minute loop projected on a large hanging vertical screen. The dancer/performer is the body in a domestic environment triggered into the memory of being in, swimming in the sea through images and everyday rituals/activities.

‘Film 2’ is in a 15-minute loop projected on a smaller screen hanging horizontally. I am the body in a sea environment. My personal ritual of swimming is revealed in this film, exposing only the water, body and sky.
‘The Grid’ could be viewed as a corridor, a lap pool. It is composed of two elements. First there is a water tank filled ¾ with water along with 200 sheets of watercolour paper concealing images that have gone through a cyanotype process [1]. The other half of ‘the Grid’ is a hanging aluminum grid, with threads of fishing wire hanging 100 metal clips. Linking the elements and forming this corridor/ lap pool is a dark grey strip of plastic marley flooring. The dancer/performer, Irina Baldini, performs her ritual of washing the watercolour paper to reveal the past sea images, the cyanotype process having altered them to a cyan-blue colour, and then hanging them to dry, one by one, on the grid.

The ‘Blanket/wave’ is made up of 200 acetate black and white negative images, all of past photographic stills of various seas I have swum in. They are strung together by black plastic attachments, woven as a quilt, yet flowing and suspending like a wave. All of these were used within the cyanotype process as the images, which were ‘cooked’ onto the chemical solution.

Fig.1  Installation view of ‘See, Sea’ Film 1. Photo S. Sentler, 2013.

Fig.2  Installation view of ‘See, Sea’ Film 2. Photo S. Sentler, 2013.

The installation ideally is presented in a durational manner, allowing time to accumulate images revealed within the performance and both films looping within their 15-minute time frame. The work can be exhibited with all elements, or possibly in varied deconstructed forms.

This paper focuses on the creation of Films 1 and 2 within the installation, as they were the assemblages used for exhibition in the Waterwheel symposium 2014. They were part of the node, ‘session #32: Hydrologies + History: Water and Memory’ curated by Molly Hankwitz at the Milkbar in Oakland, CA, USA. The dancer Tiffany Tonel performed a live “response” to one loop (duration 15 minutes) of the films. She acted on embodied echoes and traces that were sensed in the moment.
Inspiration and support for the process of the work came from three main sources, the French philosophers Giles Deleuze and Henri Bergson as well as the author Roland Barthes. Deleuze’s theories on difference and repetition and their association with Bergson’s ideas on memory threaded into the making of the piece. Erin Manning, a cultural theorist, elaborates the possibility of making the past anew in the present within her book ‘Relationscapes’ as she speaks about Deleuze and his key to memory, “The event of the memory is how it takes form in the present, its hue activated through the contrast past—present, then—now” (2009, p.80). Each time a memory is sensed, something new unfolds. Perhaps through the repetition, the essence of the root of the sensorial memory is revealed in the difference. Deleuze (1994, p.70) quotes from a famous thesis of the philosopher David Hume, “Repetition changes nothing in the object repeated, but does change something in the mind which contemplates it.” We arrive with our individual embodiment registering how we relate to an object, site, or performance. We then allow shifts to occur, which determine what to hold on to, what to let go. In other words, we evolve, we become. It is the becoming, this embodiment, that was my interest. Deleuze (1988, p.57) believed in Bergson’s interpretation that memory should not be considered as an impassive “Being”; that we gradually give it an embodiment. As Bergson states, we make “a genuine leap…a true leap into Being” (Deleuze, 1988, pp.56, 57). The memory becomes inhabited in the moment, making changes, rooted to the original but opening to a new embodiment, becoming a related other.

Much of this memory is dependent upon images. The writings of Roland Barthes, and predominately his book ‘Camera Lucida,’ provided a theoretical understanding of what underpinned my choices in all aspects of the images, both moving and still. It revolves around his concept of the “punctum.” He writes, “There is a punctum that occurs. A photograph’s punctum is that accident which pricks me (but also bruises me, is poignant to me)” (Barthes, 2000, p.27). Barthes speaks of this punctum in relation to the viewer and not the photographer; but I believe that it exists for both. I personally experience a sort of “prick” in the initial capturing of an image. And each time I revisit those images of the past, sometimes it reoccurs, but at other times new and different stimuli appear. The choice of shooting both still and moving images as well their use in editing are dependent upon what punctuates the vision and kinetic dialogue between artist and image(s). There is a distinctive “agency” in arriving at punctum. As Barthes (2000, p.43) poetically states, the punctum is the element that “rises from the scene” of vision.

Every time I am at the sea, I try to capture it, to gather it, to allow the experience to remain in my everyday urban existence. How can this be done? The memory itself, once played, becomes something else. What is the essence, the sensation, the seed of activity of the experience that I want to hang on to? For me it persists as the affect I experience: the meditative calm, the breath, the repetition of motion/activity, the counting of strokes, the images, the smell, the sound, and the
buoyant freedom. All of this harmoniously weaves as one allowing me a key of reminiscence of the experience.

‘Film 1’ had a particular focus from the start. I wanted it to explore everyday domestic rituals as well as multiple images of my past associations with the sea, opening a channel for the viewer to experience a kinesthetic connection with my memories. Subtle, simple things in everyday life can activate this “event of the memory.” Manning emphasizes Deleuze’s “difference in repetition” as each time a memory is sensed, something new unfolds. I was interested especially in ‘Film 1’ to embrace this difference within the domestic landscape, far removed from the source of the sea. Seeing and hearing water, and the activities associated with the element, even if different, allow the memories or fragments of them to evolve, perhaps exposing a clearer core of sensation.

In creating the movement language for ‘Film 1,’ the main emphasis was on the hands—in water—washing, stirring, touching, in simple repetitive modes/gestures used in the everyday, even the use of hands to open the blinds was activated. I experimented with my dancer/performer Irina Baldini through improvisational games with personally known activities. Repetition and detail of qualities of weight and sensitivity of touch were essential. Finding means that wove from the “normal” to morph into a more surrealist state reminiscent of being in, moving in water. I was trying to discover subtle rituals in the everyday domestic environment that alluded to being in water, the essence of movement within the element. I was interested in how the episodic memory, and moreover the specificity of sensations that are associated with it, can be ignited by the simple but conscious repetition of these rituals. Perhaps it is in the rhythm, the texture, the material, the space, or the duration—what are the essential qualities that would engage the association?

The language evolved into how the activity of swimming could transfer into the body, without being in the source. I did not want a mimetic vocabulary, but one that captured a sensitivity and simplicity of activity. A main component for this came from some footage I had of the dancer in preparation for another performance. She had a beautiful mode of warming up the whole of the body, emphasizing the arms, spine, and breath. We utilized this with more details of specificity of connectivity, resistance, and energy to evoke the appropriate sensation. Other “patterns” evolved resembling varied swimming modes, but mysterious and obscure in the domestic environment. It appeared as if the rituals transformed into another landscape. The patterns evolved: stroke, crawl, breath, and buoyant. These patterns were transferred into a home environment, onto a staircase, within the sink, on the terrace, on the carpet floor, in the bed, with blinds of the window. Furthermore, levels and facings were explored to add to the mystery.

My collection of photographic images of the sea were gathered and improvised with in varied ways within the domestic environment, from immersing them in the sink, to sticking them to the window, Fig. 4 Stills from Film 1, clockwise from upper left: stroke, crawl, buoyant, breath patterns. Photos S. Sentler, 2013.
to flowing on the body of the dancer. This repetitive play opened a poetic exchange of environments, from the urban everyday to that of the sea.

![Image of dancer with water]

**Fig. 5** Images from Film 1. Photos S. Sentler, 2013.

In the use of the camera as well as in the editing I focused on creating a “floating” environment. The filmmaker Maya Deren writes:

> The camera provides the elements of the form…can either discover or create them, or discover and create them simultaneously. Upon the mechanics and processes of ‘editing’ falls the burden of relating all these elements into a dynamic whole. (Deren, 1946, p.46)

Images from the past are revisited. A punctum resonates within each of them that open a kinesthetic link for me. This vibration may have been the same or different in the moment of the taking of the shot. But the potential of the rhythm and energy of the image threads into the body. The images are not “representative” for me as an artist. They are far too full of energy, textures, movement, and qualities to be constricted to one symbolic thing. For me, the images transform into bodily sensations and a bodily sensation transforms into new images, and so on...and on...

In ‘Film 1’ of the installation, these photographic images of the sea were collected and viewed as originals, in original colours. They then slipped into a mysterious interplay first being viewed with the dancer stirring them in water in the sink basin, to reappearing hung/dripping on the window, to coupling the still image with the moving image, and then spilling from different parts of the body of the dancer...as if imprints/fossils were revealed from a past experience.

An element of the image important within the work is that of stillness, movement within stillness and stillness within movement. “Stillness is full of microscopic moves” (Lepecki, 2000, p.344). In ‘Film 1,’ stillness, state, and minimal/subtle movement was necessary to allow the sensations to be visibly revealed. In short, “it is not movement that explains the levels of sensation, it is the levels of sensation that explain what remains of movement.” (Deleuze, 2002, p. 36)

All images used were selected and edited to allow for a specific and yet open and inexhaustible possibility of meaning. This was crucial for the poetic framework of the whole. Beautifully articulated by Tarkovsky (1987, p.110), “The image is not a certain meaning, expressed by the director, but an entire world reflected as in a drop of water.”

The dynamic conveyed was to be suspended, sensorial. It was important not to compose a narrative but to allow a non-linear play of images to create a more fluid landscape, a voyage of reminiscence.

The film opens one’s vision into a stream of consciousness, into a surrealist landscape. The layering of the “real” in the moving image with the photographic stills that have captured “movement” of the sea shifts the viewer into somewhat of a temporal displacement. This is exemplified in the clip of the still close-up image of the sea placed in the sink with the water pouring on top.
"Film 2," however, was to be a more intimate, personal, and somewhat microscopic in exploration. I wanted to use myself as protagonist within this, but not to allude to my identity. It was important to keep it abstract, but yield the kinesthetic, felt sense of the swimming activity, of my personal ritual within the sea. I was interested in capturing my personal physicality of ritual in the “real" environment of the sea. I have a specificity of “play” when swimming in the sea, which was performed and filmed. A specific number of strokes, followed by front and back flips within the water, and a moment of floating—to begin again. It is a focused, meditative ritual for me, promoting a calm and yet energized sense of self.

I worked exclusively with a GoPro camera already used for some footage in ‘Film 1.’ Here however, I physically “wore” the device. I mounted it on my head, on the inside and outside of both wrists as well as ankles. This time, it was completely up to “chance” as to what would arise in the filming. To my surprise it was amazing. Truly capturing the energy, sound, and sensation I feel when in the activity.

At times the water seems to move as an organ within the human body, yielding an image of circling, embryonic, and cell like. At other moments, the body parts cut and slipped into the environment, appearing like aquatic animals. This abstraction was exactly what I was looking for.

I wanted to create this kind of immersion; thus in the original installation the screen was chosen to be floating in space on a horizontal plane, encouraging the viewer to lie beneath it to enhance his/her experience.
In ‘Film 2,’ the editing was crucial to push the “felt” experience of my sensations within the ritual in the sea. Thus I cropped out everything in the frame, except for water, sky, and body. The play of the cuts from one frame to another and the use of slow motion also added to the rhythm of the whole.

In this assemblage, my focus was to cradle the viewer into the meditative play of the ritual.

Fig. 8  From Film 1 with Film 2 in dress rehearsal of original performance. Photo S. Sentler, 2013.

Both films are 15 minutes in length and on a loop. At 6 minutes, 30 seconds white light was used and at 14 minutes, 1 minute as well. This was used to alter the sense of time within the films, no beginning or end. Moreover it was to connect with the live performer in the original installation, Irina, as it became a prompt for her to respond to and shift out of her ritual at the ‘Grid’ and fall into the “buoyant” pattern.

The sound within both films is subtle and communicates as a whole. The live “field” sounds that were captured in the filming of each were used and sophisticatedly manipulated and layered with other instruments/sounds to evolve two sensorial soundscapes. Ronen Kozokaro, the composer, envisaged ‘Film 1’ to be formal, almost documentary in feel. ‘Film 2’ however, was intended to be immersive, like in the bottom of the sea. The audible textures of both weave in and out, with moments of tonal echoes. There is a sense of conversation between the two, playful and yet calm and meditative.

In a work of installation art, the viewer is encouraged to “physically enter, being immersive, experiential...heighten the viewer's bodily response” (Bishop, 2005, p.6). I believe the installation as a whole achieved that, and each assemblage has the potential as well. The films capture the core of the sensorial link.

AUTHOR BIOGRAPHY

Susan Sentler is a Senior Lecturer of Dance at Trinity Laban Conservatoire of Music and Dance in London, UK. She teaches contemporary dance technique, choreography and performance. She has a MACP (Masters in Creative Practice). Susan’s creative practice focuses on installation modes within unconventional spaces. Her work involves still and moving images as well as the body and objects. She has shown work in various venues/exhibitions such as Somerset House London/UK, Museo del Tessuto Prato/IT, Teatro Nuovo Spoleto/IT, Hangart Pesaro/IT, FRAME Porto/Portugal, Decoda Coventry/UK. She has recently worked as a performer for Tino Sehgal in ‘These Associations’ at the Tate Modern, London and rehearsal director/performer for Josiah McElheny’s exhibition at the White Cube, London.
REFERENCES & LINKS

[1] A photographic process that was used on all still photo images of the sea within the installation, yielding a cyan-blue print. In this work, the original image is converted to a black and white negative on acetate. The cyanotype solution of Ammonium iron(III) citrate and Potassium ferricyanide are brushed onto watercolour paper and dried. The negative image is then cooked onto the paper by UV light. The original image disappears and only reappears in cyan-blue when exposed in sunlight or by agitation in water.

[2] GoPro camera is a small action camera with a fisheye lens, mainly used to capture physical activity, sports. Both in Films 1 and 2 used underwater in a waterproof casing.


Screen recordings of the Tap performance & presentation:
http://water-wheel.net/media_items/view/4937
http://water-wheel.net/media_items/view/4938
7. Care & Dare
CONNECTING TO CREEKS – OVERVIEW
by James Cunningham

Hailing from the small coastal town of Yeppoon, Queensland, the team of Rhonda Truscott, Sharyn Lowth, Shelly McArdle and Jo Hardy present ‘Fresh meets Salt’ which traces the course of Figtree Creek from its fresh water source to the sea. As each phase of its journey is presented with spoken words, photos, field-recordings and written adjectives, the audience is invited to add their own words suggested by the imagery. The water and land care expertise in this team shines through as they, in responding to the audience, elaborate on any aspect of this set of ecosystems that have undergone regeneration.

From Brisbane, the clowns Jeff Turpin, Anna Yen and Therese Collie present ‘The Magnificent Object Workers,’ three “top professors” presenting their “research.” A reluctant MC, bad accents that get abandoned then salvaged, word misuse and dottery presentations, are mixed with power plays, acrobatics, music, dodgy demonstrations of proof and the theory of a cockroach “force field” that has sustained them through evolutionary time, and can be measured by a “terrormeter.” Possibly as a reference to the amount of water that cockroaches can survive on, they round off with a three-part rendition of gospel hymn ‘Bring a Little Water to Me’ (See p. 108).

From Taipei, Taiwan, Margaret Shiu and Catherine Lee present the ‘Plum Tree Creek Project’ they created with artist/curator Wu Mali. Supported by a well-produced video and illustrative slideshow, this eloquent presentation gives a detailed overview of this award-winning community-based art project that both inspires and reconnects residents with their local creek through monthly breakfasts, land-art sculptures over the creek, eco-education in schools, traditional knowledge, public information-sharing stalls, cooking classes using ingredients grown along the creek, and a theatre show involving an inter-generational cast.

‘Putawai – Becoming Creek’ by Houghton Valley (NZ) residents Miranda Munro, Jenny Rattenbury and Grant Corbishley is a large-scale community project towards raising the valley’s creek that was inundated with industrial waste 60 years ago. Already mobilised in environmentalism and identity-building, the community dove into archaeological digs that kicked off the project. The project has manifested many micro-projects including a visual art mapping and sound collaboration, story-telling, spring-cleaning the valley, photographic and video works, a children’s book, ‘Letters to the Creek’ community writing project, and teapots submerged in the creek banks for delivering messages to the creek.

Through art, humour, poetics and communication, the group has raised the valley residents’ dreams and spiritual connection to place, as a seedbed for the hard yakka to follow, putting in place an impermeable layer of clay on top of the landfill to catch rain and spring water that will flow into a new version of the creek.
FRESH MEETS SALT
Sharyn Lowth, Rhonda Truscott, Jo Hardy & Shelly McArdle
Yeppoon, Queensland, Australia

Our project highlights the place in Figtree Creek where the freshwater flowing to the coast meets and mixes with the tidal salt water pushing up from Keppel Bay. In fishing terms this is called “sweet water" and is a varied mix of important ecological communities from fresh to estuarine mangroves to marine systems.

Over recent years Figtree Creek has been impacted by urbanisation resulting in erosion due to land clearing, weed infestation and accumulation of rubbish along the banks. In 2009, thanks to funding from the Australian Government, Capricorn Coast Landcare Group adopted the creek and set about a massive clean-up and restoration program that continues to this day. With help from the Capricorn Coast community, Regional Catchment groups and local council, some health has been returned to this important area. Figtree Creek in Yeppoon is historically significant to the local community as a source of fresh water for the emerging township. It is fed from springs and overland run-off during wet weather. Many years ago the creek was also a meeting place, swimming hole and a popular place to catch fish.

Fig.1 Left: Rhonda Truscott, top right: Jo Hardy and bottom right: Sharyn Lowth presenting on the Tap, prompting people to type in the chat their own words.

Background

The Fitzroy Basin located in central Queensland, Australia, is the largest river system draining to the Great Barrier Reef, along Australia’s east coast. At 142,665 square kilometres in size, the basin drains into the Fitzroy Delta and Keppel Bay and is of great significance.

Several local coastal catchment areas along the coast of Central Queensland are managed with conservation imperatives. Figtree Creek which flows through the centre of Yeppoon, a rapidly developing coastal centre with increasing urban development pressures, is one of these creeks.

Fitzroy Basin Association Inc. (FBA), Fitzroy River and Coastal Catchments (FRCC) and Capricorn Coast Landcare Group are working together to increase local awareness of the issues facing delicate ecosystems and environments surrounding local creeks such as Figtree Creek.
Rhonda, Jo Hardy and Sharyn prompt audience to respond to their images with their own words, to enlarge the vocabulary about their creeks by typing in the chat.

They place each of their images and prompt words onto the drawing of the creek.

BIOGRAPHIES

Sharyn Lowth has strong links with the waterways traversing the Fitzroy Basin. Coming from the land, she jumped at the opportunity to improve understanding of rural families and industries, and their valuable contribution, alongside urban initiatives to the ongoing health of the Fitzroy Basin, through her interpretive work at Fitzroy Basin Association Inc.’s FLOW Visitors Centre. Every day she informs locals, visitors, teachers and students about the vast size of the Fitzroy Basin, its natural assets and the efforts that are being made to care for our country and the Great Barrier Reef for future generations.

Rhonda Truscott has a passion for Australia’s coasts—for over 30 years she has spent her leisure time sailing and fishing around the islands and waterways of Keppel Bay, Gladstone and the Fitzroy delta. With a Bachelor of Applied Science (Biology), Rhonda has worked in fields associated with heavy industry in coastal areas and was an executive member of the Capricorn Coast Local Marine Advisory Committee to the Great Barrier Reef Marine Park Authority for three years. Rhonda works with the Capricorn Coast Landcare Group Inc. at the Envirolink Centre in Yeppoon to educate,
empower and encourage the community to appreciate, restore and protect the natural environment.

**Jo Hardy** has a Bachelor of Environmental Science and is currently working in a largely volunteer capacity for FRCC in a Project Officer role. Jo has many feathers to her bow including qualifications as a Midwife and Army Officer. Jo’s involvement with natural resource management began with a long family connection to the land with broad acre farming and grazing operations. Jo’s current role is focused on assisting to establish projects for best management practice, weed abatement and flood recovery.

**Shelly McArdle** is a Community Engagement Project Officer with Fitzroy River and Coastal Catchments (FRCC) in Rockhampton, Central Queensland Australia. Shelly has over 14 years experience with environmental projects and community engagement. Shelly has initiated, designed and implemented many events and field days for schools, indigenous and community groups with enormous success. Shelly also has expertise in Horticulture, specialising in grafted Grevilleas and propagation of Australian native plants that were developed whilst working for many years in one of Queensland’s leading Australian native plant nursery. Shelly’s interests lay in creating environmental awareness and engaging with community groups to enable and facilitate ongoing education and action, securing positive outcomes for the environment and for people.

**REFERENCES & LINKS**

www.fba.org.au

www.capricorncoastlandcaregroup.mysite.com

www.frcc.org.au

www.discovercq.com

Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4906
ART AS ENVIRONMENT – A CULTURAL ACTION AT PLUM TREE CREEK: MENDING BROKEN LAND WITH WATER

Margaret Shiu & Wu Mali
Taipei, Taiwan

Wu Mali’s Curatorial Statement

There is an old saying, “water can lift a boat, but it can also take it away.” A cliché it may be, but it accurately describes the state of things in Taiwan today. Due to the effects of global warming, climate change is a critical issue, creating climate refugees and food crises. We are concerned about people who may lose their home whenever there is a downpour. We do not know how to be safe on our island, and we never talk about the future or try to imagine it in any detail. However, vision and imagination are at the core of artistic practice, and so we began to wonder how art could contribute to enacting change in our environment.

Plum Tree Creek is a minor tributary of the Danshui River in Zhuwei area. It is about ten kilometres in length and has its source in Datun Mountain. It has become polluted due to sewage from residential areas and agricultural waste. Since the completion of the metro line less than two decades ago, Zhuwei has quickly grown from an agricultural and industrial area into a populated town with rows of tall residential buildings. The new constructions have blocked the original waterway and caused floods over time. Local residents requested a water plan, but the response has been only partial and unrelated, and no systematic water resource management plan has been implemented. The problem of floods has not yet been resolved and the intimate relationship between people and water has long been buried under cement. The village and the creek have become unrecognizable.

Armed with a series of questions, we began conversations with different experts: community workers, urban planners, water resource experts, biologists specializing in plants and insects, organic farmers and pig farmers, etcetera. We attempted to map the landscape across different professional disciplines, knowledge bases and experiences of living locally, from down-stream to up-stream. Since Plum Tree Creek encapsulates various human activities, it provides the best place from which to examine urban life. When we realized that we could reflect on our future from this example of a living environment, we began to collaborate with local schools—Tamkang University, Taipei National University of the Arts, Zhuwei Junior High School and Elementary School—to carry out different projects. We set up an artist-in-residency program to initiate creative conversations among artists, different experts and local people to learn about and reimagine the Plum Tree Creek area.

The health of a river will directly influence the quality of life of the people who live within its
proximity. When land is privatized and rivers polluted, could we expect that experiments in art in the form of social interventions lead to engagement with the politics of space, and in this way, through interdisciplinary collaboration, promote the ideal eco-city? Often, art is employed at the service of urban development and economic restructuring, especially through festivals. But what role does art play when artists go from place to place? Could art be an agent for “public construction”? (Patricia Philips) These questions and reflections on environmental art were kept in mind as we worked with artists and professionals over an eighteen month period.

Bamboo Curtain Studio organized ‘Festival of Art & Environment at Zhuwei: The City Encounters the River’ in 2002. As the ‘Art as Environment – A Cultural Action at Plum Tree Creek’ project proceeds, along with experimentation and progress, we hope to present a different ‘Zhuwei Environmental Art Festival’ beyond the 2012 ten year mark.

**The Project**

Plum Tree Valley acquired its name from the many plum tree plantations in the area, established a long time ago. It is located in Zhuwei, New Taipei City; the Plum Tree Creek courses through the area revealing different forms:

- canals around the vegetable fields on the hill,
- ditches under cement covers in the village,
- sewers beneath residential buildings,
- and culverts next to the MRT station before flowing into the Danshui River.

From January 2011 to July 2012, ‘Art as Environment – A Cultural Action at Plum Tree Creek’ project followed the Plum Tree Creek upstream and got to know the people living in this area. Old and new residents were invited to join the conversation and get reacquainted with the earth, while discussing issues connected to the creek. Five main action projects or interventions were organised in collaboration with local schools and communities. We organized Plum Tree Creek hiking events. We also proposed the idea of the “Future Classroom.” and collaborated with the local elementary schools, high schools, and colleges to reproduce local knowledge, and transform this knowledge into content and methods for teaching and learning, with the aim of encouraging people to become reacquainted with and to reimagine the place. We hoped to make the area surrounding Plum Tree Creek into a micro-prototype of a livable city in which ecology and creativity were integrated.

**Plum Tree Creek Profile**

Plum Tree Creek is approximately twelve kilometers long. It has its source in Datun Mountain, and the clear waters flow from Shuiwei of Pinding Village, Wu’s house village, Fon-Dan Community of Minshen Village (behind Taipei National University of the Arts), and Guanfu Puding of Fude Community. Various tributaries pass through the downtown area of Zhuwei and converge into the main stream around Zhuwei Bridge before flowing into Danshui River. Many elderly local residents still have fond memories of the creek, where they used to play and catch fish surrounded by the plum trees. Such beautiful scenery, however, can no longer be found.

If we follow the creek from its outlet around Zhuwei MRT Station, it appears as a smelly ditch, a cement-covered stream, or as a polluted creek in a natural setting. It attests to the human activities around this area, and provides an opportunity to examine the health of urban life.

The site for the creative projects covered the mid- to upper-stream area of Wu’s house village, Red-Shingled Ancient Houses area, and Happy Garden, which represent a segment of the creek with diverse landscapes. Other public spaces, such as Zhuwei Junior High School, Zhuwei Elementary School, Fude Temple, Kuanhai Residency, and Bamboo Curtain Studio, were also encompassed, being sites of the project’s related activities.
1. Breakfast at Plum Tree Creek
Connecting Downstream and Upper-Stream of Plum Tree Creek

‘Art as Environment – A Cultural Action at Plum Tree Creek’ regularly hosted a breakfast meeting on the last weekend of each month in various locations along Plum Tree Creek. Locally grown seasonal fruits and vegetables were selected monthly in accordance with the solar term.

At each breakfast specialists from assorted fields, including representatives from the Water Resources Bureau, organic farmers, organic pig farmers, etc., were invited to engage in communal dialogue. The breakfast meetings worked as a space for exchange between locals and professionals. It helped to establish contact between them through informal conversation and brought together residents who live by the upper, middle and lower parts of the stream.

![Breakfast at Plum Tree Creek](image)

2. Shaping of a Village: Nomadic Museum Project
The Handcraft City above the Horizon at Zhuwei

With the aim of "weaving the shape of a low-carbon urban village," the team observed local characteristics and discovered that within this urbanized living sphere there lies an agricultural lifestyle. The concept of the "Urban Village" is a means to allow new residents of Zhuwei to develop local identity, and to this end the 'Handcraft Market' project was developed. Through a temporary installation, we invited cobblers, appliance technicians and plant saving specialists in the Zhuwei area to bring hands-on activities back to life, in this way rebuilding the connection between people and city, and igniting the imagination on a different kind of lifestyle.
3. Future Class Room
Creating Local Learning that Involves the Five Senses

1) ‘There is a Creek in front of My School Gate,’ in collaboration with Zhuwei Elementary School. As part of this stage of the project, visual and performing artists were invited to the schools where they assisted teachers in guiding grade six students in the process of learning about Plum Tree Creek and creating artworks using Plum Tree Creek as the theme. They inspired the students to explore with their five senses, and thus be more aware of the environment. Through this project, with support from the school and teachers, parents also actively participated. In this way the entire community’s attention was focused on Plum Tree Creek.

2) ‘Local Eco Life: Colorful Affairs with Plants,’ in Collaboration with Zhuwei Junior High School. Water and plants are major indicators that reflect the ecological health of a place. Starting with sampling the water and learning about the plants, the students used plants found near Plum Tree Creek as dyes. These natural dyes were not only used to add colour to fabrics, but were also used for food. Students also learned to use and give new life to common objects and unused materials, turning “local eco life” from imagination into reality. In collaboration with Zhuwei Junior High School, the program brought local knowledge into the classroom.
Fig. 6  Creating Local Learning that Involves the Five Senses.

Fig. 7  Local Eco Life: Colorful Affairs with Plants, in Collaboration with Zhuwei Junior High School.

Fig. 8  Local Eco Life: Colorful Affairs with Plants, in Collaboration with Zhuwei Junior High School.
3) ‘Community Theatre,’ in Collaboration with Fude Community

‘Community Theatre’ focused on local residents, introducing theatre as a means to encourage residents to participate and create; it allowed them to experiment personal growth and forge a sense of collectivity. The project also involved discussions on public concerns, which further influenced the culture and lifestyle of the community. After gaining a basic understanding of the geography of the Plum Tree Creek area, the students of Ziciang Branch of Zhuwei Elementary School in Fude Village, using waste material and recycled objects, made large puppets and developed a story about Plum Tree Creek, which they performed together with the local elderly residents.
Fig.11  Community Theatre in Collaboration with Fude Community.

AUTHOR BIOGRAPHIES

Wu Mali is Artist and Associate Professor and Chair of the Graduate Institute of Interdisciplinary Art at National Kaohsiung University. She curated this multifaceted project that brought together communities struggling with the effects of rapid urbanisation and population growth in a low-income, semi-agricultural region.

Margaret Shiu Tan is the Director of Bamboo Curtain Studio in Taipei County, Taiwan. The studio provides working space and equipment for ceramists, sculptors and mixed media artists; consultation, research and implementation services for arts related projects; production of site-specific eco-art in public spaces; and space for experimentation and development of multi-media art. The studio is situated at the mouth of the city’s river; it is also next to the nationally recognized and protected mangroves in the Plum Tree Creek.

REFERENCES & LINKS

http://bambooculture.com/en/media/1151
http://plumtreecreek.bambooculture.com

Slideshow used for the Tap presentation:
http://water-wheel.net/media_items/view/4513

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4908
Abstract
Oriented around the proposed restoration of a freshwater creek, we share a range of creative responses to the ‘Putawai: Lifting the Creek’ community initiative. Produced by different local participants for inclusion in the Waterwheel World Water Day Symposium online event, and other locals; the responses are described, referred to, or commented upon. Each sub-project, whether its form was as an event or combination of three dimensional and other media, required “translation” in print form. Their differences exemplify some of the complexities that community arts/activism around water issues entails in a bi-cultural state.

Introduction
Four years ago, the people of the Houghton Valley environs on the South Coast area of Wellington City were living dislocated, parallel lives. Since then, things have changed and a connected community with systems of stewardship (kaitiaki) [3] is emerging. The community is developing its own unique “bio-graphy,” a “form-and-content” of talking about “itself” which is evident on the website.

We have lost our creek. It was put into a pipe and buried under a landfill nearly 70 years ago. Fresh water used to flow through the pipe, now it is contaminated by leachate from the landfill, which flows onto our beach. We want to lift the creek to the surface and make the water clean.

We collectively acknowledge the loss of part of our landscape; visualise the process of healing it as a first step towards making the lifting of the creek happen, and take on the responsibility of caring for it in the future. We have been exploring connections between the story of our creek, its loss, and the rebuilding of our community. The aim of the most recent part of this ongoing, multi-faceted, series of projects, was to invite the community in the valley to think about what the creek means to them: as it was, as it is and as it could be.

What follows are short self-descriptions of the seven sub-projects by local members of this community (Ella & Jan 1, Jenny 2 & 3, Miranda 4, Dave 5, Andrea 6, Geoff 7, with Grant Corbishley facilitating the overall process and writing most of the introduction) that co-presented their collective and individual responses via a live online forum as part of Waterwheel World Water Day Symposium 2014 (3WDS14) on the 21st of March, 2014. Please note that each pair/individual articulates their perspective in the contribution made. Apart from using a common referencing system, no attempt has been made to adopt a singular voice to describe these “creative responses to the ‘Lifting the Creek’ initiative.”

The ‘Lifting the Creek’ initiative is an integral component of the over-arching Houghton Valley and Hornsey Road community-building activities. There are many more projects within that larger grouping so we indicate which sub-project of the ‘Lifting the Creek’ initiative is being referred to with an abbreviated title and a number using the order of presenters listed by first name above (e.g. ‘Letters to the Creek’ becomes L2C LC1). Finally, this written form is best understood when read alongside the online multimedia presentations. Contributors comments here make most sense in the context of their “PowerPoint” presentations, which can be viewed from the Waterwheel media centre and their higher-resolution video/slide-show components collated at this link [4].
‘Letters to the Creek,’ Ella Cavander and Jan Vladyka (L2C LC1)

In February 2014 the residents of Houghton Valley and surrounds were invited to “send” a postcard to the creek, which had been piped underground to make way for a landfill more than 60 years before.

The Project

The ‘Letters to the Creek’ sub-project was an interactive tool for community engagement and awareness-raising about the local initiative ‘Lifting the Creek.’ This L2C LC1 project sought to contribute toward a positive environmental change in the area. Households and the local school received high-quality recycled card-stock postcards pre-addressed to The Creek with an attached informative bookmark to cut off and keep. The bookmark was a way to provide something for those who were interested but may not wish to engage in the activity. In total 600 postcards were distributed. The postcard invited people to connect with the Houghton Valley Creek and the worldwide Waterwheel forum on water: people were asked to write or draw their message concerning the creek’s meaning for them in the blank area of the card and then “post” their message to the creek in a specially-constructed physical “Waterwheel Letterbox,” temporarily positioned on the edge of the reserve near the local play-area. This “letterbox” had a printed “skin” with the Waterwheel logo on it, over the Aluminium Composite Material (ACM) structure.

The attached bookmark included a basic history of the creek, an explanation of the cause of the pollution, and a note about the proposed solution of “lifting the creek” with a simple picture explaining how the creek might be “lifted” to minimise such pollution. On the other side of the bookmark was a panoramic photo of the valley and surrounding area (see visuals of project [5A]).

Outcome of the L2C Project

The Waterwheel mailbox, which was available for postcard deposits for around two weeks, received over 50 postcards with written and hand-drawn personal responses to the creek. Main themes of the responses included: expressing enthusiasm about the idea of lifting the creek, reinforcing the importance of a clean environment, remembering the past health of the creek, apologies for the human impact on the creek, and imagined scenarios of the future (e.g. a clean creek and thriving wildlife).

A Reflection

As I (EC) distributed my portion of the blank postcards to households of people unknown to me in Houghton Valley, I was strangely struck as I caught glimpses of a simple scene repeated in so many warmly-lit windows: pots clanged and water ran as people all over the valley began preparing the evening meal. It is interesting to think that so many of us actually share similar experiences, concerns, and visions for a better local to global community, yet sometimes do not feel connected to the wider community and thus do not feel fully empowered to make a difference or to express our voices on how we might move in the direction of positive change. Indeed, it is often hard to conceive of the notion of a “community voice” or a “will of the people” as we stand in our separate kitchens. One of the positive functions of using a method like the ‘Letters to the Creek’ activity is that it can help to connect people by showing them that their voice on an issue may be shared by many and can therefore, when connected with others, be a powerful force for change.

‘Spring Clearing – A Different way of Caring for Common Lands,’ Jenny Rattenbury (SC LC2)

‘Spring Clearing’ is a collaborative project to create awareness within the community of the existing freshwater streams in our valley, by weeding and clearing the channels, restoring the bush and creating a track for people to visit the springs. We are trying to explore a different way of caring for common lands, one that is more akin to indigenous feelings of guardianship. First is to understand that it doesn’t have to be only the job of the authorities: that people can connect with public reserves and look after them the way they would look after their own garden. We have begun to do this in our valley.

Through several sessions we have begun to realise that guardianship works on a deeper level than
mere well-meaning working bees. There needs to be a sense of reverence towards the place one is working in, then the act of tending is more spiritually rewarding, and a deeper connection is made. People need also to change the way they perceive the act of caring: it isn’t a duty to be done, it isn’t a time of personal therapy, it isn’t a way of planting your own idea of what is right on the landscape. Having reverence means that you enter the natural world in an open frame of mind. By absorbing the world around you, by noticing and listening to how it is, you can begin to understand what—if anything—needs to be done. Like a child you can be accepting of natural chaos, of what is right, but as an informed adult you can be discerning of the false notes: the rubbish, the blocked energy, the plant species that don’t belong. By entering into the world completely and with all senses receptive to what is around you, you are able for the moment to become the stream, the plants and the wildlife. And by becoming, you can truly understand what is needed.

A spiritual connection with a place does involve some aesthetic intervention as with the spring shrines of old. You naturally wish to enhance the good energy as well as clearing the bad. After removing the weeds, you need to look at what is left—sometimes very little—and introduce more of the right plants to replace them. By studying and understanding the parts that do work, you can replicate that energy by planting the right species in the right place. By creating places for people to appreciate the world they have entered—special views, sitting spaces, tracks, ways to get down to the water—you can create a meaningful interaction between the environment and visitors, and keep them from trampling indiscriminately. The water itself needs to be treated sensitively, understanding natural patterns of channels and pools and leaf litter build-up, and respecting the often hidden wildlife that is there. Clearing excessive debris will enhance the visual impact of the stream; clearing too much could destroy a habitat. Similarly with the bush, open spaces may be more beautiful to a person, but may not be right for the plants or the water.

More people from the community are becoming involved with the clearing of the springs, and others are keenly watching the progress. All have their own personal response to the activity, but not far below the surface for many is the sheer enjoyment of playing with water. Below is a quote from one participant:

How could I have forgotten the boyhood wonder of the flow of water? Small dams built and old plastic pipes used to create diversion channels. Bigger streams offered the thrill of jumping on undercut banks and riding large sods into the flow, perhaps disturbing an eel. The evocative smell of barely moving water had its special attractions: tadpoles to be caught and taken home. All came flooding back as I joined others to discover (...) the spring-fed rivulets, which in time will again become part of the Houghton Valley stream. (Smith, 2014) [5B]

‘Myth as Visualisation – Creating a Symbolic Shared Story to Enhance the Community’s Sense of Place, People and the Future’ Jenny Rattenbury (MaV LC3)

Among the things that draw communities together are shared stories. Modern neighborhoods have lost their sense of history—stories of the past—and are unable to connect with each other to share stories of the present. This project looks at creating a shared story for the future.

Having a story about how the creek was lifted means people can visualise it as a reality rather than just a vague wish. And once a project has reality it is much simpler to achieve. The story is set as a children’s story, as the simplicity of this genre is closer to the myths of old. And although it differs from a myth in that it doesn’t try to explain natural forces, it does try to show a way of making something happen. In the conversations the main character has with the stream, a much deeper connection is made with the nature of water, through the expression of its “personality,” something that people might fail to see otherwise. This nature I have learnt through reading the works of Schaubberger (1997) [6A], who saw water as a living energy form with an in-winding motion around rocks that cools and energises it. An excerpt from the story in talking picture book form can be accessed from Waterwheel’s blog and a higher resolution version on Vimeo [6B].
At first my intention was to create a shrine to the local creek invoking its healing spirits. Alongside that intention was my attachment to the teapot, not only as a beautiful object in its own right, but as a receptacle for the healing powers of tea. When people gather around a teapot anywhere in the world, they are taking part in an age-old ceremony, which favours inclusion, connection and general well-being. I wanted the teapots to reference the healing powers of the tea ritual by becoming receptacles for offerings of love and healing to the creek. I combined this idea of shrine and receptacle by burying the teapots up to their lids in a bank lining the creek. I also sat lids in the pools of water asking people to imagine teapots buried beneath. The PowerPoint documents this initial process of Teapots LC4 [7]. Members of our local community were then asked to put written offerings of love and healing for the creek inside the buried teapots. Some of us read our prayers to the creek as shown in the first part of the video [8].

The symbol of the teapot continued to inform the work. An impromptu tea ceremony (second part of the video) at the end of the formal offerings, reinforced the importance of drinking tea together as a way of building and strengthening community. The creek was also offered a cup of tea as a living member of our ritual. A bottomless teacup placed in the creek to let the water flow through it, further strengthened the creek’s participation. This small ritual was important because before the landfill covered the main creek, its water was pure enough to make tea. Even now the smaller creeks running down the hillside can provide water for tea. This treasure was not widely appreciated by the community in the past. They were not so aware how the health of our water directly affects our own bodies and souls.

The paper offerings were removed from the teapots after 10 days. One of them was water-logged, with its blue ink running throughout, producing a three-dimensional “water-colour” suggestive of running water. Others were brown with dirt and possibly tannin. They looked more like earth creatures than water ones, reminding me that water and earth are not separate.

For this project I used a person-made functional object as the intermediary between community and the creek. Could I have not used something more natural? There have already been many human interventions in our environment, many detrimental. Past interventions have harmed the creek but it is our current intervention that may hasten its healing. The nature of this intervention is critical. We need to keep asking—how aware are we of what the creek needs as opposed to what we think it needs? Are we truly listening to its voice? I believe if we can hear our creek it will help us to build community in ways we have not yet even envisioned. After all there is no separation between the creek and us. If we listen to it, we listen to ourselves.
My contribution is a four-part celebration of our Water Beings, using cartoons, photos and video. Water is the principle media enabling procreation and we begin our lives in human form almost entirely as water. Even as adults most of our body remains water, especially our brain, which is 80% water. With our passing, the waters of our human form work to transform our bodies and we evaporate into the soils and skies where our water enables all manner of future life on Earth.

Part one uses cartoons to remind us that we can be understood as little capsules of ocean that are livened with an electro-chemical intelligence system and stiffened with a coral framework of bones. Thus we have been able to venture onto land to explore and reflect on the wonders of the universe.

There are two main points: 1) Wherever we travel we need to remain mindful that we are little capsules of ocean, and 2) thus, we must continuously seek out water and salt to conserve the balance of our ocean within. We mini-oceans and the great oceans have evolved in different ways since we became land-based. Somehow we must find ways of transcending this disconnection so our lives are in harmony with the great flows and balances of the Water Planet.

Part two is a 90-second video/slideshow (produced for me by Transforming Images Ltd.) of some of the wonders that this “little capsule of ocean” (as I call myself) has witnessed as I travel Earth’s surfaces. The video contains photographed moments of one of the myriad headlands that exist on our planet. The landform and the ocean horizon remain constant even as the continuous interplay of
the water of the ocean and skies continually transforms the colours, textures and moods of Baring Heads, in a dazzling drama.

Part three reflects on the power of water in a creek to be a truly great teacher of metaphysics. The sensations of its flows and eddies can enable a child to embrace the great principles of energy and Chaos Theory, so their spirit is both imbued with wonder and informed in how best to live in harmony with the universal flux. It can enable every child to transcend paradox and be at one with all. This work is essentially an argument that every child should have a creek to play in.

Part four provides brief examples of how human beings pollute water and suggests that when we abuse water we abuse the essence of ourselves. It asks why and how we indulge in such self-abuse and points to the role of the human ego with its tendency to deny change/stewardship (our mortality). It also points to the Sustainability Principle of Energy, which is founded in the great principles of physics. We can employ this principle to transcend the limitations of thought and the ingenious trickery of the ego and thus become more sustainable beings.

This is part of a greater work by a Houghton Valley community of people, here beside New Zealand’s Cook Strait. The greater work involves making our valley an exemplar in sustainability and, as part of a consciousness raising activity, we are attempting to bring to daylight a stream’s pure water that currently is partially piped under the depths of the old city landfill, where it becomes contaminated by potentially toxic leachate.

‘Flow Chart’ by Andrea Selwood (FC LC6)

‘Flow Chart’ attempts to both document and express a personal response to the Houghton Valley where I live. I sourced historical plans and transposed the topographical information to literally map the valley. In this continuous work on paper I have represented some of the changes to the valley during the period it was used as a city dump and landfill (1949–1970). Acknowledging its land use and subsequent development, I formed a composite reality of its current geography.

The symbolic and figurative aspects of the subject matter came naturally during the transfer process. I found the landforms at the top of the valley resembled a reclining woman with the original stream coursing down like a main vein, an arterial route to the sea. Unconsciously, parallels lie within Maaori (indigenous peoples of Aotearoa, New Zealand) culture and cosmology, where the concept of tapu (respect for and sanctity of the sacred i.e. land) and mother earth (Papa-tuu-a-nuku) connects people to the land (tangata whenua) [9].

Wet and dry mediums were applied with methods of layer transparency to create an x-ray, aerial view of the valley. It is set against a litmus colour background, indicating a chemical reaction of the ongoing leachate running through the valley and flowing out to sea. In making ‘Flow Chart,’ I revelled in contrasts: placing the looser expressive marks of water-colour beside controlled line accuracy of map topography. This tension seemed to me to reflect the fraught nature of land-use by human interventions, which has specifically occurred in the valley and also universally.

The first part of the video sequence records the artwork in progress. Here, time-based elements present another version of ‘Flow Chart,’ which gives the impression of how the valley has evolved and taken shape over time. The second part situates ‘Flow Chart,’ the finished and static artwork, as a studio installation [10]. Suspension of this 3D paper construction from the ceiling alludes to ‘Lifting the Creek,’ a community initiative to raise awareness and action for change, and the recovery of some of the natural ecology of the valley.
Fig. 4 & 5 ‘Flow chart.’ Installation view.

‘Documenting the Flow’ by Geoff Hume-Cook (DocF LC7)

My contribution expands on a point made in the online presentation to the Waterwheel Symposium about multimedia and layers. Before the ‘Lifting the Creek’ initiative, I had been documenting aspects of the larger Houghton Valley community development process (Community Gardens and Restieux Farm Archaeological Dig). This current sub-project explicitly sought “creative-responses” to the major Lifting the Creek Initiative (LCI), which made it more attractive and compelling to become involved in. Over the three months that the creative responses were developed, and completed within, I was involved in audiovisual aspects on three other sub-projects (LC4, 5 & 6 above). My short presentation ‘Documenting the Flow’ for the Waterwheel Symposium used still images (either screen grabs from the Introductory Video or stills taken on location) to highlight aspects of video documentation and its usefulness for this kind of community-based environmental activism project [11]. The “layer” I concentrate on in this section, focuses on aspects of the audio over the visual. All the video elements prepared for the online presentation had to be no more than 90 seconds long and had an overall bandwidth-limit (<80Mb) for the whole session. This limited the visual quality on some of the components so the link takes the reader to higher-quality and full-length (i.e. 3 minutes total) clips, as the artists/presenters had originally intended them [12].

What follows relates primarily to the introduction to ‘Lifting the Creek’ video clip (DocF LC7). Video as opposed to photography captures the duration of an action/event, in a particular space. The sense
of being under the re-growth low forest with the people clearing the leaf litter away from natural springs, is visual and temporal evidence of the activities in the introductory video. Attending to the audio track of the documentation, wider spaces of the valley and its other inhabitants becomes apparent: families playing at the nearby play-area, “modified-exhaust” vehicles charging up a steep road, bird-song and the constantly swishing branches above, moved by the wind.

In media-studies terminology, there are two types of sound in film/video: diegetic and extra-diegetic. That documentary film expresses any “truth-claim” is to a large extent based on synchronised sound and image-capture: when someone speaks to the camera we see their mouth move and hear their utterances. These are the diegetic sounds of the scene. Cultural, philosophical and historical traditions reinforce that this seems to say “it” (the pro-filmic scene) “happened.” The logic of the scene leads a viewer to attribute “naturalness” to that range of sounds that could be expected to occur in that scene (e.g. in a forest, wind, or leaves crunching underfoot are commonly experienced). Extra-diegetic sounds are commonly: Voice-Over (VO), music or sound effects. Through decades of exposure to broadcast conventions these elements have become normalised in documentary film/video, but they are not “natural."

The introductory video shows the local community members clearing the invasive weeds, rubbish and excess leaf-litter blocking the springs. The soundtrack is electronic instrumental and creek-sounds (recorded before it goes into the pipe). This mixing of the actual sounds of creek “voice” (recorded from a nearby part of the creek on a different day) and “unnatural” music are part of the long-quoted definition of documentary as “the creative treatment of actuality” (Grierson, J in Morris, P. 1987) [13]. The post-production mix of these sounds heightens the desired sound’s level (creek-water flow) and suppresses the less desired background noise. I chose to emphasise the pro-filmic voices of the community action-takers, in a “dialogue” with the “voice” of the creek/springs. Use of electronic (loops-based) music thus contrasts with these two and subconsciously reminds listeners of our historical construction as subjects/becoming-creek-agents from a particular “time.”

There is, however, a layer that is absolutely inaudible in the presentation and the introductory video clip that “might” have been the musical keystone for this LCI video component: the Kev Carmody and Paul Kelly-penned song ‘From little things big things grow’ (1991, 1993) [14]. What inhibited me from choosing it as the soundtrack for this short, documentary-like record of our community’s creative (small ‘p’) political action, was “complexity.”

On the one hand, the title and chorus of this well-known Australian Aboriginal Land Rights protest song describes perfectly what is happening throughout the short video of the first day of the LCI. The Kev Carmody version is nearly seven minutes long however and all our video clips were 90 seconds maximum, so even a few bars of the chorus would have made a significant impact on the video as a whole. Aside from pragmatic (song-duration and licensing/copyright) issues there were political and cultural “appropriation” aspects of aligning our simple environmental action with a neighbouring nation’s colonial history. Would it have been a good association to make? Would the mana or prestige of the original words of the songwriters, and the complex history of respected elder Vincent Lingiari of the Gurindji mob’s actions, be diminished?

These sorts of questions do not concern thousands of contributors to User Generated Content (UGC) sites like Myspace or Youtube, but they do concern me. While I felt compelled to reference in the audio layer an important part of my own life’s experience, I was equally constrained from doing so by the recognition that using their song in an Aotearoa New Zealand context, would have required more than three minutes to adequately contextualize it. The Introduction to Lifting-the-Creek soundtrack does not use ‘From little things big things grow’ in the audiovisual production, hopefully however the words used here, may alert a certain kind of reader to use different “ears” to hear the spectral psycho-emotional traces of ethico-political sentiment from that other space/time.

That there are historical scars, both on “land” and in different cultural groups’ right-to-use areas of land and water, in both Aotearoa and Australia, is uncontroversial. We know there’s been injustice and damage done to indigenous nations’ relations with land and water. Joining sounds and images, colours and tones, practices and heart-felt intentions in an art-work, event or audiovisual document
is part of what enables some ordinarily “silenced” citizens to carry on changing things (places and ideas) for the better.

Aotearoa has a single indigenous language, Te Reo Rangatira (the language of self-determination) and it is maintained with Iwi variations. It symbolises and enables some of the fundamental nation-state differences for both settler-immigrants/paakehaa societies and the indigenous peoples of both sides of the Tasman Sea. That the little fresh-water project in a southern coastal suburb became known as ‘Putawai’ is indicative of the participants’ sense of respect for the history of the soil and water here. It is perhaps appropriate that a whakatauki (a saying that holds wisdom, like a proverb or a time-honoured aphorism) is used as conclusion.

“Whangia ka tupu, ka puuaawai.” (“That which is nurtured, blossoms and grows”).

REFERENCES & LINKS

Website www.houghtonvalley.org.nz

[1] The title of the activities and this paper “Putawai” is a neologism that combines the verb form of “Puta” meaning “to appear, to come into view” and wai “noun: creek, stream, river.” In this instance the intended meaning is an aspirational, forward-looking one of, “becoming-creek.” All translations used reference the online resource (www.maoridictionary.co.nz which is based on the 2011 Te Aka Maaori-English, English-Maaori Dictionary and Index)

[2] Authors are listed alphabetically with Calander and Vladyka as the co-authors of their section.


[4] Contributors' comments and their higher-resolution full-length video clips can be seen at www.vimeo.com/album/86393

[5A] ‘Letters to the Creek,’ Ella Cavander and Jan Vladyka, visuals of project http://water-wheel.net/media_items/view/4512


[6B] ‘Myth as Visualisation’ Jenny Rattenbury – an excerpt from the story in talking picture book form can be accessed from http://blog.water-wheel.net/2014/02/3wds14-wellington-node.html or a higher resolution version at www.vimeo.com/album/86393

[7] ‘Teapot Offerings,’ Miranda Munro, the PowerPoint is available on www.water-wheel.net/media_items/view/4430

[8] ‘Teapot Offerings,’ Miranda Munro, video www.water-wheel.net/media_items/view/4698

[9] Usually a macron is placed over a vowel, which has the long version of its sound and this difference of duration can sometimes change the meaning considerably between two otherwise identical words. Unfortunately not all fonts/word-processing packages allow the use of these diacritical marks, so a double vowel is used in its place.


[14] Information accessed on 10 May 2014
www.en.wikipedia.org/wiki/From_Little_Things_Big_Things_Grow

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4985
‘Fluid Values’ was the theme proposed by the Cairns node, curated by Russell Milledge and Rebecca Youdell from Bonemap, and hosted at James Cook University.

Jenny Fraser, screen-based artist, curator and Murri of mixed ancestry, opened the Indigenous perspectives and Cultural Bridge panel by demonstrating how Indigenous knowledge goes way back, with an example of a Picabeen basket. An ancient technique that allowed palm fronds to resist fire and thereby, the ability to boil water, which anthropologically, distinguishes the so-called ‘primitive’ societies. Jenny doesn’t define herself as a spokesperson for water per se, but is currently preparing a new documentary series ‘the Grief of the Reef.’ In a world heritage-listed area, where mining and mega-ports are developing, she wants “to put the Aboriginal voices back into the picture.” She plans to interview some of the seventy traditional owner groups, custodians for the Great Barrier Reef. With ironic and scathing humour, she showed previous works: ‘the God’s Juice’ a plastic bottle of water with a transformed label, and ‘Black Gold’ challenging the idea that the Great Barrier Reef is “protected” with constant surveillance by oil mining companies and the impact of tourism.

Ian Clothier, based in Plymouth New Zealand, welcomed people to the space with a traditional Maaori greeting, including people physically present but also in spirit. He then gave an apology from Dr Te Huirangi Waikerepuru and played a recorded message about how water is fundamental for genealogy in Maaori culture. Water connects people and places. When people meet, they ask first “which water do you come from?”

Te Urutahi Waikerepuru then sang a waita (chant) to honour the mountains that surround us, to preserve the wisdom and knowledge of the ancestor goddess, the Primary Female Principal of the Waters of Life. “We are genealogically tied to the environment. Water is me and I am the water.” Te Urutahi’s visual artwork personifies and humanises water. It inspires respect and gives “presence” to water on the planet.

Ian Clothier, explained that being hybrid Polynesian allows him to bridge cultures. He introduced himself as “coming from the sea,” a major metaphor of his origins. He displayed aerial photos of North and South Islands, and situated Norfolk Island on a map of the Pacific Ocean, relativising proportions of sea covering most of that side of Earth! An inverted image evoked strongly the womb, where sand patterns of the sea bed became clouds, while waves seen from above lined the ocean floor. He is preparing 2015’s SCANZ15 symposium on the theme “Water & Peace.”

Reinvigorating my perception of water, the panel confirmed that learning from Aboriginal and Islander people’s traditional knowledge and integrating it to our contemporary lives, should be a priority for the planet’s survival.

Braving torrential rain, the tropical Pacific feast from Cairns node continued with a panel on conservation of marine habitat.

Jürgen Freund and Stella Chiu-Freund conducted an 18-month photographic expedition in The Coral Triangle, commissioned by WWF. They communicate their passion for the sea through their stories and amazing pictures. They use “split-level photography consisting of a glass dome placed at the front of the camera lens and/or a 180 degrees fisheye lens, exposing
both underwater as well as the topside of a seascape or freshwater landscape.” About 20 sea snakes bundled together at low tide, hiding in mangroves roots, and a crocodile swimming in Papua Guinea are two impressive images that stay with me. This work illustrates the importance of conservation and may help save some marine species from extinction.

As a dessert, ending the session, Bonemap performed ‘The exquisite liquid, song for water’ with an admirable and skillful use of the frame. Russell Milledge focused on the interactivity between elements, the specificity of the streaming technology and agency of the public. He prepared scripted animations to be activated by online audience, and “patches” to process media live and to layer them even more than what the Tap tools already offer. However unforeseen conditions didn’t allow the entire device to function as planned. But the audience wasn’t aware, and from an underwater soundscape, viewed animated cartoon bubbles escaping the stage window, and magnified body close-ups of Rebecca Youdell dancing with an iPod camera. Her playful presence, improvisation qualities and attention to the whole moving imagery relay, demonstrated her experience as an online performer.
FLUID VALUES – CAIRNS NODE
curated by Bonemap
Cairns, Queensland, Australia

Globally we are facing critical issues associated with growing environmental and social pressures on water resources and habitats. Two stand-out issues in tropical Australia are Indigenous perspectives and habitat conservation, including tropical marine coral reefs.

This proposed Waterwheel World Water Day Symposium cluster sought to represent these perspectives through the voices of those close to the heart of these issues. It was proposed to have individual presentations by a small number of dedicated people alongside open, forum style segments that allowed other voices to contribute to the debate.

The panel/node aims to explore attitudes and approaches from a range of creative and cultural perspectives. It is a means to focus on some of the current situations, discussions, research and debate. The participants will converse through citing examples of creative work and dialogue to exemplifying positive action. What processes and means are available to harness the extensive knowledge base of Indigenous traditional owners? What ecological processes are revealed in creative and cultural engagement? Can we find sources of guidance in the Aboriginal sentiment of “caring for country”?

Environmental degradation of ecological sites as a result of agribusiness run off, tourism and other land uses, geared towards economic development, has become a source of consternation for communities. What can we learn from revealing the current state of marine habitat zones? These marine zones are significant and include the Coral Triangle, a 6-million square kilometre expanse of land and sea encompassing the waters of Indonesia, Malaysia, the Philippines, Papua New Guinea, Solomon Islands, and Timor-Leste. It is the world’s epicenter of marine diversity, home to extraordinary wildlife and large human populations. It is acknowledged as a critical economic resource in the region.

The presentation included an Indigenous Forum, where perspectives on Indigenous and Islander critical, cultural and creative values were discussed, led by Jenny Fraser; a Cultural bridge session, with a recorded message from Dr Te Huirangi Waikerepuru about Maori values around wai (flow or water) and the screening of an audio visual project by Te Urutahi Waikerepuru and Kiwi Henare. Ian Clothier presented work from a hybrid Polynesian context, and took part in live discussion with Te Urutahi Waikerepuru; Marine Habitat Presentation on The Coral Triangle by Jürgen Freund and Stella Chiu-Freund; and a performance by Bonemap: ‘the exquisite liquid, song for water’ and multimedia dance.

BIOGRAPHIES
Bonemap is a project-based intermedia arts partnership that encompasses project teams of interdisciplinary and visionary artists with an emphasis on process and presentation. Founded by Russell Milledge and Rebecca Youdell as an artists’ collaboration, folding disciplines together, to produce artistic expression in creative spaces, Bonemap is concerned with the ecological edges of civilisation while creating immersive art and performance. Based in far northern Australia, projects often engage Cape York, Torres Strait Islander and international contemporary artists.
Ian M Clothier is a hybrid Polynesian whose projects have been selected five times for ISEA exhibitions (2004, 2006, 2009, 2011, 2012). He has exhibited at institutions in ten countries. Thematically his projects address notions around cultural hybridity and nonlinearity, and more recently integrated systems. Curatorial projects have involved cultural bridging with indigenous groups. Nature and the environment are an important focus for collaborative projects that have involved data sensors and web applications, robotics, socio-political data visualisation, micronation creation, augmented reality, motion sensors, online survey with data collection and installation.

Jenny Fraser works within a fluid screen-based practice. A Murri of mixed ancestry, she was born in Far North Queensland and her old people originally hailed from Yugambeh Country in the Gold Coast Hinterland on the border of South East Queensland / Northern New South Wales, on the East Coast of Australia. She has a professional background in Art and Media Education and has since completed a Master of Indigenous Wellbeing at Southern Cross University in Lismore, NSW. In 2015 Jenny was appointed Adjunct Research Fellow at The Cairns Institute, James Cook University, Queensland, and is finalising her PhD in The Art of Healing and Decolonisation at Batchelor Institute of Indigenous Tertiary Education in the Northern Territory of Australia.

Fig.1 Jenny Fraser talking about Indigenous perspectives linked to water.

Fig.2 Jürgen and Stella Freund showed some of their photos taken in the Coral Triangle.
Jürgen and Stella Freund are wildlife and nature photographers based in Cairns, Far North Queensland, Australia. They specialize in marine and terrestrial wildlife from the Austral-Asian Region and beyond. Jürgen and Stella’s photo stories appear in many international magazines and books. They also work very closely with WWF (World Wide Fund for Nature, one of the biggest environmental organisations globally). For WWF Jürgen and Stella conducted an 18-month photographic expedition through the Coral Triangle producing a significant body of image work and knowledge.

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Screen recording of the Tap presentation by Jenny Fraser:
http://water-wheel.net/media_items/view/4910

Screen recording of the Tap presentation by Jürgen and Stella Freund:
http://water-wheel.net/media_items/view/4912

Screen recording of the Tap presentation by Ian Clothier and Te Urutahi Waikerepuru, and recorded message from Dr Te Huirangi Waikerepuru:
http://water-wheel.net/media_items/view/4911

Screen recording of the Tap presentation by Bonemap:
http://water-wheel.net/media_items/view/4913

Fig. 3 ‘The exquisite liquid, song for water’ by Bonemap.
HINE PU-WAI-ORA
Te Urutahi Waikerepuru
New Plymouth, Aotearoa New Zealand

Principal female source and divine creator in the symphony of all sacred waters reflected in the natural cycle of life in our universe.

Whakapapa / Genealogy
I am the mountain and the mountain is me
I am the forest and the forest is me
I am the wide open spaces and they are me
I am the waterways and they are me
I am the ocean and the ocean is me
I am the celestial highways and they are me
I am the universe and the universe is me

Ko Te Ahuatanga o Te Wai-Ora / The Cyclic Nature of Sacred Water

Fig.1 Hine Puwai personifies the cycle of sacred waters as it weaves its journey from the spiritual realm birth, death, transforming into its wairua form in the spiritual realm before re-emerging once again into the physical realm.

Te Taiao Maori / The Maori Universe

Hine Pu-Wai-Ora as the female essence of Tangaroa depicts the journey of woman through the cyclic nature of water. The journey of Hine Pu-Wai-Ora personified as woman in human form reflects the cycle of water from gestation, to birth in the physical world and the various stages of form, nature, character and personality. The journey unfolds at each stage of the life cycle of Hine Pu-WAI as a newborn babe, young child, maiden, mother, matriarch and then at the end of the life cycle transiting into the spiritual realm beyond to the supernatural realm.

The journey of Hine Pu-Wai-Ora is depicted in tandem with the varying aspects of water as it flows and weaves it’s own cyclic journey, which not only aligns strongly with Maori Traditional Knowledge (Matauranga Maori) handed down to us by our ancestors, but also links into aspects of western science. In summary, Hine Pu-WAI-Ora depicts the process of life linking the interconnection of humanity, nature and environment.
Fig. 2  Hine-Wai-Rere, Maiden of the flowing waters.

Fig. 3  Hine Ata-Haunui, Maiden of the Early Morning Dew.

Fig. 4  Hine PuKohuraNgi, Maiden of the Mist transcending celestial realms.
Fig. 5  Hine Wai-Etoeto, Maiden of Evaporation.

Fig. 6  Hine Wai-Kapo-Ata, Maiden Clutching at the Dawn.

Fig. 7  Hine Po-Ata-Rau, Maiden in a Moonlit Night.
Fig. 8  Te Urutahi Waikerepuru.

BIOGRAPHY

Te Urutahi Waikerepuru, visual culture artist.
“I am a daughter of the 10 tribes of Taranaki, West Coast, North Island, Aotearoa, New Zealand.
I am the life-time partner of Tengaruru Wineera, mother of 5 children and grandmother of 17 grandchildren, 2 of whom are our great grandchildren.
I believe passionately that our wellness and wellbeing as planet beings is reflected by the wellness and wellbeing of our environment.
My creative works are a reflection of myself not only as an indigenous woman of Aotearoa, linked culturally and spiritually to the landscape, but they are also a reflection of my own inner connections and revelations that intrinsically links us all together as one consciousness under the mantel of natural universal lore.
I am the UNIVERSE – the UNIVERSE is Me”

ACKNOWLEDGMENTS

Te Urutahi Waikerepuru – Concept Design & Development, Art Director
Dr Te Huirangi Waikerepuru – Cultural Advisor
Craig Macdonald – Graphic Artist

LINK

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4911
WATER FROM A HYBRID POLYNESIAN CONTEXT

Ian Clothier
Intercreate and Western Institute of Technology at Taranaki, New Plymouth, Aotearoa New Zealand

Abstract

The centrality of water in terms of it being essential to life, significant in geomorphology and deserving of management as a resource is widely acknowledged. The notion that the subject of water might add to knowledge itself is less widely understood and has no prominence in Western academia. In Polynesian worldviews, however, the subject of water plays a significant part in knowledge. This paper discusses water from a hybrid Polynesian context and outlines knowledge bridges across Polynesian and Western cultures. One knowledge bridge is located between the kowhaiwhai (rafter patterns) of Maori culture and the study of the onset of turbulence from Western science. Another is found in notions around integrated systems.

Introduction

This paper is written from the perspective of establishing a knowledge bridge between Polynesian and Western cultures, and as a consequence both frameworks will be recognised. In Western academic culture in the form of formal writing such as papers, it is not usual to provide details of the author beyond institutional affiliation: personal information is considered outside of the realm of the discourse of ideas. This is a perpetuation of the culture of academia in the modernist framework, at a time when clearly Western society is in a condition of postmodernity. While this tension is one that requires reflection on the part of Western academics, the problematic is simply noted here, as part of the preface of considering the Polynesian perspective.

I should first note that the Polynesian Triangle, from which Polynesia takes its name did not exist among Pacific peoples but was rather mapped onto the globe by colonisers. Even “Pacific” is a colonial implantation and the same ocean is known as Te Moana Nui a Kiwa (the ‘Great Ocean of Kiwa’) by Maori kaumatua (elder) Dr Te Huirangi Waikerepuru, with whom I have been fortunate enough to be involved with on a number of projects.

My use of the term “hybrid Polynesian” is specific, as it more clearly describes my cultural affiliation, as will be shown shortly. Because my affiliation is to a sense of hybridised culture, I am here using the term Polynesia. In Polynesian culture, it is customary to introduce yourself, particularly in any situation involving formality, by describing your personal context in terms of the place you are from, in Maori society this includes the river, mountain and waka (canoe) of your cultural or tribal affiliation.

When I describe myself in formal Maori occasions, I refer to coming from the sea. This is because there are four places that I feel strong affiliation to: Te Wai Pounamu (South Island) where I was born, Te Ika a Maui (North Island) where I live now with my wife and daughter, Norfolk Island and Pitcairn Island. My parents met on Norfolk Island as my mother was born there and my father was stationed there at the end of World War Two; as it happens they met because my mother swam into my father in Emily Bay (another reason I say I come from water). My affiliation to Pitcairn Island is due to my heritage involving the Mutiny on HMS Bounty from which English mutineers settled with Tahitian companions in 1790. Consequently my whakapapa (genealogy) can be traced to Tahiti—yet another island—and also to the Isle of Mann and the Shetlands—-islands again. I am able to say with some assurance, therefore, that both sides of my family have dwelt on islands for the last thousand years, and that the thing which joins these places, and particularly the four places of my strongest affiliation, is the sea.

The point of discussing my heritage, the term and place “Polynesia,” while introducing Maori culture into the scenario is that this hybrid cultural background has afforded me the capacity to view
knowledge and culture from a unique perspective: I am able to see into and understand, both the
Polynesian culture of Maori and Western culture. This statement needs to be qualified by
acknowledging the limitations of a hybrid cultural perspective which involves width rather than
depth. There is a sense in which parts of my worldview are aligned with Maori culture, however I am
not Maori, and this needs to be acknowledged.

Wai and Maori knowledge

In the introduction I acknowledged Dr Te Huirangi Waikerepuru who is responsible for introducing
me to aspects of Maori knowledge that otherwise I could not have known. In 2011 at the
‘SCANZ2011: Eco sapiens’ hui (symposium) Dr Waikerepuru spoke on the subject of Maori world
view, and in his presentation gave great prominence to wai (water or flow). At exactly that time, I was
working on a call for projects for a curated exhibition to be held in Istanbul during ‘ISEA2011’ and
immediately added the theme of life emerging from water to the call for works. The resultant
exhibition ‘Uncontainable second nature: Te Kore Rongo Hungaora’ consisted of works that met five
themes that appeared common to both Maori knowledge and Western science: cosmological context,
all is energy, life emerged from water, anthropic principle and integrated systems.

The notion that life emerges from water is shared in Maori and Western belief systems. Water is
inextricably tied to the individual for Maori, evidenced by the waters of birth. In addition, in formal
and informal occasions as discussed earlier, identity is related to river. Western science has the
well-known concept of fish becoming amphibian, growing legs and eventually walking on to land, to
develop into quadrupeds and then bipeds, and then further on to become humans.

The river for Maori is not an isolated entity. The river and the mountain are connected, as rivers flow
down the mountain and eventually out to sea where its waters evaporate into the sky and are
breathed in by living things. Consequently water is one of the things that unites all in the world of
Maori, and is an indicator that the Maori and indeed Polynesian-wide world view is one of every form
of living and nonliving entity being part of one whole system: an integrated system.

Chaos Theory and Complexity Science, post-structural notions in Philosophy and Polynesian world
view all involve the notion of integrated systems (Clothier, 2008), where all things are connected.
Chaos Theory involved the study of dynamical systems. Dynamical systems have three basic states:
stable, bifurcating and chaotic (Butz 1997, p. 11). When an underlying order emerges out of the
chaos of a system, self-organisation is said to have occurred. Systems that react to feedback from
their own states or to changes in the environment, attain the state of complexity (ibid. p. 16).

Complex systems are considered to be situated on the border of chaos and engaged in an endless
dance of mutation, innovation and adaptation. “These systems can involve the interrelationship of
diverse other systems and novel states can be generated as time progresses.” The novelty of the new
states is such that these systems are nonlinear in character, involving as they do feedback, changes
over time and multiplicity. I have italicised the sentence and term above as they are pivotal to
interconnecting Chaos, Post Structural concepts and Polynesian view.

In describing the character of nonlinear equations, the physicist E. A. Jackson (1991, p. 6) wrote
that “the ratio (action/reaction) is not constant.” This is the same as saying cause and effect has
broken down. The same cause could at another time produce a different effect. On first sight, this
appears curious but for example if it is 20 degrees Celsius at noon tomorrow and 21 degrees an hour
later that is no guarantee that the same measurements can be taken the following day. In nonlinear
systems, the effect can feedback into the cause, generating not just a fresh result, but also a new
context for interaction. Something like this occurs in the maelstrom of storms, and one result is the
difficulty of predicting exact storm pathways.

Viewing all aspects of all systems—from cosmology to objects, acts and personality—as energies that
transition across scales to emerge as diverse actualities greatly assists understanding nonlinear
processes in Post Structural analysis. Manuel De Landa (1997, pp. 26–27) citing Deleuze and
Guattari writes of “an articulation of superpositions... an interconnection of diverse but overlapping
elements.” Chemical elements and processes migrate into the human biological landscape; the same
energy migrates onto the human cultural plateau. De Landa provided an example of this, writing of the mineralisation of elements in the sea forming basic skeletal structures, eventually leading to the development of the human endoskeleton, and later the mineralisation of the human exoskeleton in the form of modern dwellings, enabled by clay and bricks.

It is perhaps easy to see why the ratio between action and reaction might not be constant in complex, self-organising, adaptive systems. The articulation of superpositions across scales from the microcosmic to the macrocosmic—from chemical elements all the way to large-scale natural and cultural systems, and the dynamics of interaction between these forces, creates both recurring and novel system states. The notion of the interaction between diverse systems in creating an integrated system, maps across the sciences to contemporary Philosophy.

In terms of a Polynesian integrated worldview, I will turn to the words of weaver Erenora Puketapu-Hetet (1989, pp. 1–2), writing in ‘Maori Weaving.’ The links across scales from plants to humans, into culture and philosophy is clear.

The weaving has its own life course, sometimes accompanying its kaitiaki (guardian) back to papatuanuku (mother earth). At other times it is held in this world as living taonga (treasure), passed from generation to generation in the same way as an heirloom. It is used until it can no longer serve the purpose for which it was created. It is then deemed to have died a natural death and is allowed to go back to where it first began—back to papatuanuku to begin a new life cycle.

(…) Flax grows in a fan-like formation with the young shoot in the centre. This centre growth is called ‘rito.’ In speeches, the rito is often used as a metaphor, likening the young centre shoot to a human being. The leaves on either side of the rito are known by the northern tribes as ‘matua.’

Other tribes call these leaves ‘awhi rito,’ which means ‘to embrace the rito.’ The rito and those either side are never cut. Logically, this will ensure the life cycle of the flax plant, but in terms of Maori philosophy it is also acknowledged as a link between the plant and the people.

The metaphor of rito is also linked to the concept of flax or herekeke clumps being a family group. In the words of Dr Waikerepuru (personal communication), Tane is the element of natural law responsible for life on land—plants, trees and forests. Tane is akin to Tangoa, the element of natural law governing life in the sea and waterways. Wai—flow—is an element of the Universe two levels higher than Tane, and three levels above humans. Wai is on the same level as Wa (Time), Atea (Space), and Hihiri (Energy)—a level that includes Taketahi (Interaction) and others.

In terms of water and science, the role of the study of turbulence in fluids is highly significant to Chaos Theory (Gleick 1998, pp. 24–30) and is therefore embedded in Complexity Science (Butz 1997, p. 16). The foundations of Chaos lie in Edward Lorenz’s (Butz 1997, p. 6) computer modeling of the weather, the onset of turbulence in fluid dynamics by Ernst Libchaber (Gleick 1998, pp. 192–194) and the study of dripping taps (ibid. pp. 263–265). Mandelbrot’s notions of scaling, self-similarity and fractals are important, as the scale change between dripping taps and weather systems indicates. Fractals are maps that apply to natural structures such as leaves, coastlines and snow patterning on mountains.

The onset of turbulence has been well documented by Chaos researchers from Libchaber to Couette and Taylor (Gleick 1998, pp. 128–130), along with von Karman (Ball 2009, p. 29). There are concepts such as Couette-Taylor flow and Karman vortex streets, the latter of which are illustrated in figures 1 and 2.
Fig. 1  Karman Vortex streets, which map the onset of turbulence using a range of R or Reynolds number, which is a ratio of flow to resistance to flow. The R of a river is in the millions. Source: http://hmf.enseeiht.fr/travaux/CD0102/travaux/optmfn/gpfmho/01-02/grp6/pages/page1.htm

These diagrams are achieved by placing a cylinder in a tank containing fluid, and then allowing a small amount of dye to be introduced to the flow on the back side of the cylinder, in the downstream direction. The resultant image produced by the dye in the flow is then documented.

Fig. 2  A von Karman vortex street (digitally optimized). Source: http://lfmi.epfl.ch/files/content/sites/lfmi/files/images/Project%20Images/cyl_rel40.jpg

Figure 2 above is a von Karman vortex street which has been digitally enhanced in order to make the structure of the flow clearer. What is happening is that while the flow is continuous, on one side of the flow a small vortex is sheared off, while on the other side the flow is building. This is repeated as the flow ratio increases, until the flow is entirely mixed in tumbled turbulence.

One of the more dynamic visual impacts on visitors to marae (a place where originally there were a number of dwellings along with food storage houses, a meeting house and an eating house laid out in the manner of a village) is in the whare nui (meeting house), which along with intricate carvings also contains painted rafter patterns known as kowhaiwhai (“the design that continues on,” in the words of Dr Waikerepuru). Examples of kowhaiwhai designs are shown in figures 3 and 4 which were derived from actual models for Augustus Hamilton’s Maori Art of 1896.
What connects these visually to the diagrams of von Karman vortex streets, is that precisely the same process appears to be happening. Flow builds as the pattern moves in this situation, from left to right, and as it builds, but before the peak of the flow is reached, spiral like forms shear off from the main flow.

Since kowhaiwhai recalled the flow patterns of Karman vortex streets, I asked Dr Waikerepuru (personal communication) about how kowhaiwhai was developed and he replied:

They appear in very early drawings and they would have come from the beginnings of understanding about the principles of canoe paddling and ocean going and so on, which lines up with the nature of knowledge and understanding about finding out where you are going, and how to get home. You’d have to know how to get home before you set out, and how do you do that?

The earliest recorded kowhaiwhai come from the journals of Joseph Banks in the years 1768–1771, from James Cook’s voyage to Aotearoa New Zealand, after which the country was added to European maps of the world. Figure 5 is an example of kowhaiwhai on Ngai Tamanuhiri canoe paddles from the far north of Aotearoa, painted by Sydney Parkinson who was on board the Endeavour. Following Dr Waikerepuru’s view, it is quite straightforward to visualise that the imagery results from looking at the swirls and patterns of flow made by multiple rowers placing their paddles into the water. The middle paddle would appear to be a straightforward abstraction of some of the guiding rules. The top and bottom paddles even appear to have differing scales of spirals, in much the same way as rising turbulence expands.
The visual similarities between the vortex streets and the canoe decorations that are the origin of kowhaiwhai are very striking. Both are based in an experiential analysis of flow in water. The Maori representation is much more aesthetic and visual, while the scientific analysis is at a smaller physical scale.

Some care does need to be taken, as the basis for Karman vortex streets in the West lies in the Reynolds number, which tracks the flow from the beginning of wavy undulation through to turbulence. This foundation is different from the Polynesian one. For Maori, the contention here is that the experiential study of water flow, part of an essential element of navigation and the flow of the water around a waka, resulted in the generation of continuous flow patterns as part of cultural production. These were then applied to the instruments used for propelling the waka through the water.

What is being asserted is that two components of thinking—integrated systems and fluid dynamics have similarities across the border between Polynesian and Western belief and knowledge systems. While the concepts are bridged at these points, the cultural basis for each is different, and this is exactly what is expected of cultural bridges as I have discussed previously (Clothier, 2012).

Conclusion

The centrality of water in belief systems across cultural and disciplinary borders speaks to a level of global awareness that is reinforced in the instance of kowhaiwhai and studies of the onset of turbulence in Western science, as exemplified by Karman vortex streets. The former involve experiential examination, while the latter involve scientific experiment. That visual analogies arise is striking, and underlines some of the larger scale shared beliefs, such as life emerging from water and notions around integrated systems.

AUTHOR BIOGRAPHY

Ian M Clothier is a hybrid Polynesian whose projects have been selected five times for ISEA exhibitions (2004, 2006, 2009, 2011, 2012). He has exhibited at institutions in ten countries. Thematically his projects address notions around cultural hybridity and nonlinearity, and more recently integrated systems. Curatorial projects have involved cultural bridging with indigenous groups. Nature and the environment are an important focus for collaborative projects that have involved data sensors and web applications, robotics, socio-political data visualisation, micronation creation, augmented reality, motion sensors, online survey with data collection and installation.
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Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4911
WORDS FOR WATER: GATHERING
Tracey M Benson
The Australian National University, Canberra, Australia

‘Words for Water’ is an exploration of the chemical H2O. Water makes up over 70% of the human body; is essential for sustaining life and has massive social and cultural significance. Water may seem ubiquitous, but it has some rather uncommon properties. At the atomic level, water can influence how life and landscapes form, such as how water moves through a plant and how rivers meander around bends. It is also the only chemical that can be formed in three states—vapour, liquid and solid. This talk discusses an ongoing project that uses augmented media tools to evoke a meditative work focusing on the concept water. Stage 1 of ‘Words for Water’ was presented at the MARart exhibition held as part of ISMAR2013 (The International Symposium on Mixed and Augmented Reality). The process for developing the content has involved using online social networks to gather the word for water in many languages. To date, over 30 languages have been gathered, including eight Indigenous Australian languages. This project seeks to raise awareness of the significance of water to humanity—its critical importance to our existence: spirituality, culture, health and ecological sustainability.

Overview

‘Words for Water’ has evolved from a number of events:

– A residency in Aotearoa New Zealand—SCANZ2013,
– A Jawun secondment with the Yorta Yorta People of the Goulburn Murray Region, and
– Conversations about water both online and offline.

To expand, SCANZ2013 was an artist residency linking art, science, Indigenous knowledge and the environment. This event crystallized many links between my practice, my values and my need to make sense of my place in the world. At SCANZ2013, my Maori guides taught me to acknowledge my mountain and my river, to connect with the place where I was born. This process led me to refocus on my own creative work that explored self, land and identity—in particular, revisiting a 1995 performance titled ‘Scalpland,’ which explored the inscription of body and landscape.

One of the other conversations at SCANZ that really grabbed my interest was about Wai—Water.

For Maori, wai means many things, for example, water is classified into categories based on spiritual and geographical features. Wai has many meanings related to the idea of water being the essence of life. Waiora, waimaori, waikino, waimate and waitai—are used to define concepts for maintaining balance and interconnections between all living things and processes. Also, Maori regard the river like a human body, if it becomes sick, it can die. Kei Merito states: “My grandparents told me that Maori regarded the river like the human body, if it is not kept clean it will become sick and may lose its mauri and die.”

I remembered the creek we played in as children. The same creek that is now buried under a four lane highway. The same highway that led me to create ‘Scalpland.’

Another event had a significant impact on the development of ‘Words for Water,’ a secondment with Jawun to the Goulburn-Murray region to work
with the Yorta Yorta people. I learnt very quickly, that water also had a massive role in the life and culture of this community.

Yorta Yorta Country

The floodplains country of the Yorta Yorta People is a rich landscape, full of life and beauty. The Yorta Yorta Nation Aboriginal Corporation website says:

The Yorta Yorta people of southeast Australia are a river people. Dhungala is the life source and spirit of the Yorta Yorta. River basins around the world are critical for water resources, biodiversity and agriculture, but they are facing increasing stresses due to degradation, overuse and climate change. We must find new, more integrated solutions that deliver benefits for: healthy river ecosystems, sustainable agriculture, empowered communities.

The Yorta Yorta community is very cognisant of the need to work with scientists and researchers to share their knowledge to build awareness of the cultural implications of the river to Yorta Yorta life. During my time working with this organisation, I learnt a lot about the many networks that collaborate with the Yorta Yorta people and how important it is for everyone that we learn from this vast and deep knowledge base.

Concept development

While in the Goulburn–Murray region, there was time to think about how to explore some of the issues around the relationship between water, sustainability, identity and culture. I had my own story to tell; and along the way had the privilege of learning other peoples stories as well. One weekend, I headed to Echuca with my family for the weekend. We thought it would be fun to go on one of the old paddle-boats, ‘Pevensey,’ the one made famous by the 1980s TV series ‘All the Rivers Run.’ After spending the day on the Pevensey and seeing the damage caused by this tourist activity, plus seeing the river level so low, I needed to find a way to bring together my disparate and desperate thoughts.

![Fig.1 Echuca, the River © Tracey Benson 2013.](image)

Then I had an idea...

It was a humble idea, to simply ask my friends on Facebook to tell me what their word for water was, in their mother tongue. The response was a
complete surprise, as within a day, I had gathered over 30 languages, eight being Australian Indigenous languages. Now I have around 40 languages.

What were people’s words?


Tracing the Murray

From this initial step of gathering languages, I then started to gather some images of the river that had created such an impact on me in Echuca, the river Murray. It was also the same river that starts its life not far from my home, in the Alpine regions of New South Wales and Victoria. One of the great benefits of living in Canberra is the beautiful mountain water that we drink out of our taps every day. It is arguably the best tap water in Australia, clean, cold and pure. At the other end of the Murray there is a different story of the river, one marked by journey, traversing agriculture, irrigation and mining.

Fig.2 ‘Words for Water, the chakra of the Murray: Heart’ © Tracey Benson 2013.

The images are aerial maps, created from screen shots of Google Maps. These images were then composited into a video piece. To create the video, over 70 images were collected of the Murray River, following the river from its source in the mountains, not far from where I live, to the sea—the Coorong in South Australia. In addition to this video work, a series of the images were turned into augmented reality works using Aurasma, for an exhibition titled ‘Transreal Topographies,’ part of the International Symposium for Mixed and Augmented Realities hosted in Adelaide in 2013.
Next Steps

‘Words for Water’ is seen as an ever-expanding project, using augmented reality, video, storytelling and photography to provide pathways to engage with the work.

There are a number of forthcoming events for future iterations of ‘Words for Water.’ For example, in October 2014, an exhibition is planned for Canberra at Photoaccess Gallery, comprised of video and more augmented media pieces. This work is focused on local stories around water and has the tentative title of ‘Words for Water: Local Ripples.’ For the exhibition with Photoaccess, it is my intention to acknowledge the water stories of the Indigenous communities that have connections to the ACT region, in particular the Ngunnawal, Yuin and Wiradjuri peoples. Indigenous cultures make strong connections between the health of waterways and the health of the community; I see this as a significant matter that the broader community needs to recognise in order for a healthy, viable and sustainable future for the land and humanity. For this element to be successful, I will need to build connections to people in the Ngunnawal community.

Fig.3 Maps from ISMAR2013, Image Credit Julian Stadon.

In 2015, another stage of ‘Words for Water’ will be featured at the 2015 SCANZ exhibition as a temporary installation. This work will focus more strongly on the human aspects of water and it’s connection to peace and finding home. This work is envisaged as having a number of components: as a projected video work and as an installation of objects that will be situated along the river, that can also generate video by using an augmented reality application for mobile phone and tablets.

Sharing personal stories

As part of the expanding collaborative narrative of ‘Words for Water,’ I am collecting audio and video about water. The focus is on personal stories and histories of place. You can contribute! Email me: tracey@bytetime.com
BIOGRAPHY

Tracey Benson is a green geek/artist/researcher into connected communities, UX, WCAG, Gov.2.0, sustainability, tech/art synergies, maps and FOSS. Over the years, Tracey has participated in many international digital media events including: SCANZ2013, ISEA2011, THATCamp Canberra 2010, ISEA2008; AOIR 2006; ISEA2004; Siggraph 2001; N5M4, Amsterdam 2003; N5M3; MAAP’99 and MAAP2000. Her creative work focuses on the connections between landscape and identity. More recent creative explorations have utilised mobile and hand held online technologies for the creation of virtual and augmented reality works. In 2001 she received a Research MA from Queensland University of Technology, focusing on souvenirs, nostalgia and personal identity. In 2010 Tracey was awarded a PhD at The Australian National University, which explores online communities and social networking tools.

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MALDIVES MATCH-UP
Josephine Starrs & Leon Cmielewski
Sydney College of the Arts, University of Sydney & School of Humanities and Communication Arts, University of Western Sydney, Australia

‘Maldives Match-Up’ is a large printed poster developed to supplement our ‘Incompatible Elements’ exhibition, a parallel project curated by Camilla Boemio for the Maldives Pavilion at the 55th Venice Biennale in 2013. The theme of the pavilion was ‘Portable Nation,’ with climate change, rising sea levels and the prospect of the lowest nation in the world disappearing beneath the sea as a major concern.

There is an obvious resonance between the Maldives and Venice, which is also threatened by inundation. Billions are being spent on developing a highly technical floodgate and lock system to protect Venice, but unlike the Maldives is not a “European Cultural Treasure.” Furthermore, on the basis of international climate talks the chances of saving this nation look bleak, so the population of the Maldives will likely have to disperse and relocate.

But where to? How can families displaced by economic activity occurring in a far off place and on a global scale find a new place to live? These are the questions we wanted to address by creating a structure where the audience could choose to make a symbolic gesture of generosity toward a displaced Maldivian family.

In ‘Seeker,’ a previous artwork from 2006, we looked at the issue of asylum seekers and the causes of displacement, linking these to personal data elicited from individual gallery visitors about their own family migration history. The analogue mapping approach, using post-it notes developed for the ‘Maldives Match-Up project,’ was the polar opposite of the technically complex computer interactive approach we used in ‘Seeker,’ but it produced a similarly generous and engaged audience response.

The Maldives has a unique urban geography, hundreds of islands strewn across the Indian Ocean, most of them having just a tiny set of street blocks. If one maps only the streets, a very disjointed arrangement emerges, of suburbs with no interlinking roads. We were interested in this arrangement and decided to use this unique feature as a way of talking about the impending dispersal of the nation’s people.

Fig.1  Map of Maldives and Sri Lanka.
The task or game we invited gallery visitors to play was an attempt to engage with the abstract and remote nature of the damage that results from sea level rise due to climate change, where places likely to be hardest hit, such as Bangladesh and the Maldives, have contributed the least to causing the problem that besets them.

We took the layout of Maldivian street blocks and invited exhibition visitors to draw and name their own street block shape on a post-it note and then attach it close to a similarly shaped Maldivian street block. We then thanked the visitor and implied that they had invited a Maldivian family to come to live on their block. We felt this was as good a way as any to allocate a new address to dislocated people who have lost their home due to global economic activity.
Fig. 4 Detail of street block drawings with annotated place names and notes.

Fig. 5 Detail of street block drawings with annotated place names and notes linking them to Maldivian street blocks.

Fig. 6 Displayed poster.
Australian artists **Josephine Starrs** and **Leon Cmielewski** have collaborated on a variety of new media arts projects that incorporate interactivity and play as strategies for engaging with the social and political contradictions inherent to contemporary society. Some of the works encourage the participant to reveal themselves through their engagement with the work, their personal information being transmitted or stored for retrieval in some way; multiple participants often create the artwork itself through the accumulation of their responses.

**REFERENCES & LINKS**

http://josephinestarrs.com

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4917
HYBRID CARTOGRAPHIES
Camilla Boemio
Rome, Italy

I am a writer, university consultant and curator. I was Deputy Curator of the Maldives Pavilion at the 55th Venice Biennale. I am interested in socio-political themes and science research.

The Western idea of paradise as an island surrounded by warm, crystal blue water is pervasive. I am thinking about Hawaii, the Maldives, the Bahamas—where this idea of beauty is in contrast to other port cities around the world, such as San Pedro, Amsterdam, Bilbao. A typical fantasy or day dream about this type of paradise is made of memories and an aesthetic of romantic beauty, including the color blue and blue water. The sea is the key to understanding globalized industrialism.

What is happening on the global map of geo-political transformation and climate change? Water is the primary resource and a key to a nation’s power. Hybrid realities and new landscapes appear. A new geographic distribution is taking place and the disgruntled people from the margins have moved to centre stage, taking with them a complex symbolic legacy of the sea. The most precious and accessible resource is increasingly an object of luxury.

Following a tour around the world, I selected the work of four artists, including Josephine Starrs/Leon Cmielewski, Ursula Biemann, Allan Sekula and McLean Fahnestock, to be part of the exhibition I was curating.

Fig.1 Camilla Boemia presenting ‘Hybrid Cartographies.’

Josephine Starrs and Leon Cmielewski are Australian artists and researchers who create and exhibit media art projects for national and international audiences.

Their work is situated at the intersection between cinema, information visualization and data mapping, playing off tensions between the large and small screen, and between information and sublime landscapes.

Over the past decade they have collaborated on several projects, including their ongoing media artwork, ‘Incompatible Elements.’ The installation explores new ways of representing the relationship between nature and culture by embedding poetic texts into animated satellite images of landscapes and waterways in crisis in the Asia/Pacific region.* ‘Incompatible Elements’ has been shown several times in Australia and
overseas including at the Auckland Arts Festival in 2011 and the Museum of Contemporary Art, Taipei, in 2012. Most recently it was part of ‘Hybrid Cartographies’ at the Malvides Pavilion of the 55th Venice Biennale.

Fig.2 The work of Josephine Starrs and Leon Cmielewski, curator Camilla Boemio.

Their video installation ‘Waterways’ explored Sydney Harbour and was commissioned by the San Francisco Arts Commission Gallery and exhibited in San Francisco and Sydney in 2011.

Starrs is currently honorary Senior Lecturer in Film and Digital Art at Sydney College of the Arts, University of Sydney and Cmielewski is Senior Lecturer at the School of Humanities and Communication Arts, University of Western Sydney.

An artwork like ‘Incompatible Elements’ is not propaganda or politics, yet the artists are unwilling to leave socio-political questions to designated experts. The cumulative effect of ‘Incompatible Elements’ is not alarmist, rather human responsibility is implicated in the large-scale geo-physical changes to our world that the artists represent. The work encourages reflection on the impact of cumulative weather events that are difficult to conceptualise as statistical data or scientific warnings. (Randerson, 2011, p. 39)

For McLean Fahnestock, water is liminal. She sees it as this great barrier between the known and unknown, fact and fiction; the conscious and the unconscious. It is at once a vast body and a droplet. That dichotomy, that magical form shifting, allows water a flexibility, acting as vehicle in her works. The sea is the protagonist of her latest work.

Fahnestock has a romantic, family connection to the sea. Her grandfather and great uncle sailed the South Pacific three times as explorers. Their voyages, the Fahnestock Expeditions, are the inspiration for her new projects.

Working and living on the water is a courageous and even audacious act: the sailor, conqueror of the sea, has been the hero of story and song since ancient times. Fahnestock wanted to shift this focus slightly to allow the sea to become the subject-hero or villain, as the case maybe.

One of her new series is ‘Isolomania.’
‘Isolmania’ is an obsessive love of islands. It is about the way that scale shifts when you know that the land under your feet is finite, knowable and yours.

The piece is a collection of islands, whose nature is gleaned from travel books. Each island is molded from a topographic map, gilded, placed upon a used travel book, and balanced on a crystal blue pedestal. Learning everything about a place you have never been to is compulsive behaviour and remains an inauthentic experience of the place. So much of our new digital lives have been built upon this type of knowledge.

Fig.3 ‘Isolmania,’ a work by Fahnestock, curated by Camilla Boemio.

Fig.4 ‘The Forgotten Space,’ a film by Allan Sekula & Noël Burch, curator Camilla Boemio.
‘Hybrid Cartographies’ also included a political voyage in the sea.

A film informed by a global crash and titled ‘The Forgotten Space,’ directed by Allan Sekula and Noël Burch, was screened. To rule the sea is to ruin the world. The sea is forgotten until disaster strikes. But perhaps the biggest seagoing disaster is the global supply chain, which, perhaps, in a more fundamental way than financial speculation, is leading the world economy towards the abyss.

The film follows cargo containers aboard ships, barges, trains and trucks; it listens to workers, engineers, planners, politicians, and those marginalized by the global transport system. It visits displaced farmers and villagers in Holland and Belgium, underpaid truck drivers in Los Angeles, in San Pedro port, seafarers aboard mega-ships shuttling between Asia and Europe, and factory workers in China, whose low wages are the fragile key to the whole puzzle. In Bilbao, we discover the belief that the maritime economy, and the sea, is somehow obsolete.

A variety of footage is used: descriptive documentary, interviews, archival stills and footage; clips from old movies. The result is a personal essay-like visual documentary about one of the most important processes that affects us today.

‘The Forgotten Space’ is based on Sekula’s massive long-term project ‘Fish Story,’ which has sought to understand and describe the contemporary maritime world in relation to the complex symbolic legacy of the sea.

Fig.5 ‘The Forgotten Space,’ a film by Allan Sekula & Noël Burch, curator Camilla Boemio.

The film moves between four port cities: Bilbao, Rotterdam, Los Angeles, and Hong Kong. It visits the industrial hinterland in south China, and the transport hinterland in the heart of Holland. Of the four port cities, three can be classed as “super-ports,” the largest in the world. Here we encounter functional hypertrophy. Bilbao, a fading port with a brave maritime history, has become the site of radical symbolic transformation of derelict maritime space. In Bilbao, functional atrophy coexists with symbolic hypertrophy, a delirium of neo-baroque maritime nostalgia wedded to the equally delirious promise of the “new economy.”

First and foremost, globalization is the penetration of the multinational corporate economy into every nook and cranny of human life. It is the latest incarnation of an imperative that has long been accepted as vital necessity, even before economics could claim the status of a science. The first law of proto-capitalism is that markets must multiply through
foreign trade or they will stagnate and die. As the most sophisticated of the 17th century defenders of mercantilism, William Petty, put it: “There is much more to be gained by Manufacture than Husbandry, and by Merchandize than Manufacture. A Seaman is in effect three Husbandmen” (Political Arithmetic, 1690).

The contemporary vision of an integrated, globalized, self-regulating capitalist world economy can be traced back to some of these axioms of the capitalist “spirit of adventure.” And yet what is largely missing from the current picture is any sense of material resistance to the expansion of the market imperative. Investment flows intangibly, through the ether, as if by magic. Money begets money. Wealth is weightless. Sea trade, when it is remembered at all, is a relic of an older and obsolete economy, a world of decrepitude, rust and creaking cables; of the slow movement of heavy things. If Petty’s old fable held that a seafarer was worth three peasants, neither would count for much in the even more fabulous new equation. And yet we would all die without the toil of farmers and seafarers.

The factory system is no longer concentrated in the developed world but has become mobile and dispersed. As ships become more like buildings, the giant floating warehouses of the “just-in-time” system of distribution, factories begin to resemble ships, stealing away stealthily in the night, restlessly searching for ever cheaper labor. A garment factory in Los Angeles or Hong Kong closes and the work benches and sewing machines reappear in the suburbs of Guangzhou or Dacca.

The function of sea trade is no longer a separate, mercantilist enterprise, but has become an integral component of the world-industrial system. We are distracted from the full implications of this insight by two powerful myths, which stifle curiosity. The first myth is that the sea is nothing more than a residual mercantilist space, a reservoir of cultural and economic anachronisms. The second myth is that we live in a post-industrial society, that cybernetic systems and the service economy have radically marginalized the “old economy” of heavy material fabrication and processing. Thus, the fiction of obsolescence mobilizes vast reserves of sentimental longing for things which are not really dead.

Our response to these myths is that the sea is the key to understanding globalized industrialism. Without a thoroughly modern and sophisticated “revolution” in ocean-going cargo-handling technology, the global factory would not exist, and globalization would not be a burning issue.

Fig.6 ‘The Forgotten Space,’ a film by Allan Sekula & Noël Burch, curator Camilla Boemio.
What began in the mid-1950s as a modest American improvement in cargo logistics, an effort to achieve new efficiencies within a particular industry, has now taken on world historic importance. The cargo container, a standardized metal box, capable of being quickly transferred from ship to highway lorry to railroad train, has radically transformed the space and time of port cities and ocean passages.

There have been enormous increases in economies of scale. Older transport links, such as the Panama Canal, slide toward obsolescence as ships become more and more gargantuan. Super-ports, pushed far out from the metropolitan center, require vast level tracts for the storage and sorting of containers. The old, sheltering, deep water port, with its steep hillsides and its panoramic vistas, is less suited to these new spatial demands than low delta planes that must nonetheless be continually dredged to allow safe passage for the deeper and deeper draft of the new super-ships.

A great thanks to Production company: Doc.Eye Film for the use of the images and the material from ‘The Forgotten Space’ in the slide show.

Research on the centres of power and the social ecology of water and oil. ‘Deep Weather’ by Ursula Biemann is a short video essay exhibited at the Maldives Pavilion during the 55th Venice Biennale.

‘Deep Weather’ draws connections between the relentless search for fossil resources with their toxic impact on the climate and the consequences of this on indigenous populations in remote parts of the world. The video shows how oil and water are the two primordial liquids that form the undercurrents of all narrations as they activate profound change in the planetary ecology. The first scene gazes down on the huge open pit extraction zone for tar sands in the midst of the vast Boreal Forests of Northern Canada, showing us a view into the dark lubricant geology of that region.

The second part of Deep Weather turned its attention to the consequences of the melting of the Himalayan ice fields, rising sea levels and extreme weather events that increasingly define living conditions in Bangladesh. The video documents the significant community effort in building protective mud embankments.

There is also large scale landscaping going on, for other purposes. Which emergency situation must we respond to and what responsibilities do we have?
Hybrid water cartographies
Camilla Boemio (CB) interviews McLean Fahnestock (MF)

CB: What is water for you and in your works?

MF: Water is liminal. I see it as this great barrier between the known and unknown, fact and fiction; consciousness and the subconscious. It is at once a vast body and a droplet. That dichotomy, that magical form shifting, allows it flexibility as a vehicle in my artworks.

CB: The sea is the protagonist of your latest work. Can you tell me about your relationship with the sea?

MF: I have a romantic and genetic connection to the sea. My family tree is dotted with sailors. When I was young, family weekends were spent on board a 30 foot sailboat in the Chesapeake Bay. Dad taught me how to sail my own little two person boat. My grandfather and great uncle sailed the South Pacific three times as explorers. Their voyages, the Fahnestock Expeditions, are an inspiration for my new projects. Working and living on the water is a courageous and even audacious act. The sailor, conqueror of the sea, has been the hero of story and song since ancient times. I wanted to shift this focus a bit to allow the sea to become the subject-hero or villain-as the case maybe.
CB: Tell me about ‘Isolomania.’

MF: Isolomania is an obsessive love of islands. It is about the way that scale shifts when you know that the land under your feet is finite, knowable, and yours. The piece is a collection of islands as known from travel guide books. Each island is moulded from a topographic map, gilded, placed upon a used travel book and balanced on a crystal blue pedestal. Learning everything about a place you have never been to is obsessional and is still a false experience of the place. So much of our new digital lives are built upon this type of knowledge.

Fig.10 ‘Good Director Islands’, 2013, Series of prints - A particular view of installation.

CB: The Western idea of paradise is an island surrounded by warm, crystal blue water. I’m thinking about Hawaii, the Maldives, the Bahamas... or simply Catalina Island! In your series of prints ‘Good Director Islands’ you describe day dreaming as a typical fantasy. Can you tell me about it?

MF: ‘Good Director Islands’ are prints made from desktop wallpapers, the kind you would see on computer work stations in offices. Cloaked in gold leaf, they are fantasy objects. Artists, conquerors, writers, reality television viewers, all have found themselves rapt in the illusion of the exotic desert island. It is an illusion of discovery, solitude, and escape. The title comes from a small chain of islands that my grandfather and great uncle claim to have discovered on their first voyage. However, “The Good Director Islands” are not on any map. They are only what appears to be “open waters” at the coordinates for which they are published. Perhaps they have been consumed by the ocean, or perhaps they never really existed. It is the idea that has driven many explorers and seekers of fortune; an island of one’s own that is your discovery on a map!

CB: You were born in Maryland on the Atlantic Coast and live in California on the Pacific Coast. For you the sea is an important part of your life. This year is the global year of water. How is climate change and a new “bio” mentality changing the U.S.?

MF: Being so close to the ocean has put me in the position to see first hand the change of attitude towards it. People are becoming more considerate, not only to the oceans, but also the tributaries. There is a push not only to limit the amount of pollution that flows into the sea, but to restore rivers, such as the Los Angeles River, to a more natural state. We are seeing a shift from management of water as a resource best controlled through cold cement engineering to a recognition that we need to bring things back into balance. Dirt and plants and wildlife are integral to the health of our communities, rivers, and oceans.
CB: Can you tell me about the video Lovesick? And ‘In the Offing’?

MF: ‘Lovesick’ and ‘In the Offing’ are two related video installations. ‘In the Offing’ is a large video projection with a soundtrack while Lovesick is a small silent video projected on a small acrylic disc. Both present the lure of the sea as a longing. ‘In the Offing’ presents the Pacific Ocean as vast and enticing with a siren’s song as sound track. Created from footage taken from Hollywood films created between 1932 and 1965, a 33 year period that begins a few years before the Fahnestock Expeditions, and ends at my Grandfather’s death. Curious as to what images he saw that sparked his imagination or later brought back memories, I selected films made in this time range that were made in the South Pacific.

‘Lovesick’ is more intimate and so I wanted to create a more intimate experience when viewing it. The silent footage takes the viewer on a trip through rough seas, occasionally pulling them under, in to the water. The video is projected on a slowly turning, suspended acrylic disc and is visible throughout the rotation.

CB: ‘Stars to Windward,’ written by your grandfather and great uncle, chronicles their first expedition to the South Pacific. You are collecting scans of the frontispieces of all the books that you can locate and will bind them into a second volume that you will then place alongside the original in public libraries and private collections. Can you tell me more about this project?

MF: I have been working on this project for some time now, close to two years. I am enjoying taking this journey through the reach of a book. There are 125 volumes in public and university libraries. I have been calling out to people at the institutions, asking for their help, and involving them in my project. It all speaks to the collector and archivist in me. By binding the second volume and placing it in these storehouses of knowledge, I am a stow-away on their original journey. I am commenting on the book as an object, a container, and the ideas surrounding the ownership of knowledge. It is all unfolding as I am collecting. I am finding that the books are placed as fiction in some libraries and non-fiction in others. This binary classification intrigues me and is something that I have worked with for many years.

Fig.11 ‘Hidden Hall of Pacific Bird Life: The Great Barrier Reef,’ 2013 – Archival inkjet print, printed film overlay, acrylic paint.
CB: I found a recent article in the Los Angeles Times: ‘Is the Pacific Ocean radioactive?’ Can you help me find out if this is true?

MF: A marine chemist at Woods Hole Oceanographic Institution who has been studying the effects of Japan’s Fukushima reactor leak since right after it happened, Ken Buesseler, had long grown frustrated with the repeated scare stories he was seeing online. So he decided to do something about it. Buesseler was among the first scientists to visit the ocean off Fukushima after the failure of the Daichi nuclear reactor and the devastating earthquake and tsunami on March 11, 2011. His FAQ is generally acknowledged to be among the most reliable sources of scientific information on the spill.

So we are living a tragic, global disaster. This has created much debate and alarm. Many people have been anxiously awaiting the arrival of debris and radioactivity on the beaches of California. I think, more positively, that it has served to begin a conversation about the health of the Pacific Ocean. Something like, “you think that Fukushima is scary, you should see what we have been doing all along.” Over-fishing, micro-plastics, and the effects of global climate change on reefs and atolls should be at the top of our list of concerns. Buesseler is going a long way to refocus the media to other issues at hand.

The Pacific is a very different place than it was when my grandfather sailed it in the 1930’s, and it is mankind’s doing.

BIOGRAPHY

Camilla Boemio is a curator who has worked on international projects, curated exhibitions for museums and Universities in Europe and the United States (California). Her art criticism focuses on socio-political developments within contemporary society. She was Deputy Curator of the Maldives Pavilion at the 55th Venice Biennale. She was consultant for the art-science section at Iswa European Project with the coordination of UNIVPM.

How can art respond to rapid political, economic, educational and ecological transformations that take one by surprise in a climate of emergency? And how do these parameters shape the public and public space? What forms of artistic practice contribute to alternative mediums of knowledge making and how can they intervene on reality? These are some of the questions that Camilla is concerned with.

REFERENCES & LINKS


http://www.mcleanfahnestock.com


Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4916
Presentation

‘Ringbalin — River Stories’ is an immersive geo-located multiplatform documentary telling the stories of Australia’s greatest river system through the hearts and minds of the world’s oldest living indigenous culture. Ringbalin peels back the ‘known’ world, guiding the viewer through a landscape of Aboriginal stories and experiences as we journey together down the Murray-Darling river.

‘Ringbalin — River Stories’ is the re-imaging of Australia’s greatest river system from its source in Queensland to the sea 2500 km away at the Coorong in South Australia. Through a host of high quality short documentary films, a group of Elders and storytellers from different traditional nations invited people to take an actual or virtual journey: journeys of connection and transformation, guided by the insights and knowledge of indigenous knowledge holders through a landscape of geo-located Aboriginal stories and interactive maps.

Although ‘Ringbalin — River Stories’ is largely a cultural guide, a story and a tool for discovery, it also has significant implications for how we craft sustainable futures in the Murray-Darling Basin. From the underlying geography, geology and hydrology; through the indigenous stories of water courses, culture and history; to the current flow of the rivers and the work of the Elders to keep the rivers of water and knowledge alive. ‘Ringbalin — River Stories provides unique insights into the potential role of the localism in broaching one of Australian public policy’s most wicked problems.

Presenters

Ben Pederick is the director and co-producer of ‘Ringbalin — River Stories.’ He has worked on productions with leading broadcasters and like-minded organizations such as Alexandra Cousteau, National Geographic TV, Radio Free Asia, the United Nations, and USAID. Since his first film ‘Twenty Pieces,’ Ben has directed and produced more than 20 films. In 2009 Ben and the Goodmorningbeautiful Films production company, which he co-founded with Expedition Blue Planet team members, Ali Sanderson, Jos Pederick and Michael Duff, filmed the Mekong River, a 2,800-mile journey from its source on the Tibetan Plateau to the South China Sea.

Ali Sanderson has worked as a professional photographer and video producer on productions with leading broadcasters such as National Geographic TV, Radio Free Asia. Also a contemporary artist for the last 15 years, she has exhibited in galleries across the world. Together with Ben & Jos Pederick, and Michael Duff, Ali founded Goodmorningbeautiful Films.

Links

www.ringbalin-riverstories.com


Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4914
Top: Uncle Major Sumner at the Murray Mouth. Photo Ali Sanderson.

Middle: Dancing at Murra Murra. Photo Ali Sanderson.

HUMID BALANCE
Dr. Ricardo Dal Farra
Concordia University, MONTREAL, Canada

The global climate is changing and communities around the world are suffering the consequences. Traditional approaches to disaster management are not enough to deal with rising risks, so new forms of collaboration are needed to inspire people and organizations to make a link between knowledge and action. In this major challenge, artists could inspire new explorations of active participation. We need to discuss proposals for the future from a diversity of cultural perspectives and socio-economic contexts.

Considering the role the arts and artists play through their contribution to dealing with environmental challenges, three robust initiatives were launched, which have been well received by the international community of electronic artists and by humanitarian and cultural organizations, educators and experts from diverse fields. Those initiatives are: the ‘Balance-Unbalance’ program, the ‘art!xclimate’ contest organized in collaboration with the Red Cross/Red Crescent Climate Centre and, more recently, the ‘EChO’ project.

Balance-Unbalance

‘Balance-Unbalance’ explores intersections between nature, art, science, technology and society. It makes use of the media and electronic arts as a catalyst, with the intent of engendering a deeper awareness and creating lasting intellectual working partnerships to help solve the environmental crisis.

The first ‘Balance-Unbalance’ conference was held in Argentina and was titled in Spanish ‘Equilibrio-Desequilibrio.’ It was organized by the Electronic Arts Research Centre (CEIArtE) from the National University of Tres de Febrero. Papers were delivered by: the National Secretary of Environment and Sustainable Development of Argentina, experts in pollution, renewable energy and food technology, with chemical, agricultural and environmental engineering backgrounds; a lawyer, sociologist and philosopher; artists and an astrophysicist. ‘Balance-Unbalance’ was held again in 2011, this time at Concordia University, Canada. The organizing committee invited faculty from diverse backgrounds, such as the Political Sciences, Communication, Music,
Geography, Digital Arts, Management and Design. A large number of submissions were received, including: paper presentations, posters, films, electroacoustic and computer music, art installations and a series of trans-disciplinary sessions with open structures to accommodate all kinds of innovative proposals, each with digital art as the interconnecting hub. In 2013, a third edition of ‘Balance-Unbalance’ was held at the Noosa Biosphere, an ecological reserve recognized by UNESCO. The Noosa Biosphere is a dynamic learning laboratory for sustainability in one of the most pristine and diverse environments in Australia. The conference theme was: ‘Future Nature, Future Culture[s].’

**Fig.2** Slide from the presentation.

**art!▶climate**

The Red Cross/Red Crescent Climate Centre and the Electronic Arts Research Centre (CEIArtE) joined forces to develop the ‘art!▶climate’ contest for the creation of digital sound-based art miniatures focusing on issues related to the environmental crisis and climate change. The Climate Centre’s mission is to help address the humanitarian consequences of climate change and extreme weather events. As a result, the Climate Centre has been designing and facilitating methods for learning and dialogue that involve not only brainpower, but also the emotions of participants (by such means as collaborative workshops, participatory games and short educational films, linking information, decisions and consequences in disaster management).

The ‘art!▶climate’ contest had two main objectives: a) Provide the Climate Centre with sound-based art material that can support organisational actions; and b) Improve knowledge about the human dimensions of the environmental crisis and promote awareness about the effects of climate change, both among creative artists and among those exposed to their work.

The categories available for the contest were twofold: ‘Mosquitoes’ and ‘Open Theme.’ The ‘Mosquitoes’ category aimed to support initiatives to raise awareness and better manage the growing risk of malaria, dengue and other mosquito-borne diseases that are showing new regional and seasonal patterns due to changes in rainfall and temperature: an issue highlighted in several Red Cross projects in Africa, Asia and the Americas. The ‘Open Theme’ category invited submissions about other dimensions of changing environmental conditions.

A jury of internationally recognized new media artists and composers, and
members of the Climate Centre, selected the works. Submissions came from all over the world. All pieces are currently available for listening and downloading under a Creative Commons license.

Fig.3 The Red Cross/Red Crescent Climate Centre and the Electronic Arts Research Centre (CEIArtE) joined forces to develop the ‘art!+climate’ contest.

The EChO Project

‘EChO’ is an initiative which proposes to match a public, online database devoted to electronic art projects focusing on environmental issues with a virtual meeting point to facilitate communication between key players (including research groups, humanitarian organizations, policy makers, artists associations, opinion formers, technology innovators, etc.).

‘EChO’ proposes to facilitate the building of links between media artists and organisations from around the world working on projects or programs aimed at facing the environmental crisis and finding solutions to a sustainable future, as a way to empower otherwise unrelated initiatives and actions.

There are many projects by artists and artist-related organisations working with media/electronic arts and focusing on environmental problems. There are also many governmental, intergovernmental and non-governmental organisations, as well as private institutions, searching for solutions to the ecological dangers threatening human life, either at the local, regional or global level. ‘EChO’ aims to create a transformational knowledge network to develop forces large enough to turn good will into actions; to convert individual projects with significant potential into something that could reach an international community; and eventually develop and increase its original scope.

BIOGRAPHY

Ricardo Dal Farra is an electroacoustic music composer and new media artist, researcher, educator and curator. He holds a PhD in Arts from UQAM. Dal Farra is Professor in the Music Department of Concordia University, Canada and has been director of the Hexagram Centre for Research-Creation in Media Arts in the same university. He is also the founding Director of CEIArtE, the Electronic Arts Research Centre at the National University of Tres de Febrero, Argentina. Dal Farra has been developing a number of projects aiming to use (electronic) art as a catalyst with the intent of engendering a deeper awareness and creating...
lasting, intellectual working partnerships in solving our global environmental crisis, among them: ‘Balance-Unbalance’, the ‘arte!xclima’ contest together with the Red Cross/Red Crescent Climate Centre, and more recently, the ‘EChO’ worldwide database.

![EChO public database](image)

**Fig. 4** Upcoming platform ‘EChO’: a global database & virtual meeting point.

**LINKS**


Screen recording of the Tap presentation: [http://water-wheel.net/media_items/view/4964](http://water-wheel.net/media_items/view/4964)

**INFORMACION EN CASTELLANO**


CANTOALAGUA 2014: A UNIQUE VOICE – BOGOTA Node
Hector Buitrago, Catalina Salguero, Juanita Ariza, Oscar Caicedo & Juan Moreno
Bogota, Colombia

Report on the activities held in Bogotá, Colombia, on March 20, 2014 entitled ‘A Unique Voice’ during the online Waterwheel World Water Day Symposium and the on-site Conscious Art Fest. This was organised by Cantoalagua, under the direction of Héctor Buitrago, Cantoalagua Foundation Gold and supported by Carla King, Ecoart Argentina, Angela Borreleo, Home Theatre Ensemble, Juanita Ariza, Juan Moreno, Oscar Caicedo, Ernesto Sánchez, the Spoon Revolution, the Global Compact Conscious and Jorge Lewis.

![Cantoalagua logo](image1)

**Fig.2** Cantoalagua 2014 logo ‘One Voice’ by Lewis Jorge Morales.

**Cantoalagua** is a cultural and spiritual activity created in Bogotá, Colombia, by Héctor Buitrago and Catalina Saguero. It promotes the conscious relationship of society with water, inviting people from around the world to reconnect with the power of water through collective singing and simultaneous actions. The event has been held on the 22nd of March since 2009, under the banner of the United Nations World Water Day. The Bogotá River, one of the world’s most polluted, inspired this now international movement.

![Conscious Art Fest logo](image2)

**Fig.2** Conscious Art Fest logo, by Lewis Jorge Morales.
Conscious Art Fest and Waterwheel

Conscious Art Fest was broadcast live online, using the Tap to give a virtual tour of the exhibition including works of over 20 artists, featuring Andrea Echeverry, Magui Rocatagliata and Orlando Rojas. We also presented the history and evolution of the group over the past five years, creating the international network Cantoalagua, which convened over 350 simultaneous events this year.

Fig.3  Performance by Dioscorides Perez in Arte Consciente Fest. Photo Awa por Oscar Caicedo.

International participation

Juanita Ariza explained her experience as continental runner for ‘Water for Peace and Dignity’: she performed water songs from Ushuaia, Argentina, to Tikal, Guatemala. From Peru to the Basque Country, she was escorted by activists and representatives of Cantoalagua: Andres Salazar and Esteban Yepes. They recognized Waterwheel as a positive experience and a multicultural, convergent, sociocultural space, as well as a tool capable of breaking the barriers of space and time through a mix of art and science.

We sent a big shout of brotherhood to all people who participated in the symposium, recognizing water as a family, wishing to continue working together for the multidisciplinary protection of water and life of our planet.

Versión Española

CANTOALAGUA 2014 – UNA SOLA VOZ
Hector Buitrago, Catalina Salguero, Juanita Ariza, Oscar Caicedo, Juan Moreno
Bogota, Colombia

Resumen

Reporte sobre la articulación del simposio internacional “Waterwheel” con Cantoalagua en el Arte Consciente Fest Cantoalagua 2014 “Una Sola Voz” llevado a cabo en Bogotá, Colombia, el 20 de Marzo de 2014, gracias a la dirección de Héctor Buitrago, Cantoalagua, Fundación Gold, y el apoyo de Carla Rey, Ecoart Argentina, Ángela Borrero, Teatro Casa Ensamble, Juanita Ariza, Juan Moreno, Oscar Caicedo, Ernesto Sánchez, la Revolución de la Cuchara, el Pacto Mundial Consciente y Jorge Lewis.
Cantoalagua

Es una actividad cultural y espiritual creada en Bogotá, Colombia, por Héctor Buitrago y Catalina Sagueru, que promueve la relación consciente de la sociedad con el agua, invitando a la gente del mundo a reconectarse con la energía del agua a través del canto colectivo y acciones simultaneas. El evento se realiza cada 22 de marzo desde 2009 en el marco del día mundial del Agua de las Naciones Unidas. El río Bogotá, uno de los más contaminados del mundo, es la inspiración para este movimiento que ahora es mundial.

Arte Consciente Fest y Waterwheel

En las instalaciones de Arte Consciente Fest se transmitió en vivo por internet la participación de Cantoalagua en el Simposio Internacional de Waterwheel, utilizando las herramientas digitales creadas por Suzon Fuks para realizar un recorrido virtual por las exposición y las obras de más de 20 artistas destacados como Andrea Echeverry, Magui Rocatagliata y Orlando Rojas. También presentamos la historia de la evolución del colectivo en los últimos cinco años, la creación de la red internacional de Cantoalagua, que este año convocó más de 350 eventos simultáneos.

Participación Internacional

Juanita Ariza expuso su experiencia como corredora continental por el Agua de las Jornadas de Paz y Dignidad, donde realizó cantos al agua desde Ushuaia, Argentina, hasta Tikal, Guatemala. Desde Perú y el País Vasco nos acompañaron los activistas y representantes de Cantoalagua, Andrés Salazar y Esteban Yepes, quienes calificaron positivamente la experiencia con Waterwheel, reconociéndolo como un espacio de convergencia sociocultural multicultura y también como una herramienta capaz de romper las barreras del espacio y tiempo a través de una mezcla entre arte y ciencia.

Enviamos un gran saludo de hermandad a toda la gente que participó en la iniciativa de Waterwheel 2014, los convocamos a reconocernos como familia del Agua y a seguir trabajando juntos por la protección multidisciplinar del agua y de la vida de nuestro mundo.

LINK

http://cantoalagua.com
SIP. DO NOT GULP.
Michele Guieu
De Saisset Museum, Santa Clara, CA, USA

Lindsey Kouvaris, curator of the exhibition, has written: “Developed in conjunction with ‘Around the Table,’ the San Jose Museum of Art’s community initiative, ‘Sip. Do Not Gulp.’ examines the interconnectedness of food and water throughout Santa Clara Valley’s long history. Created by Bay Area artist Michele Guieu, the site-specific installation calls attention to the shifting patterns and practices of water usage in this area. Once an abundant resource, agricultural development, population increase, and urban sprawl have placed stress on fresh water availability. Comprised of a painted mural, a documentary video and a symbolic acorn ‘rug,’ Guieu highlights the preciousness of water as a local resource and draws salient connections to food production in this region: if there is no water, there is no food.”

Fig.1 ‘Sip. Do not Gulp.’ installation by Michele Guieu.

When I was commissioned by the de Saisset Museum to create a mural about the history of food and water in the Santa Clara Valley, I immediately thought about the great amount of water it takes to grow food and what that means in a region which experiences droughts and water scarcity. I wanted to tell people that although we enjoy great food in the region, growing food comes with a very large, mostly invisible, “water-tag,” and we may have a very hard time in the near future responding to the growing demand of a growing population. Due to the drought we are going through in California, lots of farmers are facing drastic decisions concerning their crops.

I thought about doing a series of interviews and making a short documentary, that would be integrated into the mural. It created the occasion to meet with four amazing people, who are featured in the video. I interviewed Andrea Blum, a culinary artist at Montalvo Arts Center in Saratoga. I went to San Francisco during the AGU conference, the largest worldwide conference in geophysical sciences, to meet with Jay Famiglietti, Professor of Earth System Science and Civil and Environmental Engineering at the University of California, Irvine. And, I went to see Ann Marie Sayers, Ohlone Storyteller and Tribal Chair of Indian Canyon, I took a day trip to Indian Canyon, south of Hollister, where she lives surrounded by nature. I talked to Ed Maurer, Associate Professor of Civil Engineering, at Santa Clara University, where he works and where the de Saisset Museum is located.
When I visited the gallery at the museum, despite the fact that there was limited time to put everything together, I imagined taking over the whole space with a mural, which was one thousand square feet. On the left, the first inhabitants of the region, the Ohlone People are represented. Their period lasted from 4000 B.C.E. until the coming of the Spaniards in the 1770s. Facing the entrance, the mural is about the mission/rancho era, and on the right wall it is the present, with Silicon Valley.

In the middle of the room, a “rug” made of different species of acorn represents one of the most important foods for the Ohlone People, the first to have lived in the region. I hand-picked those acorns across Santa Clara Valley, from Palo Alto to Pinnacles National Park, via Sunnyvale and Indian Canyon. I brought bags and bags of acorns to the museum where they were stored, and then cooked to sterilize them.

The mural welcomes the participation of visitors, who are invited to express their ideas about the role played by water from growing food to eating it, in our region, in a time of intense water use, rapid urban growth and droughts. Markers are at their disposition to draw, share a thought, a quote, a statistic on a bright blue paper plate. They can then tape the paper plate anywhere on the mural.
Fig. 4 & 5 The 300 blue paper plates annotated by the visitors during the exhibition were on view at the museum.

Fig. 6 Intervention of the public on the mural.
Fig. 7 ‘Sip. Do not Gulp.’ installation by Michele Guieu, after the public’s intervention.

BIOGRAPHY

Michele Guieu is a visual artist who has exhibited in France and throughout the United States. Originally from Marseille, France, Michele has lived in Senegal, Africa and Paris. She moved to the U.S. in 2000. Her interactive installations address environmental issues linked to water. Photos and video footage form the foundation of her work, which also incorporates drawings and objects. She has received an MA in graphic design from the École Nationale Supérieure des Arts Décoratifs de Paris (ENSAD). Her work has been selected for numerous exhibitions including the Subzero Festival in San Jose, ZER01 Biennial in Silicon Valley, and Currents 2012: the Santa Fe International New Media Festival. She is currently participating in two Teaching Artist Residency programs: Montalvo Arts Center and The Sausalito Art Foundation. She is a board member of WEAD (Women Environmental Artists Directory). Her video ‘Granted’ won best environmental short at the Bay Area Women in Film and Media (BAWIFM) Short Film Festival in San Francisco in 2013.

LINKS

http://www.micheleguieu.com/
Exhibition photos: https://www.flickr.com/photos/26620491@N08/sets/72157640638101815/
Exhibition page on de Saisset Museum’s website http://www.scu.edu/desaisset/exhibitions/Food-and-Water.cfm
Screen recording of the Tap presentation http://water-wheel.net/media_items/view/4858
THE IMAGE AND SOUND OF WATER IN THE PERSIAN GARDEN

Mana Salehi
Ph.D. candidate, University of Barcelona, Spain

Abstract

The main goal of this project is to find a way of providing more balance between natural and artificial environments in order to achieve a higher mental state in a 21st century urban life style. I have focused on the specific context of revealing the potential of water through the physical and the intangible senses of layers, image and the sound of water in Persian Gardens.

In which parts of the Persian Garden do the sound and visual water systems emerge? It seems that the sound system and visual water feature in the garden is a combination of natural and artificial systems.

The Persian Garden is the earthy manifestation of the paradigmatic image of paradise, which exists in the “Imagined world” created by a “Reality Model” in our mind. We understand that the gardens have a restorative meaning, as being healing and providing us with a place of refuge and well-being.

Heidegger speaks of “being,” and wonders about the “sense of being,” which finds parallels in the experience of the garden as a sort of mystical participation with the Universal Being.

Jalal-al Din Rumi, the 13th century Sufi Poet wrote: “The Real gardens and fruits are within the heart; the reflection of their beauty is falling upon this water and earth.”

Creation of the Persian Garden

One of the noblest manifestations of Iranian beliefs in meaning and form, image and sound, art and poetry, is the Persian Garden. It is the peak of Persian creativity, the gentle melody of nature and love of life, inspired by Iranian pre-Islamic mythology and Islamic mysticism; emphasizing the concept of the garden as a romantic element for the transformation of the soul.

It is estimated that the origin of Persian gardens dates to 4000 B.C.E. The traditional Persian garden, regardless of size, is always enclosed by walls and protected from the hostile landscape and dry climate outside.
The concept first appears in the Avesta, the eastern dialect of ancient Iran, as “Pairi daeza.” The meaning of “Pairi” is the space around and intermediate, and “daeza” means the space enclosed by walls [1]. This word became part of Greek and Latin phonetic laws pronounced as "Paradises" and the meaning of paradise (Fig. 1).

The garden is a common feature of almost all cultures and came to symbolize not only the abundance of nature, but also man’s power to benefit and manage wealth. Every garden requires an enormous investment of labor, and is also a representation of power and man’s attempt to dominate nature.

All the gardens of the world use the same elements of earth, water, trees, plants, flowers, but the systems that are used to design these elements are varied and, therefore, create different results in the sensation and perception of the environment. The garden is like a mirror that reflects the features of belief systems, culture, philosophy and art.

The basic design, based on the control and channeling of water in the Persian Garden, is an ancient historical system, the intersection of two axes of water from the center, which divides the garden into four symmetric parts. The water at the center of the Persian Garden and its flow outwards to the four parts, is an interpretation of nature expressed in the model of “Chaharbagh” (Fig. 2). The Garden with four sections is a Mandala that divides the world into four quarters. This construction is a reminder of the four classical elements of Water, Fire, Earth and Air and the four seasons of spring, summer, autumn and winter. The archaeologist Ernst Herzfeld discovered and interpreted forms of “four parts” on the ruins of the city of Samara. This template based on “four parts” or “Chaharbagh” was also primordial for the forms of carpets, miniatures and tiles.

**Fig.2** Jahan Nama Garden (Shiraz-Iran) — Catalogue of exhibition 'Garden of Iran: Ancient Wisdom, New Vision' held at the Tehran Museum of Contemporary Art, fall of 2004.

**Emergence of the Persian Garden**

There are two important factors that emerge from the Persian Garden: geometry and the natural elements that identify gardens with land, water and plants. The myth of the Garden of Paradise is much older than the Zoroastrian doctrines and Achaemenian vision. Most probably, it originated somewhere in what is today the provinces of Ilam or Fars, raising the question as to why the phenomenon of the four-part garden of Paradise was first conceived in the dry climate of Iran?

Part of the answer is found in the “Imagined world” or, to paraphrase Henry Corbin, the realm of representational figures situated between two modes of being, the spiritual world and the cognitive world. This vision of the world being divided into two modes existed in the Iranian mind before and after Islam. This duality can be seen in Zoroastrian thinking as well as in the mystical revelation of Sohrwardi. It is in this in-between realm that all transcendental and mystical experiences take
shape. The Persian garden exists and has always existed in the archetypal memory of the Iranian people.

The other part of the answer is the unique character of this land, which has an incredibly bright light and a seemingly elevated sky, particularly in the areas between Ilam and Fars [2]. Almost all foreign travelers have written about this quality of light and the high skies in Iran. Perhaps the Aryan tribes that settled in Fars were attracted by these qualities, where the connection between the earth and the sky is very strong (Fig. 3).

![Shazdeh Mahan Garden in the desert (Kerman-Iran) — Aerial photography, Archive of Museum of Contemporary Art of Tehran, 2004.](image)

**Anahita**

There are many interesting connections between cultures with regard to water. What is the secret message of water and its thousands of hidden and visible layers? The myth of immortality runs through all legends, and one of the oldest is the Epic of Gilgamesh. In all of these epic stories, water is the source of life, and its celestial representative is the goddess or divinity of water (Aban), associated with healing and wisdom. She is also the goddess of love and fertility (Inna in Gilgamesh, Havrvata in Yasht of Avesta, Anahita and Nahid in Persian) [3].

The place where water emerges from the depths of the earth is sacred and full of mystery (Fig. 4). The regulation and control systems for the division of water at Anahita Temple are similar to the water systems in Persian Garden.

![‘Anahita Temple’ — Archetype of Persian Garden, Organization of Cultural Heritage of Tourism 2004.](image)
Water in The Persian Garden

There are two types of water systems in the gardens, sky water (natural springs) such as rivers, lakes, oceans, seas, ... and ground water (underground aqueducts) which is an extraction of water from systems under the land, known as “qanat” (Fig. 5). This system allowed water to be transported over long distances of hot climates without much loss of water due to evaporation. It entered the garden at its top and was carried by gravity to lower levels: jet fed by water-pressure aerated the water and cooled the surroundings by evaporation, as well as providing refreshing sounds to the area.

![Qanat Diagram](image)

**Fig.5 Qanat, Extract of hidden water.**

The installation of the symbol of water and other elements that are representative of water like plants, trees, flowers, etc. in the style of Persian Gardens increases the power of nature and also links the body and soul to the realm of imagination, mindfulness and contemplation. With the stimulation of all our senses and emotions, a trance-like state beyond normal time-space is induced.

The Mystical relationship, which exists in Iranian nature gardens with water, trees and flowers, clearly shows that the Persian garden is a sacred realm. The jug of the water of life is an omnipresent symbol in Persian architecture, to be found in all gardens, mosques and some buildings decorations; a spiral of blue-glazed tile in a jar, is a visual metaphor to introduce water in to architecture, especially in desert areas. The water systems in the Persian Garden are a source of pride due to the scarcity of water, and they are displayed through a combination of cultivation and geometrical systems (Fig. 6).

![Shazeh Mahan Photo](image)

**Fig.6 Shazeh Mahan (Kerman-Iran) – Photo by Mana Salehi spring 2014.**
In the garden, a large body of water reflects the image of the sky, day and night, connecting the spiritual and material world together, connecting sky and earth by water as a mirror reflection, while in architecture, numerous pieces of finely-cut mirrors reflect the Iranian myth of creation and advance a mystified and fragmented vision of the “Imagined world” (Fig. 7).

Fig. 7 Chehel Sotun (Isfahan-Iran) – Catalogue of exhibition ‘Garden of Iran: Ancient Wisdom, New Vision’ held at the Tehran Museum of contemporary art, Fall of 2004.

Tree Cultivation System in the Persian Garden

All religions refer to sacred trees in their holy books: the Tree of knowledge in the Bible, the Tuba Tree in the Quran, the Tree of Immortality, or the Cosmic Tree, which joins earth and heaven in Avesta. In pre-Islamic Persian mythology, the cypress is the most sacred tree and in Islamic mysticism, the plane tree is the most sacred.

The order of growing trees like cypresses and pine, and other plants and their systems of shade and views, the amount of sun, wind, movement to obtain perfect temperatures, offered a nice space that was attractive to different kinds of birds.

There are two different ways to cultivate trees and plants in the garden: the first way is planting trees in “parallel” and within a certain distance in plots, thus in the vertex of each square grid, trees from a species that has a long life are planted. This system makes a suitable condition for the sustenance of the trees and plants. The second way is the “five spot” system where a tree is planted in each corner of the square plot and one in the center (Fig. 8). These types of planting systems create gardens with a great quality space and a pleasing system. The breeze caresses the branches and leaves, different temperatures of the day and night affect the sound of the trees and plants and also attracts various kinds of birds. All these elements affect the sound of the garden [5].
Geometry in the Persian Garden

The Analytical content of this section focuses on the geometrical order and philosophical and metaphysical concepts embodied in Persian garden design, with the belief that a thorough understanding of the garden clarifies the concept of “root” in Iranian culture. All the fundamental concepts of visual composition and spatial construction, such as movement, rhythm, symmetry, renewal and connectivity, are manifested in the Persian Garden in the most attractive and powerful geometrical system.

The natural geometry of the square piece of land chosen for the garden and the artificial geometry is the same system used to make the garden and to build the central building “Kushk,” which has an intertwined relationship [6]. This geometrical relationship is very important in combining the garden and the building to present a coherent space. All the elements, which are used in the building, such as colorful crystals, a small pool of water, the smell of plants that comes from outside etc. are linked to the same sensation through the garden (Fig. 9).

Fig. 9  Dolat Abad Garden (Yazd-Iran). http://www.trekearth.com/gallery/Middle_East/Iran/East/Yazd
The Soothing Quality of the Persian Garden

All these elements and systems create sounds and visuals in the garden that affect human senses and give the feeling of wellbeing. The “Mindfulness” system should be mentioned as an important basis for understanding the space that links to the physical, functional and semantic system of the garden.

The ecological model of cognition and perception in the garden helps us to understand the meaning and sense of the space. This causes us to have hedonistic vision of the world in order to create the “Imagined world,” following the thinking of Professor Hobhouse Penelopeh of the book by Azadeh shahcheraghi, “Paradigms of Paradise” which relates how the Persian garden gives us the opportunity to experience a simulation of Paradise. We already know the healing properties of the garden, but we sometimes forget that is stimulates all the senses.

Conclusion

Water is a free element that takes its form where it flows. The sound of water is the soul of the garden and the power of the water inspires the mind and attracts a man’s attention to be the most important tool for designing a multifaceted environment and landscape view. Observe the different ways water and sounds exist, affect the human senses, produce a sense of well being, and for a short time disconnect man from the material world by connecting him with the inner world. The smell and feel of humidity also create a pleasant atmosphere.

The different forms of water movement in the Persian Garden create different sounds. The fall in small or large fountains, with different speeds and different flows create varied sounds. In these gardens the sound of water is constant and gives a sense of hope and joy. The sound of water with the sound of the wind through the trees and plants attracts different types of birds in a natural system. The architectural design of ditches, ponds, fountains, stairs, bridges and stone walks is the artificial system. This combination and relation between an artificial system and natural system create the visual and sound system in the garden.

The way we conceive our garden is certainly a reflection of ourselves, therefore the influential garden represents our visions of nature and the world.

Other Gardens like Spanish, Indian, Italian, French and North African gardens, have been inspired by the Persian Garden. This archetype has led other gardens in the world, so that each is a reflection of the worldview of the cultures and their “creation of the world.”

AUTHOR BIOGRAPHY

Mana Salehi is a Digital Media Artist and researcher. Ph.D. Candidate at Advanced Studies in Artistic Productions and Digital Media, University of Barcelona. Resident Researcher at Studies Program MACBA (Museum of Contemporary Art of Barcelona). Scholar researcher at the UCLA ART CENTER + SCI LAB with the department of Design Media Arts at University of Los Angeles. Degree in Graphic Design, Sure University of Tehran (Iran). Collective exhibition of video art installation in Tehran (Iran), Barcelona (Spain), Torún (Poland), Badajoz (Spain), Bogotá (Colombia). The ‘Lake orumiyeh’ installation was included in the ‘4th State of Water’ exhibition at the Centre of Contemporary Art (CoCA) in Torún, Poland, and is part of its permanent Collection.

REFERENCES & LINKS


[2] Ibid.


Slides used for the Tap presentation: http://water-wheel.net/media_items/view/4287

Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4857
ACQUA, LUCE, ORTIGIA: THE CULTURE OF WATER ENVIRONMENTS – OVERVIEW

Dr. Silvana Tuccio
Lacunae, Italy

Abstract

What can the interplay of water, infrastructure and stories contribute to transition strategies for a low-carbon, resilient city? This paper presents thinking behind the project ‘Acqua, Luce, Ortigia: The Culture of Water Environments.’ Workshops explored stories related to water sites within the city to inform the design of eco-innovative ideas for cultural and urban interventions that build resilience, define routes and infrastructure with the potential to create a contemporary narrative of place, and invent communication strategies utilising diverse media. The project culminated in a walk along the water sites in Ortygia as part of the UN World Water Day 2014 and the Waterwheel Symposium.

Premise

In Crow and Weasel, a children’s book published in 1998, Barry Lopez writes: “Remember only this one thing, said Badger. The stories people tell have a way of taking care of them. If stories come to you, care for them. And learn to give them away where they are needed. Sometimes a person needs a story more than food to stay alive. That is why we put these stories in each other’s memories. This is how people care for themselves” (Lopez, 1998). Stories working through language allow us to connect with each other. When we give stories away, we transmit that which is intimate, and which compels us to take action. We could say, then, that stories are a source of strength. Furthermore, in giving, we are activating “memory,” which imbues action with meaning.

Memory, mythology, stories

Reaching our contemporary times from antiquity is the storytelling tradition of Greek Mythology, where a hierarchy of Gods and Goddesses vie for power and seek to transmute human failings. In the myth of ‘Cyane,’ contextualised by water and silence, Cyane, a water nymph, wants to stop Persephone being abducted by Hades (Ovid). In a talk by Lorenzo Perrona (2014), the myth is explained. Cyane tells Hades that terrorising Persephone is not the way to gain her love. She tells Hades to stop the violence. Despite her implorations, Cyane is not heard and as a result she falls silent. Tears spill from her eyes and speak the sorrow with which she is overtaken. The tears transform into a spring, where water issues to form a pool and then a waterway. In an act of symbolic transposition, Cyane’s voice has become water, and the river that flows from the spring is her story.

In the myth of ‘Persephone and Hades,’ Persephone is taken underground by Hades, but following the intervention of her mother, Demeter, she is allowed to return above ground for half of the year. When Persephone returns, the earth flourishes, suggesting that her vitality is a source for the Earth. The “story” returns in the form of a natural phenomena, in this case the transition from winter to spring in temperate climates. In The Power of Myth (Campbell, 2011), Joseph Campbell suggests that people refer to myths in order to establish a relationship with their inner world. With the self at the centre, meaning is derived from the message of the myth. The continuation of myths, and their study, allows for an understanding of events in one’s life and of the cycle of events in nature. In the myth of Cyane, the river continues the story of the water nymph Cyane. The flow of the river transmits the concern that Cyane expressed on witnessing Persephone’s abduction, and in this way it recalls values which are universal in nature; in this case, those of integrity, justice and non-violence. By listening to the myth of Cyane, memory is activated and the perception of the river changes, no longer limited to a riverine environment, or the science of hydro-mechanics, instead, the water is perceived as embodying meaning that speaks to us, activating our store of experience and memory.
In this way, we might come to think of a waterway as a source of knowledge, with the ability to communicate. And, from this perspective, we can consider a water site or a waterway essential to building a contemporary narrative of place.

In South Korea's capital city, Seoul, a stream that lay hidden under asphalt from the time of the Korean war in the 1950s, the Cheong Gye Cheon, was brought to light in 2003. The stream, which originates in the mountains above the city, was integrated into the cityscape. The banks break the continuum of busy city streets and people go for open-air recreation and entertainment. The waterway, thus, has a positive influence on the city, contributing to experiencing place as intrinsic to the present moment, which is engaging. In this way, the waterway represents a natural form of infrastructure within the city, serving the community with the qualities of flowing water and a natural landscape, but also creating the space for and facilitating forms of social interaction. Interestingly, a museum on the history of the Cheong Gye Cheon has been built, telling its story.

**Infrastructure, waterways and narrative**

Climate change makes it evident that a truer story must be told in order to address resilience within a city. It is possible to observe the havoc in cities, the countryside and wild places, especially when it comes to water: sea-level rise can be predicted, storms of unprecedented strength are being experienced, as well as rainfall out of season or in the wrong place, or no rainfall at all. Furthermore, forceful, unexpected climate events have an impact on infrastructure, and the current centralised model has proven brittle and unreliable (Ryan, 2011). How a new story about climate might emerge, and where cities might find impetus in the endeavour to shift to resilience is a pertinent question, with some measure of response in the play between stories, memory and the formation of a new narrative of place positioned in relation to their engagement with infrastructure—which might be in the form of a waterway, waterfront or watersite or intangible in the form of routes between sites within a location.

In the Taff River Project, the Body Health and Religion research group, based in Wales, talk about creating a contemporary narrative of place through the acknowledgement of the intrinsic qualities and history of the River Taff along its course in the Taff Valley. The project brings researchers of various disciplines, and especially artists, writers and community, to contribute to changing the perception of place along the River Taff in Wales (Samuel, 2010). The premise is that naturally occurring infrastructure, such as waterways, act as conduits of vital energy in the form of flow, and as sources of knowledge, in the form of memory from the history or stories pertaining to sites, towns or cities along the course. From this, we can say that naturally occurring infrastructure such as a waterway can be a point of departure in beginning to fashion a contemporary experience in relation to the site through cultural interventions, which can inform or accompany, urban interventions. The transformation of the Cheong Gye Cheon in Seoul is an example of how an urban intervention on an existing waterway, taking into account its specific history, has restored a positive perception of place, and along with it, the benefits of a thriving space within the city.

Focused on urban interventions for resilience, the approach of the Victorian Eco-Innovation Lab proposes a distributed systems model to address infrastructure in relation to food, energy, water and mobility within a city. Designed research and strategies for action engage with government to assess policy and commit to change. The emphasis is on achievable urban interventions which act as a focal point providing the potential to influence practice and creating a sustainable mosaic. In this, envisioning future scenarios is intrinsic to establishing ways of initiating change within the fabric of society; and by acknowledging the history and stories of a place, begin to fashion a vision that englobes the potential for growth and transformation. By addressing the systems of distribution and associated infrastructure in order to shift to low-carbon living and create resilience means that the subsequent innovative uses of existing infrastructure contribute to a new narrative of place (Ryan, 2010).
Based on the idea that building a contemporary narrative of place along a route could act as a point of departure for the transformation of a city or region, the project ‘Acqua, Luce, Ortigia: The Culture of Water Environments’ set out to experiment the concept and delve into the potential for a contemporary narrative through a community based project. The objective of the project was to explore stories around water sites in Ortigia, to explore the capacity to invent communication strategies focused on water issues and to design innovative water solutions for resilience that departed from natural infrastructure—in this way establishing a route by which a new narrative of place could emerge. A series of workshops were held in partnership with three cultural places in the city. Each workshop explored the themes of water, light, and the island of Ortygia, utilising different media, namely photography, visual art and design.

The island of Ortygia was the subject and location of the project. The characteristic feature of Ortygia, which is the historic centre of the city of Syracuse, is that its urban centre is circumscribed by the sea, making it an island, and providing it with a natural waterfront. Another important feature lies hidden in the passageways of the rock on which the urban centre sits: an abundance of natural spring water. Locating ‘Acqua, Luce, Ortigia’ in the public spaces of the city is an acknowledgement of place as a core value within community, where interactions occur, and where stories emerge and are renewed. Public space in Italy is where people meet and converse; furthermore, the piazzas, courtyards and wallscapes lend themselves as backdrop to an event or project. In fact, ‘Acqua, Luce, Ortigia’ culminated with a walk and vox populi on the 22nd of March 2014, to coincide with the UN World Water Day. By taking a symbolic drop of water from one water site to the next through the city, the walk contributed to creating an invisible connection between the sites, and between the people on the walk. In walking, the participants were contributing to forming a narrative of place, bringing to mind the “procession” of the Italian religious tradition, and even the “songlines” within the Indigenous tradition of Australia, which are routes laden with meaning and vital to community.

In the novels of Vitaliano Brancati, steeped in the ways of the people of Sicily, especially in the 20th Century, we find a description of the intensity of light on the island as a source of disquiet (Brancati, 1949). Brancati describes light as having the ability to disclose secrets rather kept in the shadows. The ability of light to create exposure is also metaphorical, since it reaches the heart of a subject who finds him or herself naked under the gaze of society. According to Cristina Coriasso Martin-Posadillo, Brancati, like no other, was able to use the light and dark dialectic to reflect on human nature (Coriasso Martin-Posadillo, 2012). In a Rumi poem, the line: “The sun comes back every day with new and powerful secrets,” confirms the potential for revealing what is true within the innermost self. So, we could say that the power of light to expose, also harbours the potential for awareness, and with it the capacity for solutions. Interestingly, Saint Lucy who is the patron Saint of the city of Syracuse is the bringer of light in the dark of winter and cares for the ability of people to “see.” In acknowledging the current ecological crisis, mystic Llewellyn Vaughan-Lee talks about the “darkening of the light,” suggesting that the light that resides within each human being is diminishing with the loss of connection with the natural environment and the degradation of all that is vital. His attention is on the inner crisis, and on reclaiming the space where light resides within a human being (Vaughan-Lee 2013).

**Workshops**

The idea of a bicycle path that goes from the coastline of Syracuse, skirts around Ortygia and then continues along the perimeter of the rest of Sicily, became the premise for the design workshop. The idea is to convey a desire for the diverse parts of Sicily to come together, as well as the thought, as expressed by Lorenzo Aiello, that the entire island of Sicily could be considered a heritage site. A model for an eco-innovative intervention on the coastline was developed by Lorenzo Aiello in a project commissioned by the city of Syracuse in 2004 (Aiello, 2004). A bicycle path would encourage eco-infrastructure for tourists and Sunday-goers, reduce the carbon footprint in the tourism and recreation industry, encourage appreciation of the wild coast and the Mediterranean Sea, and save the coastal strip from degradation and accountable development.
Keeping in mind the distributed systems model, developed by the Victorian Eco-Innovation Lab under the direction of Chris Ryan, further eco-design ideas were sketched out, with a future workshop in mind that would take up these ideas and develop them further. The eco-design concepts proposed include: transport by sea powered by renewable energy to connect the different parts of the island and the coast; a water distribution system based on low-energy technology to make potable water available to residents; a “tap-bar” for the provision of fresh drinking water to citizens and tourists sourced from the underground spring; the mapping of the ancient cisterns within the city; rain gardens for management of storm water; and a place where stories about water could be gathered and shared.

At the Arkimeideon, a multi-media museum dedicated to the works of Archimedes, a group of children were asked to consider the contour of the island of Ortygia. They were encouraged to be aware of the outline, the land mass, and the surrounding sea, as well as observing what is on land and what is at sea. From these observations, they produced drawings and impressions of the island. By viewing the landmass of continents from a perspective that takes into consideration the fact that they are surrounded by the water of oceans, it is possible to see that they act like islands. The island of Ortygia as part of Sicily, which is an island in the Mediterranean Sea, becomes a metonym for continents.

The photography workshop produced images of the coastline of Ortygia, and images of degradation along the Siracusa coastline.

At the Biblios Café bookshop, a group of teenagers took activist designer Asher Jay as inspiration and produced artwork to communicate water issues utilising words, images, and graphics. The group decided on the format of the postcard that could be mailed or emailed as their final product, each with a message about water. In the play of colour, form and text, the water issues represented included: the importation of bottled water to make up for the lack of available drinking water; the energy costs of bottled water; the generation of waste by the use of plastic, which often ends up in the sea; the impact on wildlife of plastic waste floating in waters, the quality of water and how it speaks to our aesthetic sense—such as views of the sea; and the fact that water is a precious resource of which to be aware.

![Postcard: ‘Acqua, Luce, Ortigia.’](image)

**Fig.1** Postcard: ‘Acqua, Luce, Ortigia.’

**Conclusion**

The intention of ‘Acqua, Luce, Ortigia: The Culture of Water Environments’ was to establish a workshop on the city that was continuous, within which to explore models and approaches towards designing and communicating resilience, through the engagement of stories and memory. The workshop is a place to investigate stories about water and their relation to place and the fabric of
life, as well as their role in the generation of images, on which future envisioning depends; the use
of different media brings the stories into a contemporary space. The work of young people who are
witnesses to stories and situations, means that stories can be engaged in a meaningful way. And,
since stories reside in place, it is important to access them within the community and, especially in
relation to the waterways and watersites. Stories, in this way, are recognised as being an intrinsic
part of the design process towards the creation of infrastructure on which systems rely for the
provision of vital resources, and in establishing routes that provide a point of reference to people. By
recovering stories it may then be possible, as Barry Lopez suggests, to “give them away,” allowing
them to move into people’s consciousness; and in this way engendering awareness that generates a
narrative of place, and the space required. Within the continuous workshop, the emergence of
meaning in relation to place is a fundamental part of the process, capturing the capacity for caring
for the earth that resides with people in their environment.

During the walk of ‘Acqua, Luce, Ortigia,’ a route was defined based on the sites already known for
their cultural value, including the bridges that link Ortygia to the rest of Syracuse, the Fountain of
Diana in Piazza Archimede, Saint Lucy in Piazza Duomo, Arethusa Spring, the Queen’s Bath at
Castello Maniace and the Miqwe in the Giudecca Quarter. At each site an encounter with a local
allowed an anecdotal story to emerge. The brief interventions by locals were recorded and a short
video was created. The stories revealed opinions about the water sites and local consideration, recent
events such as changes to the quality of the water, awareness of the extraordinary nature of the water
site and its location, knowledge about the history of a site from ancient times including the kind of
practices that took place, knowledge of the mythology associated with the site, awareness of the
potential of water sites to influence the well-being of a city.

Fig.2 & 3 Postcards: ‘Acqua, Luce, Ortigia.’
Finally, getting young people out and about within the city and uncovering issues about water is a way to nurture connection with place that is vital to solution-building, to resilience and to a contemporary narrative. In the communication and design workshop the young people explored their relationship to Ortygia, where they live and play, and delved into water issues both locally and globally; in the process they came up with views and a message that could be communicated to their peers, citizens and the city council. In this way, affirming the importance of water and water sites, and the need for greater awareness, and for a route along which to play.

**AUTHOR BIOGRAPHY**

Silvana Tuccio’s doctoral research at the University of Melbourne was on cinema and the journey of cultural forms from a place of origin to a new landscape. Silvana was artistic director of Sguardi australiani, a film culture event highlighting cultural diversity and metropolitan space in Australian cinema (Genoa 2002–2006). In 2011, the Sguardi australiani Archive was instituted at the Monash University Prato Centre, Italy. Silvana is the author of published articles and an edited collection. In recent years, Silvana has turned her attention to the city as a site of contemporaneity and transformation. Silvana is the co-founder of Lacunae.

**REFERENCES & LINKS**


Screen recording of the Tap presentation; http://water-wheel.net/media_items/view/4859
8. Performance
PERFORMANCE PERCEPTION – OVERVIEW
by Zsuzsanna Soboslay

The beauty of session #4 is that it breaks down the relationship between human bodies and water. It encompasses experiences of duress, duration, embodiment, witnessing and journeying through, whilst simultaneously inviting an experience of documenting, analysing, questioning and talking about our relationships to human bodies and our understandings of water.

Atefah Khas opens the session by displaying her enormous block of ice which will be documented in meltdown over the next 7 hours (and shown over three Tap sessions in that time). Her presentation transcends the limits of the current one hour session, but also requires the commitment of viewers to remain alert, keep track, think in time and stay aware of both their responses and the objective fact of this artefact disappearing through time. The performance heightens how we alternately remember and forget about the effects of global warming.

James Cunningham shows us maps of the territory he traversed along Moolabin Creek (SE Queensland). The online performance incorporates sound, GPS tracking and the webcam mounted on his head as he walks, simulating his own visual and to a lesser extent aural perceptions. Online, we cross marshy terrains, bow into tunnels and re-emerge, re-discovering the vegetation his body passes, and presumably marks, on some level. As viewers, are we the same as the “he” who walks? The he/I, you/we dichotomy is effectively dealt with via the sequence of images displayed, raising all sorts of questions about the relationship between personal experience and collective empathy—a question demanding urgent address in the current politics of ecology. What are “we” (and our decisions) if “we” think or feel otherwise?

In my presentation, I discuss the work of Melbourne’s UWPG (the Urban Water Performance Group, more recently re-dubbed the Environmental Performance Agency) at the site of Dight’s Falls on the Yarra River—a historical/personal/metatheatrical event composed as a counterpoint to the super-indulgences of the Melbourne Food and Wine Festival on the shores of the Yarra in March. The group’s presentation highlights particular moments where the relationships of body to water, or bodies to sensing and knowing water, are most clear; both to performers and audience. The presentation also attempts to document where the performance (currently) fails. The capabilities of the Waterwheel—such as being able to draw over images with an animation tool and thereby create what I would call awareness vectors—substantiate its capabilities as a vibrant interactive tool in real-time.

Jaime del Val positions a webcam with a view up towards his neck, chin and face, simultaneously highlighting and in some ways horrifying his presence as human, but also representing and perhaps unwittingly criticising the scope of human perception of the environment via the act of speech. There is something almost nauseating in this camera angle, the motion of his voice box is exaggerated. The piece strikes me less as interactive on the “understanding of life as a formless process of emergent movement” but as an assertive multidimensional narrative on the relationship between contemporary and classical philosophies—all of which have been transliterated in the viewer dialogue box to make sure nothing is missed.

This presentation contrasts with the images Khas had supplied in her presentation of an earlier work, where her hair is died red and represented as “woven to water,” virtually knitting a part of the human
body into an environmental process. There is also the poignant dialogue in the viewer box where she discusses the “ice block” process in interaction with viewers. As the ice melts (in Tehran) it is “mopped up”; a viewer comments, “It is crying on the floor...like a funeral for the ice”—much as perhaps James’ walk is also a kind of requiem for what may not remain in place much longer.

The online chat at the end of the session is an exercise in the relationship between assertion and reception. It is interesting, in the real-time experience of it, that it is relatively unmediated by a chair or moderator, which to my mind allows for an exaggeration of the inherent perspectives, (including right/wrong, fluid/fixed, masculist/feminist), in which each presenter operates.

It is intriguing that the Waterwheel can accommodate both “soft” and “hard” presentation values. For many, the “hard” values of online interactives per se are an obstruction but the Waterwheel team are making great inroads to rendering the Wheel more and more accessible and comprehensive in many different ways.

NOTE: other performances can be found in the following chapters:

1. OPENING:
   ‘100 Names for Water’ by Ulay (p. 14), ‘Last Drop’ by Jason Lim (p. 16), ‘Little Streams Make Big Rivers’ by Suzon Fuks (p. 18)

3. ACTIVISM, ART & SCIENCE:
   ‘Reflections Built on the Water’ by Riccardo Bertan and Elvis Marangon (p. 119)

5. HYDROLOGY – PAST & FUTURE:
   ‘Zameen’ by Attakkalari dancers, Leah Barclay & S. Shakthidharan (p. 208)

6. CONSERVATION & TRANSMISSION:
   ‘See/Sea’ by Susan Sentler (p. 314)

7. CARE & DARE:
   ‘The Exquisite Liquid, Song for Water’ by Bonemap (p. 348)

9. HYDROSONICS:
   The entire chapter is dedicated to sound performance (p. 493)
Presentation

‘Metamorphosis’
This is a time-based work addressing climate change, particularly global warming. I think that we must pay more attention to this problem, which people ignore, but which progresses on a daily basis. In order to create a clear ice cube, I boiled water twice over to remove the bubbles in the water. Then I placed the cube outdoors and let it melt according to the temperature from morning till evening. A webcam captured the melting process over the entire day. This happens every day on Earth, though on a bigger scale!

Presenter

Atefeh Khas is an Iranian artist. She has her MA in Art Research in Alzahra University and her Bachelor in Painting from Shahed University in Tehran. She is a member of an environmental artists group “Open Five” since 2005. Her specialty is in Environmental Art. She has been participated in more than thirty Environmental Art Festivals in Polour, Hormuz, Shoushtar, Uremia, Isfahan and Nowshahr since 2005 to present. Her works have been exhibited internationally in Canada, United State, Nepal, Belgium, Romania, South Korea, France, Greece, Poland. She also was selected for the Environmental Art Residency Program in South Korea in 2012.

Links

http://www.atefehkhas.com
Screen recordings of the Tap presentation, Parts 1-3:
http://water-wheel.net/media_items/view/4863
http://water-wheel.net/media_items/view/4867
http://water-wheel.net/media_items/view/4871
Photos taken by Atefeh Khas throughout the day, as the performance unfolds.
HYDRONTOLOGY
Jaime del Val
Madrid, Spain

Jaime del Val’s performance on the Tap for the Waterwheel Symposium included the following text as spoken discourse:

“Since the practice of HYDROMANCY in the ancient world, water has been linked to ontologies of becoming, to an understanding of life as a formless process of emergent movement.

According to Archeologist Luis Siret, the drawings of swirls or spirals that pervade ancient middle eastern and mediterranean cultures before the Phoenicians were attempts to understand, learn or read the movement of water, considered the sacred element, because it embodied the movement and transformative becoming of the world more visibly than any other element.

Water transforms visibly from fluid to solid or gaseous states. Water and humidity seem visibly related to life in all its forms. The ancient naturalist cosmogonies and religions saw in water the sacred force of life before it acquired any animal or human form.

Only later did the deities acquire the form of those animals that moved more like water, such as snakes or horses, and only later did they become fixed into a fully human form. Ancient deities were natural forces and amongst them water embodied the creative forces of formless movement more than any other force.

The Babylonian and Egyptian creation myths placed in the different kinds of water the origin of the world. In homerim epic it is the oceans from which the world was created. Tales from Miletus, acknowledged as the first scientist and philosopher, described water as the principle of the Cosmos, from which all things are constituted or derived.

Water was considered to be alive, because it moves, because of how it dances (hylozoism). As in animistic cultures, where life is not a privilege of certain species, a more ecological worldview.

In pre-socratic philosophy the principle of eternal motion runs through Anaximander’s ἀpérion or indeterminate principle, and through Anaximenes’s principle of air, and Heraclitus’ principle of fire, as well as through atomism and Anaxagoras’s compound seeds.
Water reappears in Heraclitus’ most famous saying that “we cannot step twice in the same river.” His disciple Cratilus radicalized this vision saying that we cannot step even once, since while we step, the river is changing and so are we, a denial of the principle of identity and a radical ontology of becoming.

Parmenides introduced for the first time the idea of an immobile world, denying movement and splitting the world of the senses from the intellect. Plato did not deny movement as Parmenides did but placed it as illusory with regard to the world of eternal and immobile forms. Aristotle brought back movement as immanent to matter and form, but subjected to the latter, where form is the immobile principle and the teleology of movement.

Euclidean geometry fixed vision along infinite lines, Renaissance perspective fixed perception in algorithmic vision, mechanicism in functions, liberalism in property, so that now water is perceived as an objectified commodity.

Commodification is a form of engineered and abstract perception that consolidated in ancient cultures with the birth of money when value of use shifted to value of exchange and goods become abstractions. Yet it is only more recently that the perception of water as commodity has emerged.

The increasing expansion of dualistic worldviews, in which the subject is distinct from its environment relates to the perceptual techniques developed since the birth of geometry, through perspective to cartesionism, which are conditions of possibility of commodification, since they produce the perception of reality as external and appropriable.

Fig.1 & 2  Jaime del Val during his paperformance. Screen captures.

But in the XXth century, physics, biology, cognitive sciences and ecology have provided a radically relational view of the world. Complexity theories and quantum mechanics show the non-linear turbulent and emergent processes in which the world moves, a process of becoming, not of change, since as physicist Ilya Prigogine said, “change is the denial of becoming,” since it assumes that things are what they are and only move between given states. But things are in becoming and move towards what is not yet.

While Quantum Mechanics has shown the interdependence of observer and observed, Lynn Margulis’ biological theories of endosymbiosis show evolution as process of radical interdendence and cooperation amongst
species.

Cognitive theories of enaction, the expanded mind, embodiment and proprioception, to name but a few, point to how thinking and consciousness itself are distributed processes that emerge from relations of movement constituting at the same time the subject and the world.

Current biology acknowledges largely the origin of life in water, as the first unicellular organisms developed over three billion years ago. For over two billion years life evolved in the turbulence of the oceans where bacteria generated the biosphere, the atmosphere and gave birth to multicellular organisms through hypersexual experimentation.

According to Lynn Margulis we are offsprings of the hypersexual experimentation of bacteria in the oceans.

The HYPERSEA theory by McMenamin proposes that what we perceive as individuated living organisms are part of a flowing metabody of water that emerged as life transferred from the oceans to the land. Our intimate watery encounters, the humidity of sex, is an echo of the originary life in the ocean, and water would be the continous metabody that links organisms in land, a waterfall of life across the organisms, of flowing currents of a Water-body of the Earth.

We need a change in perception that shifts our focus in things and elements as external an appriopriable distinct entities, to how we are immanent part of larger metabodies of relations, diffuse movement relations at all scales and modes of existence.

Water constitutes some of the metabodies we are part of.

An affordance, following James Gibson is a potential for interaction, the disponiblility of something in the world, yet affordances emerge and transform in multiple collective movement relations across long periods of time. The affordance of a glass for drinking water, the affordance of an instrument for measuring the quality of water, the affordance of water itself as commodity are effects of movement relations with an environment, of perceptual movements.

Through radical commodification of water we are not only limiting the access to water, but also exponentially increasing its poisoning at a planetary scale, with the waste in the oceans, the contaminaton of rivers and subterranean water, or of the very water that constitutes our bodies.

The capitalistic and imperialistic idea of water as a resource, as property (even if common property) is killing water and the possibility of a relational ontology of becoming. But water cannot be property, not even shared, public or common property.

How to regain an onto-epistemology of indeterminate becoming that allows to decommmodify not only water but all spectrums of existence?

A HYDRONTOLOGY would be an ontology of becoming that takes the movement of water as reference for a relational and emergent rethinking of the world, for an ecology to come. This onto-epistemology wouldn’t be about fluid form, but about the ongoing metemergence of the amorphous, which implies a new mode of perception.

Metabodies are bodies of movement in permanent becoming, like the water from which we come and of which we are made, in its complex heterogeneous compounds, its indeterminate movements.

Hydronontology is a politics of intimacy, of fluid contacts in motions across bodies, of bodies without form that run across the bodies.
Hydronontology speaks of the caress of water as a posthuman affect.

Hydronontology is microsexual.

Microsexes are emergent bodies-affects-desires-movements in permanent formation that never actualize in a form, amorphogenetic hydronontological bodies, diffuse affordances for an openended world of indeterminacy.

Hydronontology speaks of bacterial affect. Bacteria, who have generated the biosphere and the ecosystems of the planet. Bacteria, who are the hope of this nihilistic, so called “human” species, if it arrives to extinction and environmental destruction.

We must disalign perception from all the dominant perceptual alignments, of geometry, perspective and coordinates of control, in order to facilitate new ecologies of relational becoming that foreground open ended movement.

As Karen Barad says, “we are part of intra-actions, we emerge and co-constitute in processes of neverending becoming in relation to a world.” As Erin Manning says, “we world,” water metabodies of which we are part of, world, generate world, relationality.

We must undo the perceptual conditions of commodification and understand water as uncommodifiable, unappropriable movement of the world.

Water is amorphogenetic, its movement exceeds and defies form, reduction to form, function, property. Water demands a new ontology of the amorphous.

We must again learn the movement of water, its generosity, its caress, its transformative force, its living dance.

...BECOMING WATER...

BIOGRAPHY

Jaime del Val / JaiVal (Madrid 1974) is a meta-media artist, philosopher, performer, producer, environmental activist and postqueer, director of Reverso Institute and of Metabody Project. He has developed transdisciplinary projects in the convergence of technological arts, critical theory and activism, that have been presented all over Europe, and North and South America, which propose redefinitions of embodiment, perception and affects that challenge normative constructions of subjectivity, sexuality and control technologies of the Information Society.

LINKS

http://www.reverso.org
http://www.metabody.eu
Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4865
GETTING INTIMATE WITH MOOLABIN

James Cunningham
Co-Artistic Director, Igneous Inc., Brisbane, Australia

Abstract

She lies quietly behind suburban backyards, alongside and partially underneath busy roadways. Eroded into the landscape, her bed rests below the surrounding terrain. To get down to her banks, tangled scrub and vines must be delicately traversed. Her interior is a slightly wild mix of nature spiced with industrial refuse.

By approaching slowly and treading lightly, I will try to get close to this overlooked waterway, to unveil her as she is. She is a little local creek, like many others, yet as deserving of attention as any. The watery liquid that passes through her body will someday pass through mine.

Photo slideshows reveal details hidden within her body. GPS data inscribe fine scribbles against the smoothness of her curves. Hear her trickles, and tweets generated by bird-life sheltered in her folds. Live-stream webcam caresses her right now, as she is, this very moment. Time-lapse videos rush into and along her tree-lined course. Her name is Moolabin, and she is my local creek.

Introduction

This paper recounts the intentions, preparations and unfolding of ‘Getting Intimate with Moolabin—Encounters Performed through Imagery and Sound Gleaned from Moolabin Creek, South East Queensland,’ a media performance exploring Moolabin Creek, Brisbane, which was created for the Waterwheel World Water Day Symposium 2014 and broadcast via Waterwheel’s Tap platform to a live on-line audience on March 18, 2014.

Intentions

The intention was to present a poetic live-mixing of webcam video and pre-recorded media of my local creek—Moolabin Creek in the suburb of Moorooka in Brisbane, Queensland, Australia. I wished to familiarize myself with, and bring my audience’s attention to, what seemed a very ordinary suburban creek, in order to raise appreciation of the beauty and diversity (both natural and man-made) that can exist in these kinds of common yet overlooked places. I would use processes I was developing in the then early stages of an Igneous project I was working on with Suzon Fuks, called Fluidata [1], including durational performance (particularly with the enacting of extreme slow motion movement), timelapse video created from still photos, photo slideshows, and visualizations of GPS tracking data.

During the performance, I was to comment in real-time on the location I was in, to relay details, but to also reinforce the liveness of the webcam image and sound—that people would get the sense of being in the creek with me at that moment, as well as seeing and hearing aspects of the creek recorded from the week before.

The abstract above were the words I used to express my intentions for the performance to the Waterwheel Symposium panel, along with the following technical notes: “Each timelapse video is under 90 seconds and represent a passage of 1000’s of still images shot continuously over a two-hour period. The photo slideshows comprise selected images derived from these shots. Pre-recorded and processed GPS tracks shown on Google satellite imagery. Sound will be pre-recorded files and live. Live sound and webcam image of Moolabin will be attempted to be streamed during the performance. I must find a collaborator to operate media (on the Tap).”

The phrase “getting intimate” in the performance title, and the anthropomorphic, sensual tone of
the abstract, originate from my impression that satellite imagery of the tree-lined creek might resemble female genitalia, and that the GPS animation of a line being traced along its course, and the sensual physical approach I take when walking it, might be taken as an “intimate encounter.”

Preparations

In the week prior to my performance, I captured and post-produced media, scripted my presentation, and rehearsed with my long-term collaborator, Suzon Fuks, who had agreed to operate the media in the Tap session according to my script.

Capturing The Media

Over three days, March 12–14, 2014, I wandered extremely slowly for a total of 13 hrs along and beside a section of the creek, from the ponds in the Brisbane Golf Club upstream to the storm-water drains under the Ipswich Highway—a section of about 1km, with the last 300 m or so through the Moorooka Lions Bicentennial Picnic Grounds. I walked with a still camera mounted on a helmet that was taking a photograph every five seconds (figure 1), and carried in my pocket a mobile phone that was logging my position according to GPS, also every five seconds or so. At the beginning and end, I recorded audio using a small solid-state recorder.

![Author walking in creek bed with helmet-mounted digital stills camera. Moolabin Creek, Qld, March 2014. Photo by author.](image)

Encounters and Impressions during the Capture Phase

On the first day, I felt exposed walking through the private property of the golf club and thought I might be stopped or questioned by one of the grounds keepers who were driving around the place in the early morning. I tried to enter the creek at the northern end of the grounds, but found it too deep and slippery at the bank, and fell into the water twice, almost ruining my audio recorder. Later attempts to get close to the creek were also difficult due to fencing and too much overgrowth on either side of the creek. On days 2 and 3, I was able to get right down into the creek bed and walk in the water, which ranged from trickles to ponds in which I was waist deep, with some sections overgrown with reeds, weeds and spider webs (Figure 2). Most of the time the banks were steep around me so I was able to pass by the back of private and industrial properties without being seen. I made numerous sound recordings of diverse industrial sounds and birds, and passed through two sets of storm-water pipes that went under road crossings (Figure 3). The creek water was clear in parts, though mostly covered in an oily slick, with a lot of algae growing on everything within it. I saw four eels (including one about a metre long and 12 cm in diameter), lots of water dragons and skinks, and a group of ducks.
Post-Production

About 8000 still images captured over the three days, were later placed on a timeline in Final Cut Pro at a rate of 25fps, creating a timelapse video a little over five minutes long, showing my point of view of the creek as I was travelling up it, only sped up in time. Audio (in realtime) was added to it. A timestamp showing the start time and date, and then the time on the hour every hour after that, was placed on the movie to show the amount of time passed in the images (Figure 4). The GPS logging files were played as “flyovers” in Google Earth and the screen recorded (Figure 5). The speed set in Google Earth for the flyover rendered the 12 hrs or so of travel also to about 5 minutes. Prior to uploading on Waterwheel, the timelapse movie and the GPS flyover screen-grab were each divided into 4 parts, with no part more than 90 seconds, in order for them to be able to be played on the Tap, Waterwheel’s live media-mixing and presentation platform. The media uploaded on Waterwheel and their titles are: four timelapse movies (JC_1A, JC_2A, JC_3A, and JC_4A), four GPS flyover movies (JC_1B, JC_2B, JC_3B, and JC_4B), one PDF slideshow of 30 images (JC_5), and one sound file (Moolabin Creek Sounds).
Fig. 4 Stills from timelapse movie showing timestamps. Moolabin Creek, Qld, March 2014. Moolabin Creek, Qld, March 2014. Photos by author.

Fig. 5 & 6 Stills from GPS track movie, created in GoogleEarth, March 2014, by author.
Scripting and Rehearsing

For the performance, I was to be walking in Moolabin creek streaming live webcam video and audio, while Fuks was to manipulate the media concurrently with the live feed, on the Tap, according to a “script” and a visual diagram describing the layout, timing and overlapping of imagery. The live feed was to be placed alongside the timelapse movie, and the sections of GPS movies played at the time when their tracks corresponded to the section of creek appearing in the timelapse movie. The GPS tracks would then be placed in a curve so the aerial view of the map of the creek joined up, with the entire creek section fitting on the stage, and the lines of my previous pathway (along the creek’s course) playing in loop. In rehearsal Fuks offered to use ManyCam to play the entire 5-minute timelapse movie through her webcam rather than starting, looping and manipulating the 4 x 90-second clips. I fitted an external USB webcam upside-down to my bicycle helmet and plugged it into a PC netbook that I would carry in my backpack, and wore a lapel microphone and earbuds plugged into the audio jacks. Internet access was provided by an Android smartphone sharing its connection with the netbook.

The Script

The following notes constitute a kind of “script” that were used, along with a diagram, by Fuks, for the playing, timing and positioning of media on the Tap during the live performance. The Tap interface allows for the streaming of live webcam imagery and the playing of video, sound, slideshow, animation and live drawing. Any piece of media placed on the Tap “stage” can be moved around, tilted, enlarged, shrunk, faded and overlayed on any other piece of media. The manipulation of my media during the performance enabled me to perform remotely in an outdoor location, without having to interact with a computer interface, and to focus on the environment I was traversing.

1. Enlarge my webcam and flip it upright.
2. Play movie at bottom far right. Loop.
3. 1B above movie. Loop. After one minute,
4. 1B to bottom far left. Slight tilt anticlockwise.
5. 2B above movie. Loop. After one minute,
6. 2B to slight overlay on 1B. No tilt.
7. 3B above movie. Loop. After one minute,
8. 3B to slight overlay on 2B. Slight tilt clockwise.
9. 4B above movie. Loop. After one minute,
10. 4B to slight overlay on 3B. More tilt clockwise.
11. Reduce my webcam & move bottom centre (between movie and 1B).
13. Place slides over everything and bring to half transparency.

The Live Performance

Immediately prior to leaving the studio to go to the creek, I realized my audio input and output was not working, and didn’t have time to troubleshoot it properly. So I went out to perform my slow walk in the creek, knowing that I could stream my webcam image, but not send my voice through the microphone nor hear any sound coming back from the Tap.

I could only hope that my stream was still working after putting my netbook into my backpack, and walked down into the creek at the beginning of a 50 m section that went from a rocky bed with a narrow stream, around a bend and opened onto a waist deep reed-lined pond. Once I thought 20 minutes had definitely passed, I exited the creek, stopped the webcam stream and returned to my studio to rejoin the Tap symposium session. I learnt afterwards that my webcam image stream did indeed come through successfully for the entire walk and that Suzon had handled the playing, placing and timing of the media seamlessly.
Outro

I was happy with the media I created for the piece and some nice synchronicities that occurred between the webcam image and the timelapse movie as they played out on the Tap—noted at the time by Fuks and seen later by myself in the screen-capture documentation [2]. In retrospect, however, I realize that if I could have had my voice heard, I could have explained, as I had intended to, that the webcam image was live and that I was actually walking along my local creek at that time, and that the other video and photo imagery and sound was prerecorded from just the week before. This intended, but un-realised, live narration, along with live locational sound, may have helped to provide the online audience with a stronger feeling of presence in the landscape, and may have helped them connect with the live webcam imagery. As it was, I am not sure that the liveness of my walk was apparent to online audience. I believe that the combination of live webcam streaming a performer’s point of view (POV) camera angle, and live voice commentating on what is seen/shown, is a powerful way to create a sense of presence in the landscape for the viewer despite them being remote and watching and hearing a streamed feed via computer, monitor or projector. I look forward to further experimentation with this configuration and to allowing more time to test technical setups prior to events.

This work may serve as a blueprint or model for creating live online events in different creek locations and with local participants wishing to connect with their local creek.

I was amazed at how rich the natural life is along such a short section of suburban creek being so closely bounded by industrial and residential premises (particularly in the first half of my walk), and I have become quite fond of my local creek—a considerable change as my first impression of Moolabin Creek was that it was nothing more than a smelly drain overgrown with weeds.

AUTHOR BIOGRAPHY

James Cunningham is a performance, movement, video and networked performance artist working in social, environmental and architectural surroundings, exploring the limits of bodily perception, performativity and the relationality of one’s self with others, objects, and environment. He is co-Artistic Director (with Suzon Fuks) of Igneous Inc. since 1997. He has collaborated on and performed in numerous networked performances on the Tap, UpStage and other platforms, and has performed the “go-between” role—linking onsite and online performers—in various Waterwheel events.

Recent live art performances include ‘Antennae’ (SEAM Sydney—Nov 13, Exist-ence 5 Live Art Festival Brisbane—June 13), ‘Anybody is Free to Do Nothing With The Artist’ (Exist artist residency at Room60 Backdoor space—June 13), Slow Build (constructing a shelter with his “working” hand tied behind his back—Exist-ence 2011) and Still/City (participatory stillness event in an outdoor city location—SEAM 2011).

His essay ‘Breathing the Walls,’ which contextualises aspects of his performative practice and research, with Arakawa and Gins’ notions of body perception within architectural surrounds, was published in 2013 in ‘Inflexions, a journal of research creation.’

REFERENCES & LINKS


[2] Screen recording of the Tap presentation:
http://www.water-wheel.net/media_items/view/4864
AS WATER IS TO WATER

Zsuzsanna Soboslay
Canberra, Australia

Abstract

Water is considered a metaphor of adaptability and change. In literary history, it has also symbolized qualities such as purity (or making pure) and power, especially as a synecdoche of the ocean. Often, its mutability has brought with it an association of being “fickle,” as when Shakespeare’s Antony turns tail to follow Cleopatra away from battle. He berates himself as “dislimned… as water is in water.”

Water as a substance, however, is remarkably stable and consistent to itself. Water is highly responsive, but retains integrity. In fact, by dint of its consistency—as stabiliser, conduit, mediator, regulator and even boundary-definer within the systemic fields in which we live—it is the very guardian of the life systems we need in order to survive.

As our bodies are comprised of over 70% water, one could presume it logical to behave like water. I suggest, however, that water’s qualities of responsiveness and resilience are just what we resist—that its vulnerable authority is considered a weakness against which we tend to be on guard. Only by dropping that defensiveness can we begin to find non-damaging solutions to our current ecological crises.

This paper draws parallels between water’s features (such as strong hydrogen bonding, specific heat capacity, surface tension and hydrophobic qualities) and the kinds of realisation that are made, through sensory experience and training, in theatre and dance ecology praxis. I take as an exemplar the recent site-responsive performance work of Melbourne’s Environmental Performance Agency (or EPA). I also take up Krippendorf’s suggestion that, if it made sense to us, communication within and around ecological thinking could be more a cooperative dialogue, as between dancers, instead of a battle. Other models of non-agonistic relationship include indigenous, shamanic and non-Western medical practices. Such models can alter the metaphors we live by, and hence too the nature of our decisions and engagements with the world.

As Water is to Water.

Fig. 1 The Yarra River. Photo: Bronwen Kamasz, The Environmental Performance Agency, 2014.

Our capacity to see outside of ourselves renders our relationship to ecology and ecosystems inherently complex. Do we relate to our world from a perspective within, outside, or aloof from the elements in our environment? Does a perspective outside of our being-in, or similar to, these elements, separate us from that in which we live? How do we make decisions about harnessing the forces in our world and its elements? And in what ways do we really have a choice in how we do this?
If our bodies are comprised of at least 70% water, does that mean we are the “same as” water, and therefore are in some way obliged to think like it? Is it immoral, inaccurate or incorrect to do otherwise?

This article is a journey through how we experience ourselves, understand, perform in, and hence make decisions about, the world in which we live, and whether these variations of how we cognise our experience make any substantive difference in terms of how we make decisions in our world and the sustainability of our own and others’ (including the more-than-human others’) lives within it. I suggest that subverting binary thinking, by thinking both ‘without’ and ‘within’, is critical to solving our current, pressing crisis relationship with ecology and ecosystems under duress; and further, in encompassing this complexity, that how we sense and feel ourselves to be, can become a positive rather than a negative tool in problem-solving, especially in the fields of environment studies and ecology.

But firstly, in order to understand what parts of our conscience and consciousnesses can work together, it is helpful to understand what concepts and experience keep things divided and apart. This is no less than an attempt to curtail a war between art and science, rational and irrational, pragmatic and poetic worlds, in which we often seem involved.

Our understandings and misunderstandings of the nature and workings of water are exemplars in this conversation.

**Pride and Prejudice**

Environment studies can become trapped in discourses that try to restrict the agency of humans, pointing to all the disasters we have created, and demote us to a place of lesser value than the more-than-human world in which we daily have to make decisions. Aarne Naess, for example (see Sessions, 1995), discusses the fierce faction-fighting between eco-philosophers. Some of these factions presume we, as humans, can never control our human greed and ambition, can only right environmental wrongs by denying our own agencies. But leaving “nature to nature’s own” can be problematic in a cognitive framework that sees nature itself as fickle and untrustworthy. There is a history to this embedded in a deeply rooted antagonism between and within the arts, politics and science, only some of which I will be able to outline in this essay.

I will turn to Shakespeare’s ‘Antony and Cleopatra’—one of his late plays written in the politically volatile Jacobean era—as an example that still has currency.

Antony, a Roman soldier, has fallen for Cleopatra who, as Egypt’s Queen, is meant to be his enemy. In the midst of battle he orders that his own ship follow hers when she turns tail in retreat from Caesar. Antony recognises that by following his heart he not only abandons his own army but also commits an act of betrayal against his very identity.

The following passage is from where he confesses to his soldier Eros the ramifications of what he has done. He indicates that he can no longer “hold” or “know himself” (to know, fr. OE cnawan, to recognize, identify) and this per se prefigures the way his life needs to end.

ANTONY (to Eros)
Sometimes we see a cloud that’s dragonish;
A vapour sometime like a bear or lion,
A tower’d citadel, a pendent rock,
A forked mountain, or blue promontor
With trees upon’t, that nod unto the world,
And mock our eyes with air: thou hast seen
these signs;
They are black vesper’s pageants.

EROS
Ay, my lord,
ANTONY
That which is now a horse, even with a thought
The rack dislimns, and makes it indistinct,
As water is in water.

EROS
It does, my lord.

ANTONY
My good knave Eros, now thy captain is
Even such a body: here I am Antony:
Yet cannot hold this.

Anthony and Cleopatra, Act 4, Sc 14

The archaic word “dislimn” means “to cause to become dim or indistinct,” and Antony indicates his whole bearing has lost weight, distinction and significance by dint of his actions. There are several issues revealed here: one is a pitting of heart against rule, with a suggestion that he has become emasculated by so doing. The pageant of clouds, mutating from bear to lion to promontory to horse and eventually to “nothing,” mocks his masculine identity and role. Ipso facto there is nothing left but to complete the dismantling of his worth. As he later explains to his Lieutenant,

Nay Weep not, Enobarbus, there is left us
Ourselves to end ourselves.

Yet this logic, true to his definition as a soldier and man of war, is not true to the nature of clouds and water to which he draws analogy. Although Shakespeare is not writing a scientific tract, yet it is worthwhile to dismantle the presumptions on which his metaphors rest, as such presumptions are repeated and ratified to this day.

Firstly, that clouds “dislimn” could be viewed as an endlessly re-creative, rather than destructive, capacity, an exemplar of the mutability in which all matter exists—more an example of grace or generosity towards the process of change than a shameful act. Clouds are as they do, and are constant and consistent in that capability.

So too with water. Although it does meander, swarm, gather and embrace—that is, behaves in ways that are responsive and adaptive to changing circumstances and environments—it is yet remarkably consistent to itself. Water is, in fact, one of the most consistent of substances on our planet, and life as we know it relies on it being so:

– Thanks to its specific heat capacity, water has a higher boiling point than oil and low freeing point, which helps keep earth’s surface temperatures moderate.

– It easily changes density, in both warming and cooling, delaying rapid temperature change in large bodies of water (lakes and oceans). This creates “seasonal turnover,” which helps protect and preserve aquatic life.

– Its hydrophobic effect separates nonpolar molecules (such as hydrogen and carbon). This contributes to the formation and sure boundaries of cell membranes.

Its remarkable contextual responsiveness makes it resource-full in other ways. Recent research, as detailed by D.L. “West” Marrin (2011), shows that sections within a single body of water behave differently according to the electromagnetic, light, mineral, sonic or chemical forces in their vicinity. Magnetic fields can generate polarities and create pockets of self-filtration, more effective and compact than mad-made chemical or mechanical systems, and/or create strong vortices of energy without any loss of energy through friction. Liquid crystalline structures form, causing molecules to group like “swarms of fish” and, like all tetrahedral structures (such as the water in our bodies), act as superconductors of information between cells. These are capabilities that, if understood and harnessed, could provide far more cost-effective, non-polluting and sustainable energy sources than we humans have generated hitherto. If this is fickle, then we need more of it!
Not only is water capable of behaving with a contiguous complexity but it is not at war with itself in being so. As water is to water. The language of ecologists, however, is so often about war—conquering drought, fighting nature, fighting each other over resources. What if our exchanges—around water, and other elements—were more of a dance of cooperative, compatible, efficient and self-sufficient interests? If Krippendorf (1990) is right in that we always act according to what makes sense to us, then “knowing water” better can pave the way to a non-agonistic way of co-existing in our world. And because we are also water, perhaps we can better harness our own capabilities to make decisions of far-reaching benefit to others, our environment and ourselves.

**Knowing Water: Knowing Ourselves**

Fig. 3 The Environmental Performance Agency (EPA), ‘Body of Water,’ Melbourne Food and Wine Festival, March 1–2, 2014. Photo James Geurts.

The Environmental Performance Agency (EPA) was formed in 2013 by Dr Stuart Grant with postgraduate students from the Monash University School of Theatre Performance in order to examine how we experience and relate to water in urban contexts via performance. The stated goal of the group is “to create and promote more aware, responsible and responsive practices in regard to the preciousness, necessity and enjoyment of this fundamental element of life.” Members train together on site in different locations and devise performance interventions within festivals, conferences and larger research projects.
To date, the group has performed at the Melbourne Food and Wine Festival at Queensbridge Square, Southbank, Melbourne over the weekend of March 1–2, 2014 [2], part of Professor Maudie Palmer's Birrarung Project. Individual members also discussed their praxis at 'Knowing Water,' a conference run in conjunction with the Systemic Governance Research Project (SGRP) convened by Professor Ray Ison from the School of Geography, Monash University. ‘Knowing Water’ gathered together academics, performance artists, geographers, ecological philosophers, and members of the Murray Darling Basin Authority, with a longer-term goal to examine the nexus between water policy, performance, decision-making and associated praxes [2]. During the conference, some attendees sharply questioned the value of the performing arts in this dialogue. In many ways this article seeks to answer to those questions that divide a performer’s art from our quotidian, social and political engagements.

**Why Perform Ecologies**

Most of the EPA performance artists are trained in Bodyweather (a form of dance training established by Tanaka Min in the 1980s in Japan) or other forms of site-responsive bodywork training. Group members share an intention to highlight aspects of body-site-history relations, and illustrate how and in what ways we might understand the workings and qualities of, and meanings and values attached to, water via means of performance praxis.

Bodyweather and similar processes emphasise the plasticity and responsiveness of the body. The performer's body (like anyone's, really) is a site subjected to and able to generate different “weathers.” Just as the weather that we walk in is a result of continuously varying conditions and
systemically-related events, so too does the performer’s body (learn to) respond to space, climate, environment, others, and story, generated and/or received from both without and within.

Preparation and warm-ups include exercises with names like “bag of bones,” where the body is carefully lifted and moved by others and encouraged to give over to the prompts, suggestions, buoyancies and flows initiated and supported by them. As in Figure 4 above, the “others” act on the performer’s body as do wind, water, and air pressures and temperatures. The performer then gives new shape to what s/he has experienced, linking inner realisations with outer form (Figure 5). Other exercises examine and reflect information such as the difference in texture and density between solids and liquids, solids and air. Another layer to the investigation is to examine and incorporate researched histories of place.

So the performance ‘Body of Water’ examines such questions as: what can bodies know and remember about place; how can they show what they sense; are there gaps between these sensory documents and “official” histories; can the body “know” as deeply as water. Performer perceptions of the partly invisible worlds of place function rather like a microscope recording the motions of water outlined above—a kind of knowing before technology can show it—whilst also enacting particularly human actions such as pointing (into landscape—Figure 9), carrying buckets (of water), enacting (flotsam and jetsam bobbing on the river surface—Figure 3), and even discoursing on politics and philosophy (engaging the human intellectual realm).

This intertwining of knowing and unknowing (or subconscious knowing), membering and re-membering, becoming like, similar to, but still different from, operates in a kind of continuously receptive present and approximates the notion of “becoming” that ecologists such as David Abram (1997) argue is critical to our era. The notion of “becoming”—a direct borrowing from the work of philosopher and radical sociologist Gilles Deleuze (ref. Deleuze and Guattari, 1988) where identity, coherence, and hence our actions, are engaged in a continuous process of making, re-making and being re-made in engagement with our environment and circumstance—is a very specific way of knowing ourselves and hence of making decisions regarding how we enact and take action in our world. It requires not only the “unimpededness and interpenetration” made famous in the 1960s by the composer John Cage (1961) but a concept of reciprocal exchange and mutual respect between and amongst human, and more-than-human, co-existents. Such a process requires new forms of making and reading maps, of hearing and asking questions, and of receiving and processing dialogue with and in the landscape—one that I argue is endemic to performer process. It also demands a relation to past, present and future that is fluid, and that can remain receptive to change and variation whilst respecting difference. For although we are of water, we are yet separate from (other) bodies of it.

It is an awareness that can and needs to be mapped in a variety of conventional and unconventional ways, and one that can accommodate a variety of perspectives and languages ranging from the historical, the poetic and the more-than-human through to the scientific, including knowledges held important to different Indigenous traditions. This raises the question of what bears witnessing, let alone which languages and processes are considered viable to this process.

Acceptance: A Variety of Mappings

Over many weeks of preparation, group members undertook various forms of mapping of the Yarra Falls site. EPA member Bronwen Kamasz created art with location maps, her folded documents marking ways researchers navigate and interact with the documented past. The group referenced early 20th Century, topographic maps as well as created pictorial scores of their interactions and physical researches in place. Squiggles and scratched zones, whilst seemingly more abstract than Figure 6, nonetheless become concrete mnemonic tools to a performer and part of his or her personal archive—a shorthand record to return to when s/he needs to perform. A topographic map, however, can also be read as a map of the dance of the river across the Melbourne basin—an animate figure “running its course,” and hence less different to the dancers’ scores than we might imagine.
The group conferred with Uncle Larry Walsh, a Taungerong man who is keeper of knowledge for his and several other clan groups, who lay historical claim to the area. Uncle Larry’s input provided a “counter-memory” to the colonial history recorded of this place, which in turn demanded certain variations on how the group animated the site. He told stories of pre-settler fishing and playing in the river, whilst recounting the white fella accident (the son of John Batman, founder of Melbourne, drowning in the falls) that caused the rapids to be dynamited. The knowledge Larry brought to the project does not so much anthropomorphise place as allow place to have its own voice, albeit interpreted through human story-telling intervention. The difference between the Western Romantic “pathetic fallacy”—a poetic technique which acknowledges human emotion by projecting it onto the “inanimate” world, and strangely incorporates “nature” whilst splitting the speaking subject into one who speaks and the “other” or external which feels—and a landscape where “everything stands up alive,” in, of and for itself, is marked, and requires examination.

The Principle of Equivalence

At the ‘Knowing Water’ conference, elder Feli McHughes quietly spoke of the river Murray as if it were a beloved uncle (“he is always talking to us”). Attributing language to a river asserts its presence as a living, breathing, thinking, independent, yet generously relational entity. Such representation is metonymic rather than metaphoric; we are looking to what (larger) cognition of
relationships is represented in an entity, rather than what an entity or element is “like” or “stands for” (in place of). Similarly, from the Amerindian Dine tradition, River Junction Curly’s ‘Blessingway’:

With everything having life, with everything having the power of speech, with everything having the power to breathe, with everything having the power to teach and guide, with that in blessing we will live. (McNeely, 1997)

It asserts that each of the earth elements is “standing up alive” and has the right to “live, speak and breathe,” in and for itself, and not just as a metaphorical representation of something in the human realm. This perspective was ratified in the Law of Mother Earth, passed in the Bolivian Parliament in 2010.

The Bolivian Law confers the same rights to nature as to human beings, including “the right to life and to exist; the right to continue vital cycles and processes free from human alteration; the right to pure water and clean air; the right to balance; the right not to be polluted; the right to not have cellular structure modified or genetically altered” [1]. It is not just a set of abstracted laws and injunctions (about what not to do), but is an ordered set of considerations based on a principle of the potential equivalent value of all co-existent living things.

Although it does not attribute speech to nature as clearly as does Curly’s ‘Blessingway,’ the Bolivian Law yet demands a dialogue with how nature manifests and operates (and hence “expresses itself”). We could, poetically, nominate this as “nature’s voice,” but in many indigenous traditions the cognition has practical ramifications, which in turn help determine how politicians, developers, and citizens should act in the world. But at the core, “how nature manifests and operates” (via its language) needs ears willing to hear it. A speech act—whether its agent is human or otherwise—requires a hearer to listen and recognise its otherness. Willingness to listen is an act of animation (‘to animate’ (v.), 1530s, “to fill with boldness or courage”). Do we have courage enough to do this? And how do we learn to do this? For it is true that acting/performing in our world (‘to perform’ (v.), c.1300, “to carry into effect, fulfill, discharge”) is a skill that needs training, in order to do well.

In the words of anthropologist Frederique Apffell-Marglin (1994), describing the life of indigenous peoples in the Andes:

The conversations between persons and the other inhabitants of the world are not primarily engaged in for the purpose of ‘knowing reality.’ They are engaged in it as part of the activity of criar y djarse criar, or nurturing (raising) and letting oneself be nurtured (raised)... The point of conversation is not the attainment of knowledge through the interrogation of nature, it is rather to generate and regenerate the world and be generated and regenerated by it in the process.

This is an antiphonal process, endemic to a variety of traditions from African chant, Western medieval sacred song, amongst Australian indigenous peoples and in contemporary Western jazz. Its key principles are responsiveness and reciprocation; its touchstone is respect for difference amongst equals. Listening feeds action: the body is an ear.

Western philosophers such as David Abram (1977), Luce Irigaray (1983) and Heidegger (1951) before them have chastised us on the way we “forget” air or water and other elements. It is something a site-specific performer is obliged not to do. Any incompleteness is potential violation, and no site-specific performance artist I know can bear to do anything of that sort: being attuned to feeling, they feel the violation. Remembering the complexity of others is a duty of care. But rather than thinking of this as a kind of anxious hypersensitivity, perhaps at least we can engage in a living practice based on first principles that remembers what we tend to forget, neglect, or oppress. The flip side of the partnership is to maintain our own presence in a way that renders us equal participants in the dialogue, learning to listen in a way that sustains and informs our continuous engagement and co-participation in hearing and making the world.
Fig. 8 Me, illustrating how a performer’s sensory body engages in mapping space, during the presentation of my paper in 3WDS14. Screen capture.

Subjects–in–Process

The capacities of the Waterwheel Tap presented an opportunity to both talk about performers-in-process but to also think of myself as a presenter-in-process and the online audience as subjects-in-process (sujets-en-process, ref. Kristeva, 1980) navigating this same territory.

Within our daily waking states, there are conditions that coexist around and within us of which we are insensate. For example, the interior workings of our (Western) bodies are considered unknowable to us without the intervention of microscopes and machines. Yet Eastern meditation practices (including the tradition titled Chi Nei Tsang—ref. Chia, 1990) teach a “knowing” of the body’s interior and thence an ability to heal some of its ailments. This is a capability oddly ratified by the Western medical practice of biofeedback, where the mind (albeit mediated by machines) can alter a body’s metabolic rates.

Oppositional thinking—whether we can/can’t know our interiors, the invisible, and the too-small—is supported by enculturated habits and prejudices rather than by fact, and this applies also to elements considered “too large to know,” such as space.

Figure 8 is a screen shot of the paper I presented at the symposium, where I used the Waterwheel drawing tool to illustrate the sensory processing a performer undergoes in training and how s/he maps space in that heightened sensory realm. The screen shot shows EPA member Peter Fraser on site beside the Yarra River wearing an eye bandage that serves to limit his visual perception in order to heighten other senses.

In real time during the Symposium, I drew line vectors out from his body in order to illustrate the activity of a performer’s attention in this “heightened state of being,” and also to counter the taking-for-granted aspects of seeing that would normally occur looking at images in 2-D. Who pays attention to space in this way? Actors do, birds do, possibly, kangaroos do with their tails. Perhaps we do, when placed in a situation that awakens our sleeping senses, such as with eyes bandaged or whilst taking a shower. When else in our civilised Western lives do we regularly have the opportunity to think of the length of the back of our necks?

Actors consciously undergo training in order to awaken their habitual awareness from a kind of quotidian slumber in which we generally live—a slumber determined by cultural habits and protocols rather than by what is.

The Japanese have the concept “ma” which denotes the active presence and fullness of space. “Ma” can be witnessed for example in the care taken in constructing Zen temple gardens, where the
proportion measured between monolithic stone dolmens, raked white stones, and the garden walls, invites poetic and spiritual contemplation. Space here is considered an organic entity full of substance and rhythmic complexity, and great care is taken in the construction of these gardens. But “ma” does not only refer to a relationship between bodies and the spaces outside of them. “Ma” also applies to the spaciousness of the body’s interior. During the online Symposium, I drew a cap over Peter’s head, in order to call attention to the interior within his cranial dome—the architecture of this crown, its spaciousness as uplifting as the dome of a church built in Byzantium. A performer in this state of awareness will be operating in a dialogue reciprocating between space without and within—a dialogue with the invisible, internal realm.

I should reiterate that I am not inventing this awareness, but rather calling attention to a latent capability that we habitually neglect or forget to engage. Other, spontaneous acts of empathy with space may occur at unusual times—such as during a mountain-climb, a bushwalk, or the aforementioned shower. But in what quotidian ways do we show this matters, that we register that we care (OE caru (noun), carian (verb), fr. OHG chara “grief, lament,” charon “grieve”; fr. Old Norse kor “sickbed”)?

The Waterwheel Symposium title was Caring and Daring (to risk caring or danger; to do). It is daring to be so inclusive. What do we include and exclude, when, and why? To “care for” is not just to care for the present, but for the past and future, as all time co-exists in the “now.” What has happened because of decisions and events of the past? What will happen by dint of decisions and events in the future?

Enactment: Care Made Visible

The performance ‘Body of Water’ itself made visible and audible both the present and some of the “disappeared” history of place near Yarra Falls, which included stories of the water itself—its motions and flows, and the course it once followed—and that of the space inhabited and appropriated by others. ‘Body of Water’ created an interface between knowledge/ways of knowing that seek(s) no conclusions in order to provoke a way of rethinking and reconsidering what was, is and will be.

The bones and flesh of the performers affirmed both the agency of human action whilst representing the agency of the more-than-human others of this place. The performance running sheet (signaling performers to become “reeds,” “torrent,” “waterfall”) is a cryptic shorthand, or mnemonic, for a complex engagement with the complete actual present of a bustling contemporary city, replete with concrete and high-rises, and in a strange red ziggurat in the middle of Queensbridge Square (Figure 10). The group’s choice to wear acrylic blue suits—similar to, but also anomalous amongst the lunchtime city-worker crowds—emphasizes this point. Stuart Grant, in worker’s overalls, placed witches’ hats along the ground, marked measurements onto his clipboard and related parts of his childhood by the river to a puzzled audience, wondering who was this philosopher in overalls.

![Fig.9 Members of EPA in performance. Here the group gestures “up-river,” enacting a moment of “being human” amongst the sections of performance in which they embody water per se, or its motion.](image)
Performers slip in and out of Bodyweather mode, becoming sightseers pointing upstream (Figure 9), then turn and become “human sparkles,” embodying the gorgeous passion of light on the river [3].

Dale Gorfinkel, whose soundscape utilised found objects and hand-made instruments, called spectators to re-cognise the complexities of place with his imitations of water, seagulls, air bubbles, and other disturbances, amplified amongst the hum of traffic and swarming lunchtime crowds.

The finale—performers as waterfall, representing water falling against the back of their necks, against the backdrop of the orange ziggurat and high rise office tower behind—exemplifies the complexities of the performance narrative, but also touches on the ecstasies performance can reach. But these ecstasies are not simple joys.

Ecology and Joy

Spinoza divides ‘joy’ into two categories. One he calls Titillatio, referring to immediate, simple, pleasurable excitements, which, importantly, only affect a “sub-group of parts of the body” (Naess, 1973: in Sessions, 1995, p.252). The condition of Hilaritas, however, reflects on the idea of a body as an ecology, both unto itself, and in relation to others, affecting “not only a subgroup of functions of the organism, but each and every one” (ibid.). Hilaritas invites an ever-expanding engagement with more and more of the world.

A performer approaching Hilaritas—becoming animal, becoming space, light, water, history, and place, and also remaining human—displays a confluence and interplay of qualities, thoughts and awarenesses, as does water itself. The performing body (as are we) “both seems and is” a variety of contiguous capabilities. Training, then, allows one to become acutely aware of various dimensions of what is, which includes the passage of, and what changes over, time. What this includes is the differences between then and now, me and you, it and us, and the human capacity to make decisions, for practical, aesthetic and (hopefully) ethical reasons. This constitutes a condition I call vulnerable authority—the ability to respond to and reciprocate with(in) an environment in which one also makes magnanimous decisions.

In this way, performing and ecology—and, too, performing ecologies—can be both entertaining, titillating, and an exercise in Hilaritas, waking up the world to the complexities in and around us.

Conclusion

This essay concludes that the condition of vulnerable authority—a combination of knowing in different guises and temporal manifestations of knowledge, being both receptive to co-participants in
an environment, whilst not negating one’s own presence—is at the core of site-specific performance practice and a realisation that can be of potential benefit in the fields of geography, economics and the environmental/ecological sciences. Laws such as that passed in Bolivia (the Law of Mother Earth) assert equal rights to all elements in an ecosphere, including the right to be left to their own natural courses; but within that picture, the place and function of the human body and mind needs to be assessed as a component in service to the principle of equivalent value and respect to all co-existents in that field. The challenge lies in recognising, valuing and applying recognitions made by site-specific performance artists and translating that into decision-making processes in the fields of ecology and other disciplines.

AUTHOR BIOGRAPHY

Zsuzsanna Soboslay (BA (hons); A.Mus.A., L.T.C.L.) is a writer, dance ecologist, therapist and theatre creator engaged in a diverse range of arts practices focussed on concepts of ability, dis/ability, ageing and other transitions and the relationship between art, science and compassion. She is enrolled in a PhD through Monash University titled ‘Trauma, Ecology and Presence: Why Performance Matters’ and works extensively with music group Synergy Percussion. Her current, interactive, cross-artform theatre project, Anthems and Angels is a process-oriented performance/installation combining archival materials with real-time interactions, centred on two key questions: how bodies relate to and remember land (and water), and how to respectfully represent the unspoken memories and resilience of people in exile.

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Screen recording of the Tap presentation: http://water-wheel.net/media_items/view/4866
8. Performance • Perception
Spanning sessions #4–6, Atefeh Khas’ ‘Metamorphosis,’ a live webcast of a block of ice melting, accompanied by pre-recorded music composed by Amin Hammami, raised questions. Could the work be considered a performance because 1. Atefeh declared that it was, and 2. Audience engaged with the work on the basis that it was said to be a performance? Could the work be considered performance, even without humans performing in it? Or could we consider that the humans performing in the work were Khas herself (she switched her webcam image between herself sitting indoors and the ice melting outdoors) and the work’s onlookers? She, herself, says that the ice is the performer, slowly melting over hours.

I certainly had a feeling similar to watching a live durational performance—being witness to an event as it unfolds in real time. I found it addictive, and the format of streaming live video of the event in bursts (20 minutes or so at a time over the duration of the ice melting, which lasted 8 hours) fitted well into the format of the symposium as a whole.

Bonnie Hart also offered a webcast of a live performance, ‘Ebb and Throw,’ in which she tossed litter she had collected that very day from her local creek, onto a sculpture, that in the dark, lying on floor, had the overall size and curves that gave it a body-like resemblance. 16 mm films, projected from various angles, lit the sculpture with colourful ever-changing imagery, and a handheld microphone amplified shuffling sounds combined with a gurgling soundtrack that seemed to be composed of toilet flushes and underwater recordings. The climax of the piece comes when Bonnie lays down with the sculpture, caressing it with one hand and with the other, switching internal lights on and off.

In Pegi Marshall-Amundsen and Suzon Fuks’ ‘The Empress’ Tears,’ four aligned-in-a-grid images show two webcam angles, each of the two women performing with water-filled fish tanks, pouring in water, playing with floating rubber figures, dispensing ink into the water... Their actions are rehearsed to coincide, timed with the soundscape of electronic music and water sounds, which, doubled with the fact of having a second angle of their actions, and flipping lower webcams vertically so as to “reflect” the upper ones, created visual rhythm, and visual communication between images. For example, when water is poured into a fishtank in the upper image, it appears to go through the frame into the lower webcam image. They use similar objects too—the same kind of fishtanks, glass jugs, etc. creating a visual uniformity that supports the formal concerns of symmetry, reflection, repetition, rhythm, visual design and a choreographic movement between the frames of the webcam images.

As the 12-minute piece progresses, the transparency of the water becomes coloured with ink, and the women wrap their fishtanks with brightly-coloured caution tape, the kind used to delineate a damaged public site, one with the word “CAUTION,” the other with the word “DANGER.”
PERFORMANCE – OVERVIEW
by Lila Moore

‘Metamorphosis,’ a time-based installation by the environmental artist Atefeh Khas (Iran), refers not only to global warming and the daily phenomenon of melting ice on Earth, but the common apathy in the face of it. Khas carefully prepared an ice cube and placed it outdoor to melt naturally. She showed the gradual disappearance of the cube through a webcam, streaming the process on the Tap.

As a centralizing point in space and time, the Tap, in this work, illustrated the collective awareness of separation from the environment. The need to overcome the split between people, environment and the news media reports on climate change echoed in the soundscape.

On the one hand, the juxtaposition of the small cube with an ambient sound of powerful glaciers cracking, arctic wind and chimes denoted environmental interconnectedness and a shared human destiny. On the other hand, the powerful sound of breaking ice, which didn’t reflect directly the environment streamed live on the Tap, recalled news media reports on climate change that, no matter how severe, seemed to lack direct context, thus, dissolve ineffectively in the noisy postmodern media landscape.

Bonnie Hart’s performance ‘Ebb and Throw’ engaged with the obscure and lethal interaction of people, industrial waste and nature. Streamed live on the Tap, the relationship of humans with trash in the sea was performed as toxic and addictive romance. Plastic debris, Hart’s movements, artificial lights and celluloid sea moved like a mollusk, forming into a body of mutating organisms.

‘The Empress’ Tears’ was performed on the Tap by two remote characters portrayed by installation and performance artist, Pegi Marshall-Amundsen (North Carolina) and experimental multidisciplinary artist, Suzon Fuks (Brisbane). Each character inhabited two webcams placed side by side with one character on top of the other, forming a rectangle screen.

The space was divided into four small screens/webcams so that when the character on the top looked down at her aquarium she was also facing the other character whose webcam was positioned beneath her though upside down. The characters were shown from a frontal point of view of their upper body with an emphasis on heads and hands as they were handling objects and liquids in an aquarium, and from a perspective beneath each aquarium.

This created the impression that the viewers were also watching the actions from the perspectives of the water in the aquariums. The fluid from which dinosaurs and sunglasses evolved became a performer, a subject and object. The tendency to focus on the weight of human activity was inverted not only through an upside down performer in a webcam, but by using the webcam to create the illusion that the water is watching and reflecting on the situation.

However, as the performance progressed, the views of the water were increasingly obstructed by human action and language, until the water disappeared entirely, and was marked out by signs as a danger zone. At that point, the chance-like evolutionary aspect of the creative process, which was sustained and embodied by water, came to a halt.
Presentation

‘Ebb and Throw’
In a world of manifest convenience, multiplicity meets complicity. Entitlement of space and matter valued as temporal object for the individual. Collective petro-delusions and the flow of tides bury their heads in the sand. But can they hear the ocean through the waves?

A prophylactic, obscured perception of the natural word. Amidst the BPA debris, life cycles as light and sound interpenetrate to a mollusc romance.

The format of the expanded cinema work was 5 x 16 mm film loops, sculptural installation, optical sound and live performance.

Presenter

Bonnie Hart’s practice is an assemblage of filmmaking, music, performance art, journaling, visual art and sculpture. Her expanded cinema performance is a fusion of performance stagecraft, the textural beauty of handmade celluloid and a tragicomedy of continually malfunctioning systems/equipment. Inspired by the symbolic, aethyric, esoteric nature of conceptual elaboration, Bonnie’s work is rooted in the gritty realism of the contemporary sociopolitical landscape.

She holds a degree in Film & Television Production from the Queensland University of Technology. In 2006, Bonnie founded the audio visual laboratory Venting Gallery which produced the ‘Rituals of the Captured Moment,’ a series of 1000 films about experimental music. She is the founding Secretary of the Foundation for Contemporary Music & Culture and President of the Androgen Insensitivity Syndrome Support Group Australia.

Links

http://www.ventinggallery.com/bonnie-hart-bio

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4870
‘Ebb and Throw’ by Bonnie Hart. Screen captures.
**Presentation**

‘The Empress’ Tears’ is a “cyber-performance installation” with Pegi Marshall-Amundsen from North Carolina, USA and Suzon Fuks in Brisbane, Australia.

“Notions of Future” is the departure point for asking questions to and provoking each other, well as both the online and onsite audience, and although it delves into profound matters, it is improvised with humour and poetry. Water, as a metaphor for all there is and was, focuses attention on the “Now” and “being aware.” Tears of joy or sadness are magnified in a fish tank, shared across continents.

We each had a fish tank filled with water and oil, in which at times we moved miniature objects, according to the conversation that took place via Waterwheel’s video conference/media mixing system, the Tap.

- Is water a metaphor for the moment?
- Transforming from one state to another, all the water we have is all the water we’ve ever had. So do you have Zero Water for me?
- Where does it come from? The Empress’ Tears?
- Where is it now? In the toilet on which I am perched going down the drain?
- Where will it be? For some people, it may be the source of sleeplessness, or a search for their survival. But for so many of us, we don’t question its future. We take it for granted!

**Presenters**

**Suzon Fuks** is an intermedia artist exploring the integration and interaction of body and moving image through performance, screen, installation and online work. Australia Council for the Arts Fellow from 2009–2012, Copeland Fellow & Associate Researcher at the Five Colleges, Massachusetts in 2012, she is the initiator and co-founder of Waterwheel, a collaborative online venue for streaming, mixing and sharing media & ideas about water.

**Pegi Marshall-Amundsen** is a designer and maker of live Performance, Theater and Installations. Her work can be seen on stages, in public and online. She believes theater should be accessible, socially responsible and sustainable. In addition to creating and designing, Pegi teaches and has an effect on future artists and designers.

**Links**

http://www.pegidesign.com

http://suzonfuks.net

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4872
‘The Empress’ Tears’ by Pegi Marshal-Amundsen (top of the screen) and Suzon Fuks (bottom of the screen). Screen captures.
Presentation


A presentation and commentary on performances with water in Calgary, Alberta and prospective performances in Glasgow, Scotland in 2013 and 2014. The project entails a series of actions or experiments made with the main watercourses that flow through the two cities: the Bow River, Calgary and the River Clyde, Glasgow. These contrasting urban waterways represent diverse examples of human/water interdependency.

The Bow River and its watershed provide drinking water for Calgary and much of Southern Alberta. The Bow is an iconic Canadian River, emerging from the Bow Glacier/Bow Lake in the Rocky Mountains. It is a site of recreation and contemplation for Calgarians but, in June 2013, it flooded severely, submerging downtown Calgary and damaging irrevocably a significant proportion of property in the city centre.

The River Clyde is a heavily industrialised watercourse, which was narrowed, deepened and canalised to enable trade, shipbuilding and large-scale manufacturing in Glasgow. Since the decline of heavy industry, however, the Clyde’s role in the city is ambivalent. Despite major regeneration currently taking place on its banks, the water itself remains largely neglected.

‘Guddling About’ is an attempt to explore human/water—and ecological-social—relations in these two contrasting locations. In response to vital materialist discourses (Jane Bennett, Tim Ingold et al) it aims to use performance practice as a means of foregrounding the liveliness, or agency, of water, and thus challenging human-centred understandings of human/water interdependency.

Presenters

Minty Donald is an artist and lecturer/researcher in the School of Culture and Creative Arts, University of Glasgow, Scotland. Her practice is context and not medium-specific, though ephemeral media such as performance, projected imagery and sound are frequently used in her attempts to explore human/more-than-human relationships. She regularly works in collaboration with Nick Millar.

Nick Millar is an artist with a project-based practice, based in Glasgow, Scotland. He works frequently with Minty Donald and with other regular collaborators including Untitled Projects/Stewart Laing & Arika. Working with Minty Donald, his current practice reflects on human/water interrelations in the context of the River Clyde, Glasgow & recently had a Watershed+ residency in Calgary developing ‘Guddling About,’ Episodes 1–3

Links


Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/5082
Action/Experiment #1: Water Carry

Scoop water from the river with bare, cupped hands. Carry the water in your hands as far as possible from the river. Stop when there is no water left in your hands.

Action/Experiment #2: Water Borrow

Visit as many of the tributaries of the river as possible. Ask each tributary you visit for permission to borrow some water. If you feel permission has been granted, carefully take a pailful of water, noting the date, time, weather conditions, topographical features and water quality. Remember to thank the river or creek for the water.

Action/Experiment #4: Where Water Goes (Puddles)

Borrow a small jar of water from the river. (Remember to ask for permission and to thank the river.) Find a place where there is crack or indentation in the road or sidewalk. Pour a small amount of water into the crack or indentation. Observe where the water goes. Try this action/experiment on different types of surface, at different times of day and in different weather conditions.
Presentation

‘Performative Class’

Students of Intermedia ART, Camosun College in Victoria, led by John G. Boehme, talked about understanding our vulnerabilities, conflicts, successes and failures around water.

Presenters

Weaned in the Windansea of La Jolla, California, John G. Boehme’s practice encompasses painting, sculpture, performance, video and digital technology, installation, and photography. His work examines the performance of masculinity, the valorization of labour, the pursuit of leisure, and the marshalling of amity, using both the spoken and gestural aspects of human communication. Not constrained to any specific medium, his recent ‘trans-disciplinary’ work simultaneously integrates performance, video, audio, and material.

Students from Camosun College, Intermedia Art, in Victoria, BC, Canada.

Links

http://www.finearts.uvic.ca/~jgboehme

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4884
SOUR AMANE
Nezha Rhondali
Casablanca, Morocco

‘Sour Amane’ is a multidisciplinary performance involving four Moroccan artists, presented on Waterwheel. Sour Amane which means “to quench thirst” in the Berber Moroccan language, Amazigh, is an exploration through music, voice and dance, of the stages of the water cycle, especially in Morocco. A week-long art residency at the Boultek Centre for Contemporary Music in Casablanca preceded the performance. Water in all its states was the inspiration for the artists.

Aali Wicca (poet, singer) brought to the group texts in Arabic (poems and prayers), Dubosmium (musician) brought a variety of recorded sounds and electronic music related to the water cycle, Jauk (percussionist) brought his expertise and original instrument “the Jaukagua,” and Nezha (dancer) brought movements inspired by the water contained in her body and in nature.

The performance was the result of a scientific, social and environmental investigation of water, informed by the teachings of Professor Tahiri, who is an expert in water management and the environment. A discussion with the audience about the performance ensued, followed by a debate moderated by Professor Tahiri on the environmental and social challenges of water management in Morocco and more specifically in Casablanca. The event was a success both artistically and in terms of raising awareness about water.

The ‘Sour Amane’ artist residency

The artist residency began with an investigation on water, including concerns and current challenges. The research led to setting the stages of the water cycle as the thread for the performance:

- Evaporation
- Condensation
- Rain / Snow
- Runoff
- Infiltration
- Evaporation or Distribution
- Consumption

The artists took into consideration the specificity of Morocco, including water scarcity, such as drought and desertification. Research on each stage of the water cycle gave birth to a palette of sounds and movements, which became material for the improvisation:

- Aali Wicca plunged into the Moroccan cultural and religious heritage to reveal poems, songs and prayers praising water. Texts in which the sacred value of water is reflected.

- Jauk shared, amongst other things, one of his creations: the Jaukagua, the meeting of a metal can with the African water drum. In the early 70s, Jauk used it to play jazz with Carolyn Carlson and Peter Goss. The Jaukagua is a rhythmic percussion instrument with an extensive range, going from the very low to the highest sounds, with an ability to imitate all instruments; it is also an amplified electro-acoustic instrument, which requires the interpreter to move the body, making it a musical instrument and “conversator.” And, of course, it reproduces the sounds of water.
– Hassak Mr. Abdellah, alias Dubosmium created a variety of sounds by drawing on a database of recordings (the streets of Casablanca or the ocean), using them as inspiration to compose electronic music on the spot, all the while seeking to create a soundscape that evoked the stages of the water cycle. In this way, he endeavored to accentuate, support, mitigate or deflect the music and movement interventions of the three other artists.

– Nezha conducted her research on the meeting point between body and earth, both at the level of presence and in relation to the role of water. Water nourishes, carries, regulates temperature, eliminates waste, in equal proportion. Water connects all. This investigation was the departure point for her movement research, which involved going through the physical and subtle sensations of being both water and the container of water. The interaction with the musicians, instruments and objects (such as a hammam bucket) further enriched the exploration of movement. A musical water wheel appeared in the course of the performance, which the body of the dancer in trance interpreted by striking the Chinese cymbals in a circular fashion, all the while following the Jaukagua’s increasing pace.
Fig. 3 Nezha with the hammam bucket, during the ‘Sour Amane’ performance, at Boultek.

The ‘Sour Amane’ performance

At the end of the five-day residency, the artists agreed on a structure that would provide the space for a collective improvisation of music and dance; the various stages of the water cycle would create the structure and the transitions would be based on carefully listening to the improvisation of the others.

The performance took place in a small room at the Boultek, with an audience of 20 people. Artists and audience were spellbound by the performance.

The performance was unable to be streamed live on the Waterwheel platform, though it was performed as part of the Waterwheel World Water Day Symposium. Since then, the artists have continued to present the Sour Amane performance to the Moroccan public.

Fig. 4 left to right: Jauk, Dubosmium, Nezha, and Aali Wica during the ‘Sour Amane’ performance, at Boultek.

At the end of the performance, the public voiced their curiosity, asking questions about the artistic process, the techniques used and the message communicated. A very interesting debate followed, led by Professor Tahiri, an expert in water management and the environment. He presented a
definition of drinking water, and the environmental and social issues as a result of the lack of awareness that different social actors demonstrate in their activities (government, companies and citizens). He succeeded in playfully informing the audience, proposing daily solutions on how to better manage water and act with consideration towards the environment.

Fig.4 Prof. Mohamed Tahiri leads a debate with audience members about water management.

The performance experience proved to be enriching, and allowed the collaboration between the four artists to consolidate, to become a Moroccan group engaged in Art-Ecology and multi-disciplinary artistic improvisation.

BIographies

Jauk (French-Moroccan) has a 50-year international career as a songwriter and performer. He became a percussionist in the early 1960s, playing in several jazz, rock, and ethnic groups. His music and vocals embody a fusion of these three cultural styles. Jauk designed the Dakka jazz style and invented an electro-acoustic amplified instrument: the Jaukagua, a fusion with the African water steel percussion drums of his childhood. Jauk is also a musician of gesture and movement: he invented the choreorhythm and choreosophy (at the Sorbonne), which accompany dance. He collaborates and works with leading choreographers and musicians worldwide.

Hassak Mr. Abdellah, alias Dubosmium won recognition with his unique electro-ethnic Moroccan style, as the creator of music that combines the atmosphere of the Electroworld with the culture of his country. Taking root in the underground culture of Casablanca, his hometown, his music reconciles musical tradition with the electronic modernity of new technologies. It is a rhythmic journey that invites one to a true homecoming.

Aaliwica is an artist, native of southern Morocco. He is a musician, singer, but also a poet and painter. In some of his works, Aaliwica explores themes on Djinn and prayers. He composes and sings his songs and poems, and collaborates with other artists such as Dubosmium, always looking for experimentation that allows the mixing of styles and epochs.
Nezha is a French-Moroccan nomad dancer, based in Casablanca, where she has focused on developing artistic, cultural and social projects. Dance improvisation is her favourite space. She dreams of organising music and dance improvisation jams in Morocco. Nehza tries to link her interest in ecology, particularly in permaculture, to her artistic activities and daily life.

Mohamed Tahiri is professor and president of the Chair of Innovation at the University Hassan II in Casablanca. Expert in water management and the environment, he works fervently to raise awareness of eco-citizenship and eco-innovation.

ABOUT THE PLACE

The Boultek centre for contemporary music in Morocco is a place where musical groups and artists from the urban scene can work, meet and get advice. There are three equipped rehearsal studios, a recording studio, a training room, and a concert hall. The Boultek is also a resource and information centre, and a point of reference for artists.

LINKS

Video of the entire performance http://youtu.be/Z-0StFCL2LM

Jauk http://www.jaukelmaleh.com

Boultek http://www.boulevard.ma
8. Performance

Fig. 6 The collaboration between the four artists consolidated as a Moroccan group engaged in Art-Ecology and multi-disciplinary artistic improvisation / Cette expérience a permis la consolidation de ces 4 artistes, en tant que groupe marocain engagé dans l’Art-écologie et l’improvisation artistique multi-disciplinaire.

A propos de la résidence artistique ‘Sour Amane’

Cette résidence artistique débuta avec une investigation autour de l’Eau, des préoccupations et défis actuels, et révéla le fil directeur de la performance : les différentes étapes du cycle de l’eau :

– Evaporation
– Condensation
– Pluie/neige
– Ruissellement
– Infiltration
– Evaporation ou Distribution
– Consommation

Bien évidemment, les artistes prirent en considération la spécificité du Maroc et intégrèrent ainsi les problèmes d’absence d’eau, telles que la sécheresse et la désertification.

Une recherche autour de chaque étape du cycle de l’eau donna naissance à une palette sonore et de mouvement riche, un matériel qui permit ainsi d’alimenter l’improvisation de la performance :


– Jauk, partagea, entre autres choses, une de ses créations, le Jaikagu, la rencontre d’un bidon métallique avec le tambour d’eau africain. Dans les débuts des années 70, Jauk l’utilise avec Carolyn Carlson, Peter Goss, dans le jazz. C’est à la fois une percussion rythmique, avec un registre basse très étendu jusqu’au plus aigüe, doté d’une tessiture très étendue, et d’une capacité à imiter tous les instruments. Un instrument électro-acoustique amplifié, qui demande à l’interprète de bouger tout le corps, instrument musical et « conversateur ». Et qui bien sûr restitue tous les bruits de l’eau.

– Dubosmium varia ses inspirations de sons, en piochant dans sa base de données d’enregistrements (comme par exemple des rues de Casablanca ou de l’océan), en composant de la musique électronique de manière instantanée, cherchant ainsi à installer un fond sonore capable de révéler au public les différentes étapes du cycle de l’eau. Il rechercha de ce fait à accentuer, supporter, atténuer ou dévier l’intervention musicale et de mouvements des 3 autres artistes.

– Nezha dirigea sa recherche sur le point commun qui a entre le corps et la Terre au niveau de la
présence et du rôle de l'Eau. En proportion équivalente, l’eau nourrit, transporte, régule la température, élimine les déchets, l’Eau connecte le Tout. Cette recherche fut le point de départ de son investigation de mouvements, passant par la sensation corporelle et mentale d’être le contenu et le contenant de l’eau. L’interaction avec les musiciens, les instruments, et les objets (tels que le seau de Hammam) enrichi considérablement ses ressources de mouvements. Il apparut ainsi, une roue d’eau musicale, interprétée par le corps de la danseuse en transe tapant de manière circulaire les cymbales chinoises au rythme croissant du Jaukagua.

Fig.7  Jauk et Nezha durant la performance ‘Sour Amane’ au centre Boultek.

A propos de la performance ‘Sour Amane’

A la fin de la résidence de 5 jours, les artistes se mirent d’accord sur une structure qui permettrait de donner de l’espace à une improvisation collective de musique et danse. La structure suivant basiquement les différentes étapes du cycle de l’eau, et les transitions s’appuyant sur une écoute aigüe de l’improvisation de chacun. La performance a eu lieu dans une petite salle du Boultek, avec un public d’une vingtaine de personnes. Tant les artistes que le public furent satisfaits et emportés par la performance. Malheureusement, elle n’a pas pu être retransmise en live streaming sur la plateforme Waterwheel, mais cela ne leur firent pas quitter le sentiment d’avoir fait partie intégrante du Symposium de la Journée Mondiale de l’eau. Depuis, les artistes continuent leur travail pour présenter de manière plus officielle la performance Sour Amane au public marocain.


BIOGRAPHIES

Jauk, 50 ans de carrière franco-marocaine et internationale, auteur, compositeur, interprète, il devient batteur-percussionniste dès le début des années 1960 dans plusieurs groupes de jazz, rock et musique ethnique. Il incarne une fusion de ses trois cultures à travers sa musique et ses discours. Il conçoit un genre de musique, le dakka jazz et invente un instrument électro-acoustique amplifié, le Jaukagua, fusion du tambour d’eau africain et des bidons-percussions métalliques de son
enfance. Musicien du geste et du mouvement, il crée la chorérythmie et la choréosophie (à la Sorbonne) et devient un compagnon de la danse. Il collabore et travaille avec de grands chorégraphes et musiciens du monde entier.

**Hassak M. Abdellah**, alias **DUBOSMIUM** s’impose sur la scène avec son style électro-ethnique marocain unique, comme le seul créateur de musique qui combine l’atmosphère du l’Electroworld avec la culture de son pays. En prenant racine dans la jeune culture underground de Casablanca, sa ville d’origine, sa musique réconcilie la tradition musicale avec la modernité électronique des nouvelles technologies. Elle propose un voyage posé et rythmé qui invite à un véritable retour aux sources.

**Aaliwica** est un artiste originaire du sud du Maroc. Il est musicien, chanteur, mais aussi poète et peintre. Dans certaines de ses œuvres, il explore les thèmes du Djinn et des prières. Il compose et interprète ses chansons et poems et collabore avec d’autres artistes tel que Dubosmium, toujours à la recherche de l’expérimentation qui permet le mélange des styles et des époques.

**Nezha** est une danseuse nomade franco-marocaine, installée à Casablanca où elle se consacre à développer des projets artistiques, culturels et sociaux. La danse improvisation est son espace de prédilection, elle se laisse ainsi rêver à organiser prochainement des jams de musique et de danse impro au Maroc... Elle s’efforce de lier son intérêt à l’écologie, plus particulièrement à la permaculture, à ses activités artistiques et sa vie quotidienne.

**Mohamed Tahiri** est professeur et président de la Chaire de l’Innovation à l’université Hassan II à Casablanca. Expert en gestion de l’eau et de l’environnement, il travaille ardemment pour la sensibilisation à l’éco-citoyenneté et l’éco-innovation.

**A PROPOS DU LIEU**

Boultek, premier centre de Musiques Actuelles au Maroc, est à la fois un lieu de travail, d’échange et de conseil pour les formations et artistes de la scène urbaine. Il comporte trois studios de répétitions équipés, un studio d’enregistrement, une salle de formation et une salle de concert. Le Boultek est également un centre de ressources et d’information et un repère professionnel pour les artistes.

**LIENS**

Voir version anglaise, ci-dessus.

**Fig.8** Contenu/contenant de l’eau fut l’une des investigations de mouvements de Nezha.
PERFORMANCE CONNECTIVITY & RESEARCH – OVERVIEW
by Molly Hankwitz

Bay Requiem, ongoing project by Mary Armentrout, Lauren Elder, Nina Haft and Ian Winters. Direction: Nina Haft.

In this original performance from the project ‘Bay Requiem,’ Nina Haft and Company dance at the Hayward Shoreline along with collaborators Mary Armentrout (dance), Lauren Elder, and Ian Winters (video), in a mix of loose-knit interpretive styles mingled with site specific details about a place marked for impact by sea-level rise.

In this session of the Symposium, ocean and saltwater flooding-issues were addressed. Eight dancer/choreographers, a director and filmmaker explored the location and “scale” using the Waterwheel Tap space as the “live” stage/frame to create an intricate and layered piece of art. A good mic and a high quality video camera transformed the Tap space into an audio visual zone in which localized sound of wind and the moving dancers evolved over time.

Nina Haft and Ian Winters’ commentary and explanation of their collaborative methods and history of site, worked especially well to develop understanding of the work. Audience was intimately connected with a well-planned and shared experience; meeting and chatting with, and listening to dancers discuss their activism, and methods with the issues and the land.

To achieve a really finely tuned performance takes particular planning, rehearsal, and familiarity with what is possible, and on the Waterwheel Symposium Tap, as much as it is an informal venue, available through laptops, performing has particular challenges as a web-based and telepresent medium. ‘Bay Requiem’ artists should be admired for the range of possibilities they explored; giving a relatively unknown place in California, drama, history, and vitality, while expressing and evoking serious concerns with climate change. Winters’ video overlays also lent much to the piece. Evocative and stark, they provided a time-based history to the art, as they were all performed and shot earlier, then brought in semi-transparently over the “live” dance.

Broad use of the huge open landscape as backdrop by Haft had the remarkable effect of effortlessly blowing away the small screen such that fragile human scale ran consistently through the piece. The Shoreline took on an impersonal immensity and this had a profound result. The audience was drawn in to Hayward shoreline’s history and development as reserve into a wildlife preserve for jogging and nature walks as the setting for numerous small-scale dance scenarios in which freeway noise, bird life, the Bay; and a power plant became “set.”

The deft 360 degree video tour by Winters’ gave a proper visual context and Haft discussed her directorial process using basic scripts about “drought” and “flood” with the dancers who then constructed the duets and trios. Ultimately, the entire piece was a mix of movement, environment, voice, video, and site specific detail revealing much about water.

‘Bay Requiem’ in the context of the Symposium, was “news,” “activism,” and art, addressing local concerns. Winters’ poetic films somehow evoked the domestic work and prior drudgery of the salt industry which once occupied the location. Combinations of dancers performed for nearly two hours, and in each case Haft introduced the themes being responded to, framing for the audience the artistic intentions.
BAY REQUIEM: A WORK IN PROGRESS
Nina Haft & Ian Winters
Oakland, CA, USA

Location: Hayward Regional Shoreline nature center and marsh.

‘Bay Requiem’ is part of a long-term site-specific project addressing sea level rise around the San Francisco East Bay shoreline created by collaborators Mary Armentrout, Lauren Elder, Nina Haft and Ian Winters. Filmed, performed and presented in the Hayward Regional Shoreline, the telematic showing of the ‘Bay Requiem’ work in progress for the Waterwheel Symposium was the first public showing of one strand of ideas.

The performance material shown was choreographed as a series of site-specific improvisations by Nina Haft and her dancers, and Mary Armentrout. The visual and sonic material was structured for a Tap presentation by Ian Winters, and filmed by Winters, Elder and Haft. The work on the Tap consisted of pre-recorded video shots of the site at the time of the “King Tides” (when tides reached one of their highest points in years on San Francisco Bay). This was mixed on the Tap with live video of the site-specific performance, and mapping information / live chat about the site.

Fig.1 Still from the site.

For Haft, Bay Requiem started as a conversation about impermanence:

Our initial meetings were about king tides—the extreme high and low tides that happen twice a year, and which are often exaggerated by winter weather patterns. For example, the devastation of New York City by Hurricane Sandy revealed the potent alchemy of tides, storm surges and human modifications to the environment. Natural disasters are frequently the result of this kind of multiplier effect.

King tides offer us the opportunity to stand in the now while experiencing the future of sea level rise. Plainly put, king tides flood low-lying areas that someday will be underwater all the time. They help us jump cut across geological time to experience the consequences of our actions, and to perhaps (we hope) make different choices.

As artists, we know each other from our work in the theatre. I am a choreographer whose work is about place. Mary’s work offers reveries on presence. As a media artist, Ian is particularly interested in embodiment across real and mediated dimensions. Lauren’s work as an environmental and installation artist grapples with climate change in tactile, poetic.
forms. We share a sense of grief about what is already lost to climate change. We also share hope for the future. Our work together as artists is to transform future possibilities by asking questions that enable us to fully inhabit the now.

Our first site is the shoreline in Hayward, California where I work and teach. This location is an estuarial reserve on the coastline of the San Francisco Bay. Many of the dancers live, study or work nearby. All of our video was shot in this location, using similar points of view and framing choices. Our site is one of the largest uninterrupted stretches of coastline in the San Francisco Bay. It also carries historical significance as the outlet for the San Leandro Creek watershed. Here is where native Ohlone people foraged and fished. Later, European settlers built Eden Landing, a lively dockyard and market where large fishing vessels sold their daily catches. Before becoming a nature reserve this land was a salt farm.

Today, the Hayward shoreline is a park where people jog and walk and bicycle, next to the loud traffic coming on and off the San Mateo Bridge. Hayward residents who live near the shoreline do not live in luxury; this coastal land has evolved into the kind of industrial complex that occupies much of our waterways. On the other side of the reserve is a large power plant with several stacks of billowing smoke. Millions of people pass by this site every year. Few ever truly experience it. When the Hayward shoreline and downtown is underwater, the entire transit and energy infrastructure of the Bay Area will either adapt or die.

Our first creative research at our site was in January 2014 during winter king tides, when we shot video at and beyond the water’s edge. Avoiding the delicate grasslands and mudflats where plants, birds, insects and microbes struggle to survive, we decided to sketch an imaginary journey of “climate refugees,” people displaced by water but anchored by each other in community. These images capture some of the grief and hope we brought initially to our conversations; hence our title ‘Bay Requiem.’

Our presentation consisted of an open rehearsal of improvisational movement scores emerging from our collective questions about water. Our premise was that human bodies are in fact permeable, embedded in the coastal ecosystem. We are subject to the same forces, tidal and weather patterns, natural disasters and daily challenges to our resilience as are animals, vegetables and minerals. Our practice as movement artists is one of profound transcorporeality—of porous, interdependent and mutually organized existence with the larger body of the San Francisco Bay. By talking and moving together, we are re-membering our bodies as weather vanes. We are re-membering our places in the environment. We are re-membering how to be changed by the world around us, instead of only trying to control it.

As artists, we are developing improvisational scores that emerge from our conversations about:

– Predictability vs unpredictability—we don’t know when and how much water will come. This makes it hard to grow food, to feed ourselves and each other.
– Displacement—too much water or not enough of it forces us to migrate, adapt or die.
– Drought versus flood—what it is to have too much or not enough water? How do we hold that experience alone and together?

Each of these questions formed the parameters for our movement at the shoreline. For example, displacement became a task for one dancer to enact upon another, or respond to. Unpredictability was a way to disrupt
pattern, but also to charge a relationship, much the way that natural disasters galvanize our humanity for better and worse. We did not seek to represent these possible futures, but instead to experience them as agents. We believe this practice will cultivate our true power in this unfathomable situation of climate change. We also believe it will invite others to do the same.

Our presentation on the Waterwheel Tap revealed two things: 1) the difficulty of representing a tactile, bodily experience of a vast space in a primarily visual (video) mode; 2) the power of simultaneously being at a specific site in the past (pre-recording), present (live video) and future (sharing questions with a larger community).

We approached the Hayward Shoreline Interpretive Center, who are already finding innovative ways to talk with community members about climate change, and are eager to work with local artists in this endeavor. We are, thus, partnering with the Centre on our immersive performances at the site. We envision community potlucks and conversations, creative educational workshops for youth and adults, and more open rehearsals.

![Screen capture from the post-performance chat.](image)

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**BIOGRAPHIES**

**Nina Haft & Company** is an Oakland-based contemporary dance group. Taking a “live cinema” approach to directing, we integrate movement, sound, light and space into evocative works that foster a deep understanding of place.

**Ian Winters** is an award winning video & media artist working at the intersections of performance, architectural form, and time-based media. In addition to individual work he often collaborates with composers, directors, and choreographers to create both staged and open-ended media environments through performance, visual and acoustic media.

**THE TEAM**

Dancers: Josie Alvite, Mary Armentrout, Jessi Barber, Rebecca Chun, Melanie Cutchon, Chris Gallegos, Jasmine Yohai.

Direction: Nina Haft

Video and Media Design: Ian Winters

Camera: Ian Winters, Nina Haft, Lauren Elder
LINKS

For more info: nohaft@gmail.com

http://ninahaftandcompany.wordpress.com

http://www.ianwinters.com/bay-requiem/

Screen recordings of the Tap presentation intro, & performance excerpt:
http://water-wheel.net/media_items/view/4861
http://water-wheel.net/media_items/view/4862
PERFORMANCE CONNECTIVITY & RESEARCH – OVERVIEW
by Alberto Vazquez

‘Speak 4.0/LIQUID’ by Alejandra Ceriani, Fabricio Costa Aicedo, Javiera Sanz and Fabián Kesler, from Buenos Aires, Argentina.

This original performance not only realized the aesthetic interaction between machines and man—using MOLDEO, created by Fabrizio, where movements generated by Alejandra (the dancer) together with the sounds generated by Fabian (the musician), produced images of the projection that fed back movements and sounds in a beautiful co-creation—but they went further by involving the audience, who via android smart phones could change the projected images.

So, who modified what to whom? Space and time, a new dimension, passive (audience) and active (performers) are part of a whole, a true and inclusive co-creation.

The authors’ description is very clear:

Through the proposed interface, the ‘Speak 4.0/LIQUID’ installation will be broadcast live via Waterwheel. The facility may be operated by other devices connected to the network (Tablets and Smartphones) through tangible interfaces protocol: TUIO (TuioDroid for android systems TuioPad for iOS systems). These touch devices, by simply pointing to an Internet address, can take over the installation, affecting the image and sound. Also, the Waterwheel platform was treated within Moldeo as a picture, and the resulting image incorporated within the installation.

‘Speak 4.0/LIQUID,’ in which the Internet is used as a living tissue capable of transmuting from a remote part of the world, is set to be created in real time in Buenos Aires. We let go of our creation and we travel through Waterwheel to other users involved and contributing to this dialogue that new communications technologies allow us. A work that is diluted and filtered in launching a global network signal from one geographical area to flow into the digital space and convene the interested community to contribute to the final result of the work as a continuous development process. In other words ‘Speak Liquid’ is configured as a version of the performance that conforms not only through formal processes produced by its members, but also through the contributions that sensitive Waterwheel users can make in a dynamic co-creation process.
Creative processes mediated by new digital technologies give rise to wide-ranging research on the interaction between languages of different disciplines. Works are created that involve professionals from various fields, including performers/dancers, programmers, artists, musicians and, generally those artists in different locations who have met to create complex interdisciplinary pieces.

The artists involved in ‘Speak,’ who are from different disciplines and backgrounds, have come together on such a premise. With performance as a means of expression, complemented by the use of new technologies, they focused on performing works that highlighted perceptual, sensory experiences and reciprocity. The use of technological devices was part of the communication process used by the artists, combining image, sound and performance.

The use of these technological devices was part of the research and development of the communication processes. Our aim was to create environments and moods that would allow new communication models to be explored, where body expression and processing in real time could meet, while at the same time entering into dialogue with the pictures and sound.

The proposed interface, the ‘Speak’ installation, was broadcast live on the Waterwheel platform.

The installation could be operated by other devices connected to the internet network, such as tablets and smartphones through the tangible interface protocol: TUIO (TuioDroid for Android systems TuioPad for iOS systems).

Using Moldeo for the visuals, an interactive multimedia software and platform for real time/live audio-visual interactive performance, and Max MSP to build the interactive sound and music system, the ‘Speak’ installation was available to be taken over by “touch” devices simply by pointing them to an internet address, from where they could interact with the image and sound installation.

The music was specially composed with different kinds of water sounds and various sound processes, which either made the end result more natural, more experimental or more pop sounding according to how the people interacted with the original music played and generated by ‘Speak’ over the internet. The TUIO messages both played and modified the sounds randomly such that this version of ‘Speak’ could be thought of as a virtual multimedia, live world jam.

The sound was broadcast in real-time by MP3 160 KB streaming. The instruments-sensors were based on joysticks, smartphones and keyboards that were built by Fabian Kesler.

From this perspective, the ‘Speak Liquid’ version was configured. The Internet was used as a living tissue capable of transmitting remotely what
was being created in real-time in Buenos Aires. Our creation was thus “freed,” allowing it to travel through the Waterwheel platform to other users, who could then contribute to the interactive, digital dialogue. A signal was launched from a geographical area into digital space, as it encountered the interested community they could contribute to the work in progress. In other words ‘Speak Liquid’ was configured as a version of the performance, which was created not only by the processes of its formal members, but also by contributions that Waterwheel users could make, in this way establishing a dynamic process of co-creation.

Multimedia Technical Specifications

![Image of technical setup]

**Fig.1** Technical set up of the performance.

**A – Laptop running Moldeo**

Moldeo carries out the following processes:

1. Sensing the image, body position and movements of the performer. This is done through the Kinect sensor, where image and movement are processed, thereby having an effect on the visuals of the Moldeo canvas.
2. Receiving TUIO signals from the audience (C)
3. Mixing the image of the Waterwheel platform.

Moldeo has an integrated chrome browser that can render a Moldeo texture. In this way, any webpage can be shown, including the Waterwheel platform. We experimented the integration of Waterwheel with Moldeo. Moldeo had its own “crew user” to connect to the Waterwheel platform, enabling and disabling layers from the Waterwheel platform.

4. Display the Moldeo canvas on the screen wall. This was done through the 2800 ansi lumens projector.

**B – Laptop running Waterwheel**

Waterwheel is the online platform that streams the webcam signal. The information to connect via TuioDroid or TuioPad was available on the Waterwheel end of the platform, in the top left-hand corner, as shown in the picture below (Fig. 2).

**C – Sound and music**

The water sounds were created and processed from scratch, and interacted with TUIO messages sent by audience members, so the final result was a mix of both, generating a kind of remote digital jam. Following, is the Max MSP template specially created for this event (Fig. 4).
D – Performers using TUIO applications

Audience members of the Waterwheel tap with an iOS or Android smartphones or tablets were able to interact with the visuals of the live performance through the internet. To do this, they had to install a simple free open source application and configure it with the IP displayed on the stage. For iOS devices, such as iPad or iPhones, an application called TuioPad was available for free.

![Screen capture of the performance on Waterwheel Tap.](image1)

![Mixing of Waterwheel layers onto Moldeo through Moldeo chrome plugin, so the performer could interact with the crew on the Waterwheel platform creating the drawings.](image2)

**Fig.2**  Screen capture of the performance on Waterwheel Tap.

**Fig.3**  Mixing of Waterwheel layers onto Moldeo through Moldeo chrome plugin, so the performer could interact with the crew on the Waterwheel platform creating the drawings.

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**BIOGRAPHIES**

**ALEJANDRA CERIANI** graduated from the Faculty of Fine Arts, UNLP with the titles of Professor and Bachelor of Fine Arts and Ceramics Painting orientation. She has a Masters degree in Aesthetics and Art Theory. She conducts Teaching and Research (category III), and currently has a scholarship from the UNLP to study the interrelationships between the disciplines of the body and new technological mediations. She is working on interactive installations with optical motion capture, including the ‘Hoseo Project’ (05–13) and the ‘Speak’ Project (07–14). She is also working on the ‘Webcamdanza’ Video Dance Project, delivering seminars and participating in presentations and publications across media. Alejandra coordinates the dance series ‘En2Tiempos’ for the pro-secretariat of Arts & Culture, UNLP (10–13).
FABRIZIO COSTA graduated from the Faculty of UBA in having completed Computer Science, Mathematics and Physical Sciences courses, specializing in the area of Computer Graphics. His work is related to audiovisual systems-programming and graphic design, dedicated to parallel processes. He started Multimedia Arts in 2002 to develop their own digital animation software to be operated mixing live video and 3D animation, which was to become the cornerstone of his work and the basis for directing digital art installations and live visual performances.

Fig.4 Sound set up on Max MSP by Fabian Kesler.

FABIÁN KESLER has a degree in electroacoustic composition. He is a composer and sound designer, and a teacher of artistic technique in different disciplines and for different ages. He is a keyboard player, multimedia artist, video editor and designer of interactive templates and sensors. He received a scholarship from the Ministry of Culture, Spain, and a group grant as a team member of Prodanza to work on the book ‘Speak.’ He has been selected by the Argentinian Chancery to host and finance their participation with the SPEAK group Digital Body Festival in Bolivia. He has been part of performances and seminars on art and technology in different Latin American countries (Chile, Bolivia, Uruguay, Ecuador) and in Europe (Cuenca, Spain). His works have been played, edited and acknowledged in America, Europe and Asia.

Javiera Sáez Mansilla (Ma) studied Art History at the International University SEK based in Santiago de Chile, graduating in 2009, after conducting her thesis research on the challenges museological processes involving the inclusion of new technologies in the artistic development. Later she moved to Buenos Aires where she has focused on both theoretical exploration and practice of interactions between art and technology, mainly linked to the paradigm of open source highlighted by her training in Moldeo software, and low tech electronics. She is cucking on developing a new version of Moldeo, in charge of the training and dissemination of the software.

REFERENCES & LINKS
[4] Moldeo, an interactive multimedia software and platform for real
TuioPad is an opensource application available in the Apple Store. Check https://itunes.apple.com/us/app/tuiopad/id412446962


Versión Española

S P E A K 4.0 / LIQUIDO [1]
Alejandra Ceriani [2], Fabián Kesler [3], Fabricio Costa Alisedo [4], Javiera Saez Mansilla [5]
La Plata, Argentina

“Debería existir una pintura totalmente libre de la dependencia de la figura- el objeto que- como la música, no cuenta nada, no lanza una historia, no cuenta un mito. Esa pintura se contenta con evocar los reinos incomunicables del espíritu, donde el sueño se convierte en pensamiento, donde el trazo se convierte en existencia.” - Michel Seuphor

Los procesos creativos mediados por las nuevas tecnologías digitales promueven un amplio campo de investigación sobre las prácticas y procedimientos de interacción entre lenguajes de diferentes disciplinas, las que confluyen para generar obras en las que intervienen profesionales de diversas áreas, performers/bailarines, artistas, programadores, músicos y en general artistas de distintas esferas los cuales se conectan para crear piezas complejas producto de los cruces interdisciplinarios.

Es así como en ‘Speak’ confluimos artistas de diferentes formaciones que a través de la performance, como medio de expresión complementada con el uso de nuevas tecnologías, nos enfocamos en realizar trabajos que se centran en la experiencia perceptiva, sensorial y de reciprocidad. El uso de dispositivos tecnológicos se ve justificado por los procesos comunicativos artísticos que conjugan imagen, sonido y performance.

En otras palabras, es importante recalcar que el uso de estos dispositivos tecnológicos se ve justificada por los procesos investigativos y comunicacionales que desarrollamos en torno a su uso,
a través del cual aspiramos a crear los ambientes y atmósferas que permitan la exploración de nuevos modelos comunicativos en donde se conjugan la expresión del cuerpo y su procesamiento en tiempo real, a la vez que éste dialoga con la imagen y el sonido.

A través de la interfaez que propone Waterwheel se transmitirá en vivo la instalación de ‘Speak.’

La instalación fue intervenida por otros dispositivos conectados a la red como “Tablets y Smartphones” mediados por el protocolo de interfaces tangibles: TUIO (TuioDroid para sistemas android, TuioPad para sistemas iOS).

Gracias al software Moldeo, un software y una plataforma para el desarrollo de instalaciones multimedia interactivas y a Max MSP para construir el sistema interactivo de música y sonido, la instalación interactiva ‘Speak’ estuvo abierta al público asistente en red para ser intervenida por estos dispositivos “touch” con simplemente apuntarlos a una dirección de internet, afectando la imagen y el sonido de la instalación.

La música de esta versión fue compuesta especialmente con diferentes clases de sonidos acústicos con varios procesos sonoros, generando una resultante más naturalista, más experimental o más pop de acuerdo a como la gente interactúa sobre Internet con la música original tocada y generada por ‘Speak’. Los mensajes TUIO generan y modifican el sonido de forma aleatoria entonces esta versión de ‘Speak’ se pensó como una improvisación mundial multimedia por presencia virtual.

El sonido se transmitió por un “streaming” de sonido mp3 160KB en tiempo real, y se tocaron instrumentos-sensores creados a partir de joysticks, celulares y teclados por Fabian Kesler.

Es bajo esta mirada que se configura la versión ‘Speak Líquido’ en donde se utiliza la red de Internet como un tejido vivo capaz de transmutar desde un punto remoto del mundo lo que se fue creando en tiempo real en Buenos Aires. Nos desprendimos de nuestra creación y la dejamos viajar a través de Waterwheel para que otros usuarios la intervengan y aporten a este diálogo digital interactivito. Una obra que se diluya y se filtre en la red mundial lanzando una señal desde un espacio geográfico para fluir hacia el espacio digital y convocar a la comunidad interesada que aporto al resultado final de la obra como un proceso en permanente desarrollo. En otras palabras ‘Speak Líquido’ se configuró como una versión de la performance conformada no solo a través de los procesos producidos por sus performances activos y presenciales, sino también a través de los aportes sensibles que pudieron ofrecer los usuarios de Waterwheel en un proceso dinámico de co-creación.

**Fig.6 Captura de pantalla ‘SPEAK 4.0 / LIQUIDO’**

**REFERENCIAS Y LINKS**

Por favor consulte la versión en Inglés de arriba.
A grey bay in south Melbourne; a fishing boat in deeper harbour overseas. Red fingernails folding paper boats, pushed across shallows: a different paper boat folded against a coiled rope on the edge of the boat, a different sea. Whirls and eddies, a merging of submergences; long hair, rope coils, red dresses, green seas.

‘Ocean Synapse’ was a glorious affirmation of the online interactive capability offered by the Waterwheel. Sarah Jane Pell and Benjamin Burke uploaded their respective performance videos/documents and let play what will. Remarkable synchronicities of colours, gestures and symbols occurred.

Pell had constructed a performance involving three women, red dresses, small red paper boats, and dives below water. Burke gets onto a fishing boat and tapes what happens, in cabin and on deck. Jumpers and compasses; edges and waves. Above and below.

The huge potential for poetry to occur in the interactions is illustrated in the audience comments, logged as follows:

LCE: These are really lovely images
ZS: ...hair like a mermaid’s
ZS: And the fisherman?
A: no fisherman, Sarah and [R] are lovers..
ZS: paper boat upside down becomes a hat and a yoni...

The timelessness of readiness, of chance. Here, the continuity of camerawork, taking it all in, lets things happen. I lament how intentional “documents” miss capturing significant events: “I’ve eaten leaves and soil during performances and always wished someone had caught it on video.” In such an event as Waterwheel provides, asynchronous events come into sync in surprising ways, reminding us of the deep interconnectedness between us and within water, and especially, despite our usual editing processes. Pell and Burke agreed to “meet” online and see what happened. It is clear the delight was both theirs and ours.
Abstract

By 2040, all systems collide: information transfers through liquids—oceans and gases—as a ubiquitous mainframe supporting all life and intelligence. We see our planet like a brain with two hemispheres supporting one body. The ocean therefore supports synapse pathways of many bodies in drift. ‘Ocean Synapse’ is a media performance philosophy-in-action event that occurs between two networked artists located in Melbourne and San Francisco. Trans-hemisphere exchange is enabled by digital technologies and historical counterparts and fused with the aesthetics of maritime and ocean lore. The purpose is to critique philosophical and technological convergence phenomena. We exploit poetic formats and a fictional design approach as a research tactic.

We artists exchange a flurry of white paper vessels, representing the day to day deluge of information exchanged between people and neurons alike, until they each decide to share something deeper, more personal and sacred, represented by red paper vessels which they extract from their pockets and mouths and send across the ocean, as they disappear from one screen and appear on the other, having seemingly traversed the great expanse between the players. Finally, both performers submerge themselves completely in this fluid expanse, which connects them, where a final ritual of convergence takes place.

‘Ocean Synapse’ is presented as a live(d) media performance. The audience engages with a series of camera views: 1 x southern hemisphere, 1 x northern hemisphere, and 2 x artist-cams. They contribute digital origami messages and see synapse pathways in real-time on a digital sextant. A literal and poetic performance system comprising of multiple bodies in drift, each body is a vessel containing a message deep within. The significance of the contribution is the poetic framework: a fluid examining of convergence phenomena as flow and its impact across all bodies: ecological, biological, and technological.

Introduction

This paper discusses an experimental performance—‘Ocean Synapse’—which was developed through a process of fluid fictional creative writing exchange between the two authors, and their real-life professional musing over their respective hybrid experimental arts practices and love for the ocean. This paper contributes insights into the technical manifesto or “terms of engagement” developed by the authors, and explores the significance of the poetic framework that continues to guide and examine the convergence phenomena. We will argue that by exploiting post-Heideggerian concepts of bodies in drift (Kroker, 2012, 2013; Pell 2013). Both literally and poetically, Pell and Burke examine approaches to performance with water that may point to the necessity of technology to adapt to us and not the other way around. As the exchange was manifested as two short films, we refer also to the supplementary video documenting the performance of ‘Ocean Synapse.’ While conceived in collaboration, the two short films were creatively developed, performed and produced independently. We see therefore the documentation as a significant outcome of the performance-as-research approach that promotes further discussion and evaluation. The first time the authors saw or heard the final piece was when it premiered live as a media performance for the World Water Day Symposium session on “communication towards collective goals, plans, values and dreams of...
governance & stewardship of water for all” on March 21, 2014. The Waterwheel online media broadcast platform enabled the authors to collaborate from two locations, and to present their ideas side-by-side in tandem to a single audio track. Burke and his crew performed in Oakland, US and Pell and her crew performed in Melbourne, AU.

A speculative fiction to critique convergence phenomena and imagine futures

The genre of speculative fiction reflects the monstrous and marvelous imaginings we have for the future: by highlighting firstly, the people, gadgets and environmental phenomena easily reflected or understood in present-day reality, and then by narrative strategies to engage the audience in constructing various possible futures (Heinlein, 1947; Urbanski, 2007). We employ this art form as a strategy for a compelling critique of socio-technological-becoming through the performance and theatricality of an ultrafiction. It is in this state that we see humans someday being able to connect, not just in our current state of hyper-stimulation, but also in this medium of water, which carries sound, bends light and possibly allows for transfer of other forms of energy, and of which science has yet to discover (Pell, 2013). In other words, we imagine a future ocean as the modern-day-equivalent of the Internet of things.

We relate to water as an immersive field for human play, one which even frees us from gravity itself; an outer environment which mimics our inner environment, one in which we seem to almost disappear, where the lines between the conscious and unconscious become blurred (Pell & Burke, 2014). We think of humans most natural state as that of unencumbered play and posit that current technology more often restricts human movements and expressions than it sets them free (Pell & Mueller, 2013). If we understand that the “tool” of a civilized animal (differentiating human evolution from other species) is the symbol and self-consciousness of representative language (Mumford, 1971; 2010), we further note that language itself poses restriction on the expression of our thoughts and feelings. The oceanic environment is the antithesis of this: it is a hydrous, free, immersive and expressive state. The performativity of the oceanic body parallels the performativity of the social and bio-political body of the performers. We therefore choose the ocean as a ubiquitous tool for connecting with each other across hemispheres, states and time zones—as a metaphor and a burgeoning disruptive technology that reflects our current materialization of environment and culture.

'Ocean Synapse': a trans-hemisphere performance

The broad philosophical aims of this research project was to use trans-hemispherical media performance to develop and design tools that build capacity for sustainable wellbeing; to architect new systems for bodies in drift (Kroker, 2012); supporting peak states of flow leading to new paradigms that contribute a responsible environmental and cultural custodianship of complex dynamic forms of life including our own; and to finally enliven our senses to the natural world, to enhance our ability to adapt and ensure sustainability.

We assumed that the Ocean was not only a metaphor and point of departure or reference to “other things,” that is, in and of it’s own, a vital medium, indeed the elixir of life. The ocean is contained within us, and our bodies, as much as we can be contained within an ocean on literal and metaphorical levels. We proposed that a trans-hemispherical exchange could be enabled by digital technologies and historical counterparts and fused with the aesthetics of maritime and ocean lore to critique philosophical and technological convergence phenomena, if we exploited poetic formats and a fictional design approach as a research tactic (Donawerth, 1997) and form of creative activism (Dunne & Raby, 2012).

The adopted approach combined Burke’s use of spent technology design aesthetics and classical story telling through performance poetry with Pell’s cinematic and aquatic performing arts. Each of the artist/authors developed their contribution to the collaborative performance using the tools, techniques and crews of their respective performance expertise. Pell and Burke’s communication and co-creation from opposite sides of the globe mimics that of the characters in the film. Both parties are attempting to hone in on something intangible, some expression of internal human
experience, through the use of external devices. The final resulting short films can be viewed as experimental modes of speculative design or cinematic world building, although that was less of a conscious directive, and more of a tactical resolve to exploit our art, as an expression of the post-Heideggerian bodies in drift and ourselves (Kroker, 2013), searching for connection, and meaning through the love of ocean.

First Movement: Awakening

**Aim**: Exchange a flurry of white paper vessels from one side of the Pacific Ocean to the other.

**Rationale**: Represent the day-to-day deluge of information exchanged between people and neurons alike—use white and business corporate references, and a symbol of peace and purity.

**Interpretation**: Pell exploited motifs of feminine intuition as a tactic response to the day-to-day exchange of information. She employed an actress, an artist and an aerialist to join her on the beach in the Southern Hemisphere. Each participant was guided in a series of playful and imaginative scenarios. Pell did not script or direct, instead she encouraged the possibility of awakening a bodily awareness to perform within the speculative reality of another imagined world. Pell asked each woman to explore sensorial modes of seeing, hearing, smelling and feeling the ocean. Costumed in timeless flesh-coloured dresses, the first movement reveals the characters adopting the possibility of an ocean voice, and curiously exploring the notion that the ocean might be a conduit for transmitting dreams and desires. They begin to ceremonially send and receive white paper boats, by first folding them on their bodies, drawing from their imaginations and bodily outlines, and sending them forthwith with kisses and well wishes.

Scenes from the Northern Hemisphere show Burke on his boat and marina. His character uses unwieldy technology properties employed purposefully in invention. Clumsy bits of marine hardware, vintage phonographs and tinker man gadgetry are being tested with the aim to communicate with subjects on the other side of the world through the seas. We also see Burke using various contraptions to listen for signs of a reply via hydrophones in the water. The first movement follows Burke and a fellow sailor, as they venture beyond these inadequate devices, scene by scene, favoring more intuitive instruments.

**Discussion**: The two approaches to performance in the different geographic hemispheres begin to reflect the themes of every dichotomy and complementary opposite: none more so than the analogy to the two hemispheres of the biological brain. By virtue of the choices in materiality, employment of crews, locations, props and costuming, the exchange between Pell and Burke also becomes very gendered, and yet parallel. The symbolic motifs of the vessel, the body, the sensorial technology and desire for communication beyond the self are clearly established.

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**Fig.1** Video Stills of x2 companion video art pieces to the short film ‘Ocean Synapse’ (2014) by TED Fellows Sarah Jane Pell (AU) and Benjamin Burke (US). Movement 1 ‘Awakening,’ World Water Day Symposium, live Waterwheel event 2014.
Second Movement: Discovering

**Aim and Rationale:** Send paper boats between two hemispheres. Red boats are introduced. Signals are received. The color of the boats changes from white to red during the performance, denoting this shift in communication towards something sacred, intimate and shared.

**Interpretation:** Pell’s three muses receive a flurry of white paper boats, and the occasional strikingly red boat from across the seas. Emboldened and excited, they switch to red dresses, diving in, dancing calling out, and sending a fury of sensuously folded red boats in reply. Burke painstakingly continues to fold a typed letter to send via quasi-nautical contraption when a possible signal of reply is detected. The sailor’s machines are abandoned for musical instruments; the ship is abandoned for blue sky, until finally even language itself is abandoned in favor of the act of creation in the form of paper origami boats placed in the water.

![Image](image.png)

**Fig.2 Video Stills of x2 companion video art pieces to the short film ‘Ocean Synapse (2014) by TED Fellows: Sarah Jane Pell (AU) and Benjamin Burke (US). Movement 2 ‘Discovering,’ World Water Day Symposium, live Waterwheel event 2014.**

**Discussion:** In spite of the constraints imposed upon sincere expression and communication by many global communications technologies, the characters scramble to share something at once intangible and imperative. Both performances coincidently show underwater cameras and boats coming into, and out of, frames at the same time. There is an exchange and an increase in urgency and emotion; there is the discovery of possibility and the enchantment of a reply.

Third Movement: Connecting

**Aim and Rationale:** Both performers submerge themselves completely in this fluid expanse that connects them, giving themselves up to the world rather than simply manipulating it. This process, from simply thinking to simply feeling, is referred to in some circles as “the two-foot drop,” a reference to the distance traveled between the brain and the heart.

**Interpretation:** Pell enters the ocean at twilight. As the sun sets, a device over her heart dress begins to glow. She receives, and gently sends, paper boats before going ashore to eat a sea-logged hand-written origami boat as if being nourished by the message it carries. In part, the gesture of this character is one of desire, instinct, and openness and yet equally, it alludes to irrationality and glut. Once filled, Pell is serene and yet powerful. She begins a prayerful gesture of salute and dance in the bay—offering herself to the seas and a final poetic conjuring of the ocean synapse. Footage in the northern hemisphere shows Burke acting on his discovery. We see him leaving the sanctuary of his known material-mental world in order to make the connection by “taking the drop.” The film culminates in the pair sending “themselves” across the sea and towards their target in a small rowboat, with a red umbrella upon the wind as their guide.
Conclusion

The trans-hemispherical experimental performance ‘Ocean Synapse’ contributes to a critique on the implications of convergence phenomena and bodies in drift. The aesthetics, poetics and technics (human use of technologies) of filmic speculative fiction are used as a tool to promote responsible environmental and cultural custodianship of complex dynamic forms of life including our own, and to enliven our senses to the natural world, to enhance our ability to adapt and ensure sustainability. In conclusion, we note the practice-based-performance outcomes are intuitive and poetic, not scientific. Academic and interrogative aesthetical analysis at this point would not be useful or desirable. Instead, the filmic artifact culminates towards a live manifesto exploring Kroker’s observations of current convergent phenomena and our reflective evolution as “bodies in drift.”

Fig.3  Video Stills of x2 companion video art pieces to the short film ‘Ocean Synapse’ (2014) by TED Fellows: Sarah Jane Pell (AU) and Benjamin Burke (US). Movement 3 ‘Connecting,’ World Water Day Symposium, live Waterwheel event 2014.

ACKNOWLEDGEMENTS

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AUTHOR BIOGRAPHIES

Dr. Sarah Jane Pell—Aquabatics Principal (AU)
Sarah Jane Pell’s practice intersects performing arts, interactivity design, and underwater diving—with parallel interests in human spaceflight and habitat technologies. Her PhD Visual Arts proposing “Aquabatics as new works of live art” ignited her inner explorer. She logged over 500 hours commercial dives in zero visibility imagining an artist-in-space experience. An International Space University and Singularity University, NASA Ames Alumna, Pell’s work is exhibited, performed and published widely. She serves Standards Australia Occupational Diving Committee, Co-Chair, European Space Agency Topical Team Arts & Science, Senior Space Arts Consultant, Icarus Interstellar, Atlantica Expeditions Aquanaut Crew and is a TED Fellow.

Benjamin Burke—Ramshackle Polymath (US)
Ben Burke is a writer, director, performer, puppeteer, designer and fabricator based in Oakland, California. His work, usually manifested as stories, poems, performances or junk-automata, explores the unexpected and the unknown, using the inherent tools and insights of mythological stories and scientific discovery. Fond of collaboration and uncharted territories, he has produced and performed over 200 theatrical events, from operatic rock n roll and spoken word to junkyard variety shows and an abstract musical aboard art-rafts in Venice, Italy. He co-founded both the Stars & Garters Theatre Company and Apocalypse Puppet Theater and is a TED Fellow.
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ENVISIONING, PERFORMANCE AND POETIC DESIGN AS RESEARCH APPROACH TO PREDICT FUTURE CONVERGENCE BETWEEN BODIES, TECHNOLOGIES AND WATER

Sarah Jane Pell, Benjamin Burke
TED Fellows - Melbourne, Australia & Oakland, United States

Abstract
Through the lens of envisioning, design fiction, performing arts and creative writing, we examine these frameworks as a research approach to explore current trends and predict future convergence between bodies, technologies and water. We focus on a new work titled ‘Ocean Synapse’—a media performance philosophy-in-action event that occurs between two networked artists located in Melbourne (AU) and San Francisco (US). Trans-hemisphere exchange is enabled by digital technologies and historical counterparts and fused with the aesthetics of maritime and ocean lore. By exploiting poetic formats and a fictional design approach as a research tactic, it is proposed that the work embraces flow and its impact across all bodies: ecological, biological, and technological. Building upon the premise of the ritual performance that by 2040, all systems collide: information transfers through liquids—oceans and gases—as a ubiquitous mainframe supporting all life and intelligence. We see our planet like a brain with two hemispheres supporting one body. The ocean therefore supports synapse pathways of many bodies in drift, we dive in, to critique the research approach, highlight the significance of the outcomes and contribute an understanding of the philosophical and technological convergence phenomena.

Background
‘Ocean Synapse’ premiered as a live stream media performance via the online Waterwheel platform for the World Water Day Symposium on March 21, 2014. The two authors/artists were located in opposite hemispheres. Pell performed live from Melbourne, Australia and Burke from New York, United States. Preliminary filming occurred in Oakland, California and Port Phillip Bay, Victoria across the Pacific Ocean. Maestro and virtuoso Usman Riaz scored the short film in May 2014.

The lens of envisioning and design fiction
In the vein of scenario building of science-fiction or film noir reality, we begin to engage with this performance as research with the premise that “by 2040, all systems collide: information transfers through liquids—oceans and gases—as a ubiquitous mainframe supporting all life and intelligence. We see our planet like a brain with two hemispheres supporting one body. The ocean becomes the medium supporting the synapse pathway of multiple concurrent bodies in drift” (Pell & Burke, 2014). In this paper, we attempt to show that the lens of envisioning and design fiction is a valid poetic tool for the exploration of interactions that test psychological habitability (Peldzus, Dalke & Welsh, 2010) of one possible reality. The scope of our discussions introduces the provocation, the production and performance and the poetry resulting from the convergence of bodies, technologies and water. In our narrative ‘Ocean Synapse,’ we see water, a natural element that clearly connects us all physiologically (Pell & Mueller, 2013), as the best possible medium for future technology to connect us cognitively. We do not address the direct implications of the research-in-the-world, nor provide analytical data resulting from audience or participant engagements beyond the research-in-action ethnography and our own experience-centred interaction and performance within this fictional scenario. Our contribution to research understands the implications of speculative design, and by designing artefacts and scenarios, the creation of the fictionalised interactions in a public space,
tests our values. In this case, we research through a filmic scenario forecasting emerging technologies and systems for convergence between the human and environment. In the words of Albert Einstein, “There is no place in this new kind of physics both for the field and the matter, for the Field is the only reality.”

Inspired by the recent manifesto ‘Speculative Everything’ (Dunne & Raby, 2013), we note that increasingly authors are surveying a range of ideas, ideals and approaches from cinematic arts to the philosophy of technology, to intentionally frame in idiosyncratic and eclectic reference for practice-based-designers. By seeking to disrupt a general discussion of what the field of conceptual design might be, the methodological playground of envisioning, performance and poetic design can be expanded to stimulate and inspire new convergences of futurology and speculative design.

We highlight both the beauty of a world interconnected through technology and the clumsy, unnatural methods by which that interconnectivity is achieved. We use poetic metaphors including the vessel or boat, in this case the origami paper boat as a form of letter or message in a bottle equivalent, and mystical ocean sirens magical call to sailors.

![Fig.1 Video Stills of x2 companion video art pieces to the short film ‘Ocean Synapse’ (2014) by TED Fellows Sarah Jane Pell (AU) and Benjamin Burke (US). Movement 1 Awakening, 2 Discovering, and 3 Connecting, World Water Day Symposium, live Waterwheel event 2014.](image)

**Art predicting future convergence between bodies, technologies and water**

Current convergences in art and science research are grappling to understand and critique a per/forming of post-human lives let alone address the question of what it is like to embody and communicate the experience. We see this challenge arising in cutting-edge biotechnology and the arts i.e., exploring the instrumentalisation of life (Catts & Zurr 2012; 2013; Armstrong, 2009, 2012); research on communication of, and with, natural systems data i.e., bio-acoustic mapping (Woo et al., 2005; Helyer & Varenese, 2009); hybrid digital-biological systems i.e., tools for living systems to communicate (van Eke & Lemmers, 2013); and investigations into signs of life (Zurr, 2012; Van den Hengel, 2012; Armstrong & Spiller, 2012) for example.

To address this issue, we employ poetic performance to critique and embody convergence phenomena. Our performance with the ocean is used to reflect that ways we interact with natural and human systems are vastly different to preceding generations. We seek to reinforce the message, that through our poetry and curiosity, we remember the way nature speaks to us. While current forms of communication, energy transfer and resource management, travel and habitation are being sold to us as “faster, smarter, and cheaper” than ever before; this scenario suggests that the ocean literally has a voice and demands that we listen. The implication of the narrative explains that as
technologies advance, humans are de-sensitising to the complexities of language and communication of natural and human systems, and therefore risk failure to adapt to a changing environment.

Poetic Discussion

This project employs human performance and poetics as a tool, to create an unreasonable solution to heighten the instinctually performative nature of bodies in and as natural systems. Bodies represent the mystery of existence itself. In short, human bodies comprise water and stardust. To understand bodies of water is therefore to understand us. The allure of an ocean like that of space extends well beyond the desire to seek novel life and explore new phenomena; it is our source and wellspring of life. Beneath all the complexity that bodies of water entail lays the humbling reflection of our human connection, and the remarkability of Gaia Earth. To understand space-faring bodies is also to understand us. In the great quest for understanding many unanswered questions of life we turn to grand experiments, missions of exploration, and expertise to create, design and build, the tools, instruments and systems that make it possible to acquire new knowledge about the physical, biological and cultural worlds. This knowledge exists in bodies—bodies in drift—between hemispheres, and in flow.

We muse “broad celestial currents, flows and cycles of energy and matter are dynamic and evolving over time. While humans have proven to be a highly adaptive and resilient species by syncopating with the frequencies of natural systems on Earth, there is increasing evidence of discordance between us. The amplitude between the phases of the human and environment increases as we move away from the natural and towards the technical worlds, and so these bodies separate. Depression and anxiety, disease and deficit disorder and infertility, congestion and asphyxiation are symptoms shared by all bodies: human, oceanic and celestial, and therefore indicating that the current technological trajectory is unsustainable without radical harmonization” (Pell & Burke, 2014).

Performance Development

We refer to the performance development in the companion paper: ‘Ocean Synapse: A transhemisphere performance exploring convergence phenomena as bodies in drift.’ This paper outlines, that while conceived in collaboration, the two short films were creatively developed, performed and produced independently. The Waterwheel online media broadcast platform enabled the authors to collaborate from two locations, and to present their ideas side-by-side in tandem to a single audio track. Burke and his crew performed in Oakland, US and Pell and her crew performed in Melbourne, AU. The first time the authors saw or heard the final piece was when it premiered live as a media performance for the World Water Day Symposium session on “communication towards collective goals, plans, values and dreams of governance & stewardship of water for all” March 21, 2014. The live-engagement and the documentation are seen as equally significant outcomes of the performance-as-research approach, and furthermore promote discussion and evaluation.

Indeed, we concluded the performance engagement, and our correspondence, with the following postscript: “In conclusion, we note the practice-based-performance outcomes are intuitive and poetic, not scientific. Academic and interrogative aesthetical analysis at this point would not be useful or desirable. Instead, the artefact culminates towards a live manifesto exploring bodies in drift” (Pell & Burke, 2014). There is still much to be done.

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AUTHOR BIOGRAPHIES

Dr. Sarah Jane Pell—Aquabatics Principal (AU)

Sarah Jane Pell’s practice intersects performing arts, interactivity design, and underwater diving—with parallel interests in human spaceflight and habitat technologies. Her PhD Visual Arts proposing ‘Aquabatics as new works of live art’ ignited her inner explorer. She logged over 500 hours of commercial dives in zero visibility imagining an artist-in-space experience. An International Space University and Singularity University, NASA Ames Alumna, Pell’s work is exhibited, performed and published widely. She serves Standards Australia Occupational Diving Committee, Co-Chair, European Space Agency Topical Team Arts & Science, Senior Space Arts Consultant, Icarus Interstellar, Atlantica Expeditions Aquanaut Crew, and is a TED Fellow.

Benjamin Burke—Ramshackle Polymath (US)

Ben Burke is a writer, director, performer, puppeteer, designer and fabricator based in Oakland, California. His work, usually manifested as stories, poems, performances or junk-automata, explores the unexpected and the unknown, using the inherent tools and insights of mythological stories and scientific discovery. Fond of collaboration and uncharted territories, he has produced and performed over 200 theatrical events, from operatic rock n roll and spoken word to junkyard variety shows and an abstract musical aboard art-rafts in Venice, Italy. He cofounded both the Stars & Garters Theatre Company and Apocalypse Puppet Theater, and is a TED Fellow.

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BONEMAP’S FLUID HYBRIDISATION

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Abstract

Can an ecological perspective provide cues for hybrid arts practice? Over the last fifteen years, Bonemap’s novel collaborative method has produced hybrid and genre-independent works within the broad field of contemporary arts. Their specific creative methodology relates to a practice and process imbued with an ecological perspective. The approach incorporates a multimodal and intermedial praxis that expands static representations of human creative environments and genres. Using flux, improvisation, participatory and responsive strategies to harness generative form it is argued that Bonemap’s work articulates a metaphor of fluid hybridisation.

The authors cite the creative works of Bonemap and other influencers to approach contemporary arts practice with an ecological perspective producing evidence of a fluid hybridisation of artistic genre. Bonemap’s key methodological operations are responsive through the embodiment of ecological perceptions, improvisatory through the virtual and the visceral, and participatory through the experience of the implied and explicit. Practiced as spatial concepts, that inform methodological approaches to practice, Bonemap’s ecological and artistic concerns consider hybridity and intermediality as linking materiality and immateriality. The evidence considers the hybrid materiality of “unknowing” and “ephemerality” within creative research that further challenges conventions of knowledge creation and the categorization of form. Bonemap’s methods are shown as moving towards a proposal for fluid hybridity that is set adrift in the sublime aim to articulate an ecological understanding of interconnected meaning and associations as a unique poetic vessel that bridges the interstices of genre.

Introduction

Engaging in improvisatory and participatory strategies, reflective incursions into the territory and investing in new modalities, outlines a world of practice familiar to the current orbit of contemporary arts and its global reach. Terry Smith suggests:

> Art now comes from the whole world, from a growing accumulation of art-producing localities that no longer depend on the approval of a metropolitan centre and are, to an unprecedented degree, connected to each other in a multiplicity of ways, not least regionally and globally. (Smith, 2011)

Curator of New York’s 2015 Armoury Focus, Omar Kholeif notes, “It is essential for one to consider alternative centres, or starting points for the history of art, as cultural output, audiences and collecting becomes more global” (Kholeif, 2014). Within this world of art, identity and place inflect the conceptual characteristics of globalisation. Elements of memory and recognition, contained in those inflections, begin to underscore a unique ecological layering within cultural territories. Smith claims, “Place making, world picturing and connectivity are the most common concerns of artists these days because they are the substance of contemporary being” (Smith, 2010). Leslie Hill, in discussing place and placelessness as it relates to live art practices, observes that “we either view places from the inside out or from the outside in...and our composite understanding of places lingers on the threshold. Its all about perspective” (Hill & Paris, 2006). This interstitial perspective is additional layering that augments universal familiarity to contemporary forms of expression. It is a position that suggests diversification, rather than convergence, provides new understandings within global aesthetics. Allen Carlson (2009) argues, “We must also look to ecology.” Pointing to what may
be called an “ecological approach to the aesthetics of human environments” (Carlson, 2009). Carlson’s environmental aesthetics provide a perspective that “stress ecological factors as a basis for appreciating human environments not as analogous to works of art, but as integral human ecosystems.” As our view of the territory expands, and becomes more dominated by the human, new tools and ways of understanding and being in the terrain need to be incorporated into the material production of our times. Paul Carter’s characterisation of “material thinking” articulates a complex drive to, “…demonstrate the great role works of art can play in the ethical project of becoming (collectively and individually) oneself in a particular place” (Carter, 2004). Carter’s sentiments indicate the role of creative process and collaboration in the formation of a “symbolic representation of the phenomenal.” For Carter engaging in collaboration exemplifies the way identity is formed and, “…to understand how relationships with others are actively invented (and therefore susceptible to reinvention), is essential knowledge if societies are to sustain themselves” (Carter, 2004).

The collaboration of artists engaged with the contemporary art group Bonemap, diversify their core investigative environment by contributing a matrix of personal and discipline-specific perspectives. These individual perspectives are distinguishable in segments and layers. The collaborative methodology is additionally structured from a strata including impetus from the natural environment and the human centred spatial environment. The natural physical environment of Bonemap collaboration is often located within the geographic torrid zone of, lightly urbanised, northern Australia, including the world heritage listed Wet Tropics rainforest and the off shore phenomenon of the Coral Sea’s Great Barrier Reef. The human environment through which Bonemap perceives its flow of influence is mediated and centred on a contemporary manifestation of art practice. The overt and encompassing environmental imperatives provide the symbolic, cultural, social and political tide as a barometer for the embodied praxis of creative production in this localisation. Bonemap operates within this ecology as an artistic collaboration that has arisen from individual practitioners actively engaged in the pursuit of innovations and renovations of artistic practice over time. The influencers and narratives include the seminal ideas of “re-enchantment” that emerged with the broadening ideas of human ecology in the 80’s and 90’s. International writers and contemporary art commentators such as Suzi Gablik (1991) attempted to articulate a rigorous proposal for a critical and creative ecological approach. Many artists such as Australian media artist Keith Armstrong provide further universal pathways for understanding art that facilitates “complex ecological concerns and social participation” (Armstrong, 2007).

Hybridisation

Bonemap’s recent activity includes hosting ‘Fluid Values,’ the Cairns node of the 2014 Waterwheel World Water Day Symposium and contribution of a work to be experienced through the water-wheel.net, Tap internet platform. The improvised and collaborative methodology that Bonemap draws upon is exemplified in the way it rapidly engages in mediated and telematic systems such as the water-wheel.net Tap. Responsive performance works developed for the Tap are inclined towards entropic outcomes. This is due to the uncertain and ephemeral transaction between the maker and the participant of the live Internet Tap platform. Bonemap’s other recent works such as Nerve Engine (2013) (Fig. 1) have developed a level of sophistication through creative iteration, their ambitious scale and complexity amplifying the inherent multiplicity of genre and output they entail. Through this refraction we begin to approach an understanding of work within Bonemap’s field of research and practice as fluid hybridisation.

In a relationship between the vernacular of understanding and the breadth of new thought in art, there has developed a hybridisation of contemporary practice. Genres such as live art materialise form in context and backfill the widening gaps in contemporary arts understanding. Lois Keidon claims live art is, “…acknowledged as one of the most vital and influential of creative spaces, that operates in the cracks of our culture” (Keidon, 2002).
For Bonemap fluid hybridisation is a rupture that renders the cracks between artistic disciplines overt, revealing fluidity where we expect to find the static. Bonemap succeeds in liberating vernacular form through the intermedial and multimodal processes of hybridisation. The ‘Exquisite Resonance of Memory’ (2008) (Fig. 2) is a Bonemap event liberating performance from the traditional definition of “performing arts” and the convention of “performance art.” In the work, a performer is present for a short moment, however, captured in motion graphics and projected indefinitely as a video wall installation around the perimeter of an architectural space. For Bonemap this is a dialectic expressed in its collaborative methodology, as the ideological tolerance between generic forms, i.e. the tension between the live and the mediated. The methodology resists the patterns that categorise the common attribution of artistic genre such as “dance,” “visual arts” or “live art,” even if presenters and convention cannot fail to categorise. The tension is played out in the associations that expand genres into multidisciplinary practices. Anthony McCall’s expanded cinema works from the 1970’s are an historical precedent. McCall convincingly projected solid light through haze filled rooms by reversing the focus from projection screen to projector beam (Eamon, 2005). Yet the categorisation of his works such as ‘Line Describing a Cone’ (1973) as expanded cinema de-emphasised McCall’s hybrid roots in performance (Eamon, 2005). The concept of perceiving light as volume rather than surface is a key hybridisation in the development of Bonemap’s latest works.
For Bonemap, hybridisation positions investigation of materiality as ideological strata in the strategies for making work. Carter (2004) has suggested the process of thinking is different when making works of art. Carter’s “material thinking” is multidimensional and artworks are “articulate precisely because they are articulated—jointed or joined together—in a variety of ways and dimensions” (Carter, 2004). Material thinking and ecological perspective provide processes for contemporary arts that are independent of standard categorisation. The practice bears the notion that fluidity within multidisciplinary hybridity is a sliding tolerance neither forming discrete disciplines or reliant on singular manifestations. The intellectual representations of practice indicate that multimodal competencies are a trait within Bonemap’s compositional field.

The Bonemap projects ‘Terrestrial Nerve’ (2013) and ‘Nerve Engine’ (2013) (Fig. 1) exemplify a hybrid process. Developed as integrated components, these works allow presentational elements to morph between the specifics of public and private space such as the art museum, performance space, small screen and cinema. However, the hybrid work is best described as a form much more ephemeral. It includes a responsive environment with input and output sequences specific to the time and place of audience participation and engagement. The multimodal status of the works includes a series of time-based media that can be presented in the art gallery, online or performed as a spatial projection. In an expansion of genre, Bonemap’s responsive environments are intrinsically more ephemeral and improvisatory, requiring systems of immediate generative content and interaction. It is this linking of the generative moment, a physical connection between the performed, the participated and the responsive manifestation of space that fluidly hybridises at the moment of perception.

The attributes of responsive presentational output, and participant engagement are found in the water-wheel.net Tap developed through the deft direction of Belgian/Australian intermedia artist Suzon Fuks. The collaborative online interface of the Tap has drawn the attention of Bonemap artists since its inception in 2011. Bonemap artists have been both collaborators and peer reviewers in the developmental stages of the water-wheel.net Tap. During a node of the 2014 Waterwheel World Water Day Symposium, ‘Fluid Values’ Bonemap performed the telematic work ‘The exquisite liquid, song for water’ (2014). During the development of the work generative and live data processing highlighted complexities bringing together an online participatory audience and local generative performer in real time, through the water-wheel.net Tap online interface. The interface itself allows interactivity through collaborative tools. However, these tools are limited to user graphical interface elements accessible, at the time, only by invited “crew” subscribers to the Tap event. Scripted motion graphics can be integrated, but in current iterations of the platform, deployed as packets of code to each end users/audience browser without visual feedback to the host, just local interactivity. Each end user can have their own interaction with scripted (ActionScript) motion graphics content independent of the host performance but concurrently overlayed on it. The mixed use of the water-wheel.net Tap sets up a particular expectation of approach and etiquette where online audiences are both individual (with their own PC interface) or in a group and at a remove with a data projection or other communal screen experience. These variables require a particular integrated narrative to alert each end user potential to the initialisation of appropriate reactive response.

In the work, ‘The exquisite liquid, song for water’ (2014), the Bonemap performer improvises with the web feed lens, where an extreme close-up of the performers eye metaphorically represents a body of water. The isolation of the eye in the framing of the lens challenges the performer to consider in what way can the pupil perform? The performers impetus is internal imagery and the convention of audience feedback is deferred. What are the observations of the online viewer and the offline performer that happen in concert? The live feed of the performance was also layered with generative content developed from ActionScript. Geometric circular forms (representation of bubbles) detect and bounce off each other using collision detection algorithms. The development of the work considered embodied strategies to allow sensorial encounters to occur through the “in” and “out” space of online telematics. Suzon Fuks’ (2014) review of Bonemap’s ‘The exquisite liquid, song for water’ articulates the work as “the interactivity between elements, the specificity of the streaming technology and agency of the public.” Noting that, “prepared scripted animations … activated by online audience, and “patches” to process media live and to layer them even more than
what the Tap tools already offer.” Fuks interpreted the work as, an “underwater soundscape, animated cartoon bubbles escaping the stage window, magnifying body close-ups of (the performer) with an iPod camera. Her playful presence, improvisation qualities and attention to the overall rendered moving imagery, demonstrated her experience as an online performer.” The process for ‘The exquisite liquid, song for water’ is equally concerned with the internal generative contribution of improvised choreography by the live performer in unity with the artistic manipulation of the mediatised system or “digital engine” that facilitates the telematic event through the Tap interface. The nodal communication of telematic performance and participatory engagement, assisted through the Tap, exemplifies the interrelations that mark an ecological notion of fluid hybridization in this context.

Hybrid fluidity, as the intermedial and materiality of Bonemap’s process, is initiated by engaging in the primary progression of a collaborative multidisciplinary process. The collaborative process is reflective and multimodal. Gathering the thoughts of participating artists may reveal concerns associated with phenomenology, aesthetics, representation, ecology, performance, and communications theory, amongst others. These modalities, as value chains and intellectual adventures, make many disparate symbolic platforms suitable for the hybrid matrix Bonemap generates. This suggests the tolerances of individual modalities within the matrix are active enough to establish and materialise interstitial resonances. These resonances are the frequencies established for the symbolic and participatory regimen of the creative research. The creative process is a collaboration that is given the space and time to lead to its own devices through iteration and unfolding inference. The Bonemap project ‘Rupture and Residue’ (2005) developed a natural environment model of environmental aesthetics as an improvised investigation of the dancing body in a surrounding environment and the extension of the body and surround through media. The creative process was dissociated from specific expectations and standardised outcomes. The collaborators were inhabitants of a communal journey through time, space and material event. During, and as a consequence, of the projects hybrid fluidity many rhizomatic connections and offshoots developed at nodes with their own evolutionary trajectory. For example a significant and unexpected growth trajectory harvested a representational node of the work as a manifestation of mural photography in a commission for a large convention centre (Fig. 3, 4 & 5).

Ecology

Bonemap’s engagement within an ecological perspective can be interpreted as an experiential field that reconciles organism with environment through the praxis of making art. Erin Manning and Brian Massumi (2014) describe “ecological experience” as an:

...intertwining of fields of emergent experience not yet defined as this or that...yet their qualities already interact. The fields, in their immediacy, play off each other, lending their qualities to each other, composing a single field of mutual action, of co-fusion and changing contrast: co-motion. (Manning & Massumi, 2014)

An ecological perspective in this praxis includes the significant embodiment of artistic engagement within an endemic interrelationship to time and place—a relational field. This is what Carter (2004) describes as “the impulse to identify poiesis, or ‘making’ with place-making” in the expression of being and the process of becoming.

To record fluid hybridity in creative research, as two-dimensional text, risks forfeiting the distinctive quality of its material unity, its dimensionality in ecological space. However, the imperative to reconcile the ecological relation of the human and natural environment has been articulated by various authors over a sustained period after modernism. Morris Berman (1981), Suzi Gablik (1992) and Keith Armstrong (2007), amongst many others, provide a cogent and forceful challenge to the supremacy of empirical scientific and commercial attitudes as the basis of relational consciousness to nature. Science’s empirical emphasis on truth-value within a fixed mechanistic world-view focuses on the edict that we can only know the natural world by distancing ourselves from it. To relate the process of making art to the practice of science is, for Carter (2004), to “conceive of the work of art as a detached datum that fails to acknowledge, that the work of art begins as a social relation.”
Biologist Rupert Sheldrake (1993) discusses this divisiveness as it relates to “disembodied science” articulated as a separation of nature as “other,” “inanimate” and “object.” Art-science projects such as those proposed by Armstrong (2007) seek to reconcile the ecological perspective through a...
co-fusion of creative and scientific research concerns. Armstrong described his art practice as:

... focused around the understanding that our ecological crisis is also a cultural crisis, perpetuated by our sense of separation from the material and immaterial ecologies upon which we depend. This misunderstanding of relationships manifests not only as environmental breakdown, but also in the hemorrhaging of our social fabric. (Armstrong, 2007)

The embodiment of an ecological awareness invokes a methodology of practice beyond the separation of subject/object, organism/environment and animate/inanimate. An important consideration for Bonemap’s creative research is the principal of locating knowledge within spatial and temporal interrelationships. Manning & Massumi (2014) consider ecological experience in the immediateness of the environment as a mode of attentiveness.

A dance of attention is the holding pattern of an immersive, almost unidentifiable set of forces that modulate the event in the immediateness of its coming to expression. Attention not to, but with and toward, in and around. Undecomposably. (Manning & Massumi, 2014)

The body and surround represents the material condition central to a spatial field in the participatory art events seminal to the Bonemap project. For example, ‘The Wild Edge’ (1999) (Fig. 4) was an event engaged with creative research through accessing out-of-awareness perceptions. Time, place, space and sensorial sensitivity beyond habitual movement and experience, were the centre of investigation. ‘The Wild Edge’ incorporated intense fieldwork and inhabitation in remote environmental locations and journeys over great distances. The projects process methodology aimed at imbuing the artists within a direct and sustained interface with natural conditions, situations and phenomena. This included the ecology of experiences that honour and emphasise subtle and ethereal interventions and interrelationships in the natural world. ‘The Wild Edge’ and a number of seminal events during the 1980’s and 90’s, signalled for Bonemap an embodiment of practice that had moved away from the production of artifacts and objects, towards the attunment of experiences. It sought to place subjective arts practice firmly in a non-linear space/time continuum as integral to the unnamable flux that constitutes natural environments. An early influencer on the gathering of Bonemap artists was Japanese dancer Min Tanaka in the 1980’s-90’s. The experiences with Tanaka revealed embodied techniques to heighten sensorial awareness of physical environmental conditions. Tanaka said, “I don’t dance in the place, but I am the place” (Viala & Masson-Sekine, 1988).

The experiences of engaging with Tanaka’s method revealed the discontinuity of time perception. His techniques allow shifts within the presence of the performer, who may imaginatively control recognisable body/time/space rhythms. The technique, described by Tanaka as “image work” or “imaginations,” substitutes the reaction of sense receptors, such as the dancers skin, with the
imagination of kinesthetic impulses. The aim of the technique is for the dancer to become integrated into the environment or move the environment around and through the body. Physical bodywork within Bonemap’s fluid hybridisation is a contribution to the temporal structure of the relational field where the kinesthetic marks a mode of choreographic extension within connections and influences, impacts and subtleties. An example of subtle kinesthetic impact has been articulated by Madeline Gins and Arakawa in their philosophical treatise ‘Architectural Body’ (2002). Like Tanaka’s “image work” and embodiment of environment in dance, Arakawa and Gins (2002) describe “imaging landing sites” as imaginative substitution for kinesthetic vectors. They explore awareness as “events composed of kinesthetic- and proprioceptive-perceptual landing sites” in their articulation of subject and surround. Their thoughts are linked to the design of architecture, however moving the design process to a hybrid multimodal consideration of the fluid spatial trajectories particular to the choreographic and kinesthetic impact within ecological spaces.

**Conclusion**

Writing of the ecological perspective within hybrid arts practice, as a process of creative research, becomes a double movement that dissects the thinking and articulates the fluid strata of relations in a compositional field. The examples of practice provided by Bonemap’s sustained engagement over time demonstrate how an ecological approach interrogates a compositional field providing a mode of operation for the organisation and representation of its hybridity. The structure of fluid hybridity has been demonstrated, through examples of contemporary arts from historical and current practice, as intermedial and multimodal, but also as temporal and shifting. This multiplicity is recorded as being a common current in contemporary arts at the beginning of the 21st Century.

**AUTHOR BIOGRAPHIES**

**Bonemap** is a project-based intermedia arts partnership that encompasses project teams of interdisciplinary and visionary artists with an emphasis on process and presentation. Founded by Russell Milledge and Rebecca Youdell as an artists’ collaboration, folding disciplines together, to produce artistic expression in creative spaces, Bonemap is concerned with the ecological edges of civilisation while creating immersive art and performance. Based in far northern Australia, projects often engage Cape York, Torres Strait Islander and international contemporary artists.

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9. Hydrosonics
HYDROSONICS – OVERVIEW

by Suzon Fuks

Hydrosonics, spanning two sessions, hosted by NYU Steinhardt, and curated by Leah Barclay, was produced by Ear to the Earth, a worldwide network for environmental sound art. The 6-hour programme, divided into two parts, featured artists of high calibre. The online audience was very “verbal” (through the typed chat), commenting on the amazing quality of the performances. Riveted and transfixed, they wondered when to take a break so as not to miss anything. Some of these comments appear below in quotation marks.

The first part of Hydrosonics, Symposium session #39, kicked off with The Australian Voices. They premiered Leah Barclay’s new work ‘Distill.’ Transported into “quiet nature,” online audience appreciated live vocals mixed with field recordings from the Amazon River, rendered as a textured and dense landscape with many nuances.

An improvisation then took place between musicians in NYC and Mahesh Vinayakram in Chennai. In the previous session, Mahesh had sung a carnatic shloka (South Indian chant) dedicated to the water of the sacred Ganges River. He also plays morsing (mouth harp), leaving enchanted listeners feeling “blessed” and “so impressed to see and hear all these performances from all parts of the world”. Someone commented: “Yes! Amazing! Connecting people through art and science... connecting continents and communities.”

David Monicci’s composition ‘Stati d’Acqua’ triggered auditive sensitivities and feelings of being embraced by nature: “I LOVE THIS SO MUCH! this person is very talented with water recordings and filters!”, wrote one. Another, inspired, said “great soundscape for film, dance and life in general... could be great to collaborate.”

Fernando Godoy’s audio-visual treat ‘Hidrografias: 607kms,’ based on field recordings collected on three rivers and a glacier in Chile, suggested an “immersive web painting,” “so organic,” “like cells,” “like a birth,” “...a creation.”

Julie Rousse and Jacques Perconte gave us a foretaste of ‘Mille Lumières,’ one hour before their concert in the Poitiers Planetarium. They processed previously recorded sound and images of the city, projecting them in HD on the hemispheric screen of the planetarium. Their deconstruction of matter, granulation, and playing with digital compression, was a contemporary rendering which reminded me of artworks from the 70’s which used photocopies of photocopies. A link between pixels and H2O molecules, the fluidifying of digits through the various states of water, where among many interpretations which came to mind.

Audience members remark: “One has the impression of being in a cave on a boat,” “transported in vegetal and cosmic universe,” “Water dust,” “Glitches from universe, in between black holes,” “visually impressionistic,” “bound by water.”

Sergey Jivetin’s ‘Voluminous HydroLogic,’ inspired by the fragility of the equilibrium of the hydrologic cycle, was an installation using medical tubing, filled with water, and run by a peristaltic pump, powered by solar energy. Shown first in a hospital, it was designed for patients, as a meditation piece, aiming to alleviate anxiety. A fantasmagoric perfusion machine, modified to run with the air bubbles, conjured images

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from those online: “water going through a life support drip?,” “our blood system,” “The machine looks alive :),” “white noise & blue blood,” “so peaceful and mesmerising!”

The diversity of Hydrosonics was stunning. Some commented that the second part, session #41 and the finale of the Symposium, was “good for radio,” with Leah Barclay as a dynamic announcer. We definitely experienced an remarkable internet event—more than just a webcast—with a very interactive audience, both online and at NYU.

Joel Chadabe introduced Ear to the Earth, saying, “We view environmental art, in sound and image, as a vibrant and engaging communication. Sound communicates the way we feel about something. Image makes the ‘something’ specific.” He then invited the public to listen to Garth Paine’s ‘Presence in the Landscape,’ and the premiere of Eric Leonardson’s ‘Awash on the Lake.’ Paine’s field recordings, gathered while kayaking in Bundanoon (NSW), plunged everyone into “very subtle,” “morning sounds from Australia”—merging, for listeners in the southern hemisphere, with actual morning sounds: “if I turn the sound up, a chorus of birds might arrive through the window,” and “Now, you must imagine it’s not afternoon, nor night for us, it’s early morning—sunrise—and I’m listening to these birds outside,” typed someone in Argentina.

Eric Leonardson’s piece evoked the Lake Michigan landscape, with its depths of amplitude and force. “Atmospheric”, said a person in Cairns. And others: “It would be great if the Tap went mobile and we could be participants in journeys through that territory,” and “I liked Eric Clapton. From now on, I like Leonardson as well!”

Ricardo Dal Farra curated and played ‘Conciertos Imaginarios,’ a playlist consisting of composers and sound artists from Canada, Mexico, Portugal, Argentina, the UK and US. The last track, ‘Mosquitoes’ by Joao Fernandes, was a pearl despite its subject matter. “Interesting to listen to a work on mosquitos, divorced from the health issues that they represent... dengue fever, malaria, Ross River fever etc.” “Yes, but look at the bright side... you can listen to the music of mosquitos without the diseases :)”

Nicholas Ng and Amber Hansen performed ‘Remembering Chinaman Creek,’ a tribute to Chinese Australian heritage, as quite a few creeks in Australia have this name—after gold miners and market gardeners. Amber and Nicholas used traditional instruments, along with drums dipped in water and chanting in Chinese. They took us on a voyage, aligning the past and the present in their sounds, and producing visual ebbs and flows with silk ribbons, in an exquisite improvised dance. “These two are visual also... so a plus for them :),” “I can feel a Chinese dragon here and now,” “Great choreography,” “such a treat,” “very evocative.”

Toby Gifford and Simon Linke welcomed us outdoors, under a beautiful blue sky, on the bank of the Brisbane River. They gave us an insight into “the liveness of water,” “fishing for sound” with a hydrophone in the river. “The point of our group is to reconnect with the environment in tangible embodied ways” said Toby. Audience reply: “Audio witness—sound as environmental evidence,” “Excellent!”

The final performance, live from NYC, paid homage to rivers around the world, with Joel Chadabe and Tom Beyer improvising on percussion and electronics, and Leah Barclay mixing field recordings. Leah commented: “the voice you hear now is Lyndon Davis from Gubbi Gubbi country on the Noosa River, Australia,” and “Now we are at the Pamba River in Kerala, South India.” “Travelling,” responded someone in the public, “What a wonderful journey!”
HYDROSONICS – NEW YORK NODE
Curated by Leah Barclay
at New York University Steinhardt, USA

Ear to the Earth is a worldwide network for environmental sound art based in New York City, which produced Hydrosonics, and hosted a node as part of the Waterwheel Symposium at New York University Steinhardt. Hydrosonics was curated and presented by Leah Barclay, and involved live performances, artist talks and research presentations inspired by the Symposium’s theme, “Caring and Daring about Water,” and exploring the extremes and contrasts of water through sound. The works featured field recordings from rural lakes in Australia, the depths of the Indian Ocean and the sounds of cracking ice in the Arctic.

This node also included the Hydrosonics lab, an intuitive improvisation featuring musicians from across the world responding to water.

Fig. 1 Leah Barclay & Joeal Chabade introducing Ear to the Earth, and Hydrosonics, from NYU Steinhardt.

BIOGRAPHIES

Dr Leah Barclay is an Australian composer, sound artist and creative producer working at the intersection of art, science and technology. Her work has been commissioned, performed and exhibited to wide acclaim across Australia, New Zealand, Canada, USA, Europe, India, South Africa, China and Korea. She has been the recipient of numerous awards and has directed and curated intercultural projects across the Asia-Pacific. She creates complex sonic environments and transmedia experiences that draw attention to social issues including climate change. These works are realised through immersive performances and multi-sensory installations drawing on environmental field recordings, data sonification, multi-channel sound diffusion, live performers and ephemeral projections. Her work is multi-platform in nature and often involves rich community engagement programs and accessible virtual outcomes embedded in each project.

Barclay’s PhD involved site-specific projects across the globe and a feature length documentary exploring the value of creativity in environmental crisis. Her research has been published internationally and her creative work has been selected for major international festivals and conferences. She is currently an artist in residence at the Australian Rivers Institute.
investigating the creative possibilities of aquatic bioacoustics, the
president of the Australian Forum for Acoustic Ecology and the founder and
artistic director of Biosphere Soundscapes, a large-scale interdisciplinary
art project connecting the soundscapes of UNESCO Biosphere Reserves across
the world.

Joel Chadabe is a composer, pioneer, author and historian, entrepreneur, and
educator. His music has been presented throughout the world, recorded on
several labels, and he has received many awards and fellowships. He pioneered
interactive composing, a new approach to composition. He has written many
articles and a book on the history of electronic music. He founded an R&D
company and various not-for-profit organizations. He has taught, as faculty,
visiting faculty, and adjunct faculty, at various universities and colleges.
Joel is the founder and President of Ear to the Earth.

Fig.2  Left to right: Joel Chabade, Leah Barclay, and Tom Beyer, at the New York
University Steinhardt Node. Screen capture.

Tom Beyer studied classical percussion with Paul Price and later studied
jazz and ethnic music with percussion masters, Fredrick Waits, Eddie
Blackwell, Jack DeJohnette, Billy Hart and Guillermo Franco. He has
worked in most styles of music including various ethnic musics, jazz,
rock, opera, theater and new media as a drummer, percussionist, composer,
engineer, technologist and teacher. Professor Beyer completed a Masters
Degree in Music Composition at NYU/Steinhardt. In addition to being a
member of the New York University Composers Ensemble, and a founding
member of the newly formed International Composers & Interactive Artists,
he is engaged in engineering and sound design projects throughout New
York City. He also composes for various concerts, internet and multimedia
projects. His awards and honors range from a Lincoln Center Award as a
High School Student to recently receiving, each for two consecutive
years, the NYU/Steinhardt Music Jack Krieselman and ASCAPlus Awards.

The Australian Voices’ mission is to commission, perform, record and
promote the music of Australian composers to the highest international
artistic standards. The Australian Voices are singers selected from all
over Australia. A gold-medal winning choir with several YouTube hits to
their name, they continue to surprise audiences around the world with
their vocal acrobatics. Directed by Gordon Hamilton, their recent hits
‘The 9 Cutest Things That Ever Happened’, ‘The Facebook Song’ and ‘We
Apologise’ contrast with their beautiful renditions of sacred repertoire
by composers like Rachmaninoff and choral-theatre works like ‘Moon’ (receiving 5-stars at Edinburgh Fringe Festival 2012). The Australian Voices premiered Leah Barclay’s new work ‘Distill.’

Fig.3 The Australian Voices premiered Leah Barclay’s piece ‘Distill’. Screen capture.

Mahesh Vinayakram, son of Grammy Award Winner Padmashri T.H. Vikku Vinayakram, is one of the leading artists in the field of Carnatic and world music. He started his music training at the age of 3, his career as a solo vocalist at the age of 13, and has toured extensively to most capital cities in the US, the UK, Europe, Africa, and Asia. Award winner himself, he collaborates with world class musicians such as Jonas Hellborg, Ustad Zakir Hussain, Steve Smith, Pete Lockett, George Brooks, Nithin Sawnhney, Chebbie Sabha, Talvin Singh and Shawn Lane.

Fig.4 Mahesh Vinayakram in Chennai, India, improvising with sound artists in NYU Steinhardt.

David Monacchi’s primary research focus is recording natural sonic environments and untouched ecosystems throughout the world with cutting-edge field recording techniques to create music for sound installations, museums, and experimental and new music concerts. For nearly two decades, he has recorded in Europe, Africa, North and South America, and used the recordings as material for creating eco-acoustic compositions. His honors include the Erato Farnesina fellowship for the World Soundscape Project (Vancouver), the Fulbright Research for CNMAT at University of California
Hydrosonics (Berkeley), and prizes from the Russolo-Pratella competition (Italy), Locarno Film Festival (Switzerland), Multiple Sound Festival (Holland) and recognized twice at the Bourges International Grand Prix of Electroacoustic Music (France). His music is published by Ants Records, Domani Musica, Cocleria (IT), Wild Sanctuary and EMF Media (USA).

Currently he is Professor of Electroacoustic Music at the Conservatory of Music of Foggia, and Adjunct Professor at the University of Macerata and the Conservatory of Pesaro, Italy.

His composition ‘Stati d’Acqua’ was presented during the Waterwheel Symposium.

Garth Paine is particularly fascinated with sound as an experiential medium, both in musical performance and as an exhibitable object. This passion has led to several interactive responsive environments where the inhabitant generates the sonic landscape through their presence and behaviour. Garth has composed several music scores for dance generated through video tracking of the choreography, and more recently using Bio-Sensing on the dancers body. His immersive interactive environments have been exhibited in Australia, Europe, Japan, USA, Canada, UK, Hong Kong and New Zealand.

Garth Paine is internationally regarded as an innovator in the field of interactivity in electronic music and media arts. He gained his PhD in interactive immersive environments from the Royal Melbourne Institute of Technology, Australia in 2003, and completed a Graduate Diploma in software engineering in the following year at Swinburne University. All a long way from his Bachelor of classical Flute performance from the conservatorium of Tasmania.

Fig.5 Dr Garth Paine recording in the field

Dr Paine is Associate Professor in Digital Sound and Interactive Media at the School of Arts Media + Engineering, Arizona State University in the USA. His previous post was as Associate Professor of Sound Technologies at the University of Western Sydney, where he established the Virtual, Interactive, Performance Research environment (VIPRe). He is often invited to run workshops on interactivity for musical performance and commissioned to develop interactive system for realtime musical composition for dance and theatre performances. He was selected as one of ten creative professionals internationally for exhibition in the 10th New York Digital Salon; DesignX Critical an Reflections, and as a millennium leader of innovation by the German Keyboard Magazine in 2000. Dr Paine was awarded the Australia Council for the Arts, New Media Arts Fellowship in 2000, and The RMIT Innovation Research Award in 2002. He is a member of the advisory panel for the Electronic Music Foundation and an advisors
to the UNESCO funded Symposium on the Future, which is developing a
taxonomy / design space of electronic musical instruments. Recently Garth
has been invited to perform at the Agora Festival, Centre Pompidou,
Paris, the New York Electronic Arts Festival, with recent performances in
Australia (Sydney, Melbourne, Perth), Limerick Ireland, Paris,
Luxembourg, Madrid, New York, Philadelphia, Providence and Phoenix,
Arizona in the USA, and Montéal and Quebec in Canada and in 2014, Korea,
Macedonia, France, UK and Australia. His music has been released on a
number of CD’s available on iTunes: Bowl Chant Meditation and Parallel
Lines, and on Amazon, amongst other retailers. Dr Paine is the director
of the multi-disciplinary, collaborative research project Listen(n),
which is documenting the acoustic ecologies of the US South Western
Deserts. The project is currently in development in National Parks across
Arizona and California.

During HydroSonics, Dr Paine’s composition ‘Present in the Landscape’ was
performed at NYU. This work specifically addresses the existence of a
river, which runs across floodplains, and has had a dynamic and active
life, changing direction, remapping its own presence in the landscape
over centuries, as large weather events have occurred. However, a decade
ago the large Tallowa dam was constructed upstream from the Bundanon
property in regional Australia with the intention of providing drinking
water to the communities on the south coast of New South Wales. This
construction substantially changed the life of the river, including the
migration of the perch fish from river breeding out to sea on an annual
basis, the transformation of the reeds and grasses growing in/along the
river, the destruction of the mangroves and the transformation of the
salt content of the water itself, which has been reflected in changing fish
stocks.

In order to explore some of these issues, I spent a day on the
river in a boat, stopping to talk with people about their use of
the river and why they were there, either in a boat or on the side
of the river, swimming and walking, picnicking etc. These
recordings, which formed a snapshot of the white man’s use and
perspectives on the river, are juxtaposed in this work by
interviews with local Aboriginal men about the lore of the land and
the importance of both water and the river in that natural lore.
The Aboriginal lore reflects on changes of season, of the circle or
cycles of life or energy, harmony and counterpoint within the land
itself and our presence on and within it.

A third character in this work is the natural environment itself,
represented here through many early morning ambisonic recordings of the
dawn chorus, of the afternoon and into evening changes of birdlife,
insects and fish jumping, representing the temporal flow and dynamism of
the landscape itself. In the centre, between these three critical players
is a interstitial space, an energy space that represents the interplay of
sharing the commonality, conflict and the transformation that occurs as
these three elements dynamically dance around each other over time. This
work was originally composed for a six channel surround sound performance
in the original sandstone Bundanon homestead in which Arthur Boyd lived.
The performance of this work during the World Water Day Symposium was
completely immersive at NYU and streamed live on WaterWheel as a stereo
remix. The live stream represented the original work without the same
sense of immersion in the material properties of the sound but introduced
a global interplay between the characters and sonic landscapes.

**Eric Leonardson** is a Chicago-based composer, radio artist, sound
designer, instrument inventor, improviser, visual artist, and teacher. He
has devoted a majority of his professional career to unorthodox approaches to sound and its instrumentation with a broad understanding of texture, atmosphere and microtones.

Leonardson’s interest in creating new sounds for performance and studio composition led to the invention of the Springboard, an electroacoustic percussion instrument made from readily available materials. Its sounds belie its humble origins, thanks to the rich enharmonic timbres of bowed coil springs and the curious sound of the crude wooden daxophones—all amplified by a single, inexpensive piezoelectric contact mic. Leonardson’s music resists categorization.

‘Awash on the Lake’ premiered during the Waterwheel Symposium.

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HYDROGRAPHIES: 607KM
Fernando Godoy Monsalve
Chile

Abstract
Mapping project of research and sound recording of territories at risk of ecological / social change, carried out on three rivers and a glacier located in the extreme north and the extreme south of Chile: the Pascua and Baker rivers in Aysen Patagonia, the Lluta river in the highlands and the Grey Glacier in the region of Magallanes.

Introduction
Hydrographies: 607km is a research project involving the sound recording of territories at risk of ecological / social change. The research project covered three rivers and a glacier located in the extreme north and the extreme south of Chile: the Pascua and Baker rivers in Aysen Patagonia, the Lluta river in the highlands and the Grey Glacier in the region of Magallanes.

During three trips conducted between February and August 2013, the soundscape of these rivers and their surroundings was mapped. Each trip focused on mapping the acoustic territories in the process of change, where the main agent and intervention engine corresponds to large economic and/or energy interests.

The process of mapping and field work was carried out considering different levels of sonic activity present in the territories: environmental records to capture sound through the air, hydrophone records for underwater sound, VLF (very low frequency) to capture the low natural frequency signals of the planet, and finally contact microphones to capture the vibration of surfaces.

For each expedition, the research focused on the natural environment and water-related environments and rivers, as well as the cultural aspect through contact with people and residents of the territories.

Fig.1 Los Ñadis: Recording system for ambient sound. Sistema de registro sonoro ambiental.

First Trip: Aysen

We traveled to the Chilean Patagonia, a territory characterized by its remoteness and difficulty of access. This region (Aysen) has poor connectivity and low population density due to the harsh climate and fragmented territory. Currently, there is only one route, which connects towns and villages in the area: the 1240 km long Carretera Austral, built on gravel.
The trip focused on the areas demarcated by the Baker and Pascua rivers, especially flood areas where mega-power project plans (Hidroaysen) intended to install dams. The trip consisted of a journey between Coyhaique city and the town of Villa O’Higgins, which are located between these rivers. During the trip a number of recordings were made in the natural environment and especially the flood areas, where to date (2013) a few families live in a situation of extreme isolation.

In Ñadis, one of the flood zones, we visited the family of Nelson Garrido, a resident who has spent a lifetime in the region. Furthermore, we were able to cross by boat to the north side of the Baker River, where there is no vehicular access, to visit a family living in extreme isolation, without any connectivity. While in the Ñadis, we were able to learn about and record part of the daily life of these people as well as the Patagonian natural environment, where human presence seems to diminish before the immensity of the landscape.

The voyage continued in the Pascua River, where we visited Quetro Lago Guest House, a family-friendly Inn, located in the landscape and the banks of the Pascua region, which will eventually be affected by the flood. We investigated and recorded the family environment, using radio as a primary means of communication with the outside world, and we recorded the natural landscape and wildlife nearby.

We also conducted a number of recordings in the immediate and intermediate locations between these two rivers, besides these places of flooding, reaching the town of Villa O’Higgins, where the Carretera Austral ends.

**Fig.2** Río Baker: Patagonian landscape in Ñadis. Paisaje Patagónico en los Ñadis.

**Second Trip: Magallanes**

We traveled to the region of Magallanes and Southern Ice Fields. It was the only crossing without using automobile transport to explore the territory, because the studied site, the Grey Glacier and its surroundings are a national park, a completely natural environment, where you can move only by boat or foot.

This trip was made in conjunction with two organizations from the city of Punta Arenas (the southernmost Chile, located 400 km from the Glacier): LiquenLab independent group of visual artists and a group of scientists from the DPA or Department of Antarctic Programs of the University of Magallanes.

We coordinated a joint trip to the glacier, under the supervision of scientists from the DPA, who had the mission to rescue measuring equipment installed inside the glacier. LiquenLab artists were looking at how to perform visual projections on the glacier. So the expedition set up had three simultaneous objectives.

Thanks to the DPA researchers, we were able to access privileged areas, inaccessible to tourists.
After traveling two hours by ferry on Lake Grey, we arrived at a nunatak (a huge stone island located right in the middle of the wall of the glacier that falls into the lake), where a camp was set up. From there, and after a two hours walk, we climbed the surface of the glacier where, under the supervision of scientists, we walked across the ice with the primary goal of rescuing the equipment, which was 600 meters inland.

The experience of walking on this ice mass is complex to describe, mainly because it is a very particular area full of irregularities, cracks, water flows, ‘moulines’, submarine flows etc. After 40 minutes of walking, we rescued the scientific equipment and began the return walk to nunatak, during which time we made two stops to record some aspects of ice, such as drain holes located at the surface (moulin).

Due to complications, safety measures and priorities for scientists who commanded the expedition, we didn’t have much time for aural exploration, which meant we did only two recordings of no more than 15 minutes. Therefore our research in the Grey Glacier was concentrated on the vicinity, in the off-ice in the surrounding beaches and forest. So for the next two days, we covered the nearby Grey lake, mapping the natural life, the activity of boats and especially landslides glacier through the icebergs that were accumulating in small bays and beaches nearby to it. While it was not possible to return to the glacier, we could explore underwater activity in surrounding areas and icebergs as signs of kickback.

![Glacier Grey: environmental recording session. Sesión de registro ambiental.](image)

**Third trip: Arica and Parinacota**

The third trip was the most extensive and focused on the exploration of Lluta river, including a desert area and the highlands.

Lluta Valley is located in the far north of Chile and depends on large scale agricultural production in the city of Arica and the region. There are plantation crops and native plants such as corn and tomatoes.

There is a conflict in Lluta due to the imminent implementation of the mining project Los Pumas to be located at the origin of the river, to extract manganese. This project includes the installation of toxic waste ponds, 150 to 200 meters from the riverbed, which will mean certain contamination. This will have a direct impact on the 10,000 villagers who live off the valley crops and the drinking water from the city of Arica.

During our trip, we spoke with a great number of residents and activists, generating interviews with Eliana Belmonte, a scientist from the Botanical Department of the University of Tarapaca, Francisco Salvia; activists against mining projects; some farmers and informal conversations with residents of the area. All these interviews form an important part of the recordings made during the three trips.
Lluta basin has a very diverse landscape ranging from a wetland at its mouth, to a lively and agricultural valley. Upstream of the river, the Andean highlands reach 4000 meters. We settled in the town of Putre as our main base, located above the valley and at the beginning of the plateau region, at just over 3000 meters. From Putre, we could explore both: the surroundings of the Pumas mining project, located upstream of the river, as well as the valley in the lower part.

The fieldwork for this last trip featured special characteristics depending on the region: the highlands, where the source of the river lies, with many wetlands and streams of water, wind and harsh weather conditions; Lluta Valley, however, is an oasis in the desert of Atacama, agricultural area enclosed between the gorges through which the river passes. Thus not surprising that these environments express these differences in their acoustic landscapes: highlands as open space in progressive abandonment and stillness; Lluta Valley agricultural center and arableland based on the river, a source of economic supply for rural families.

An important cultural feature of the landscape in the Chilean Altiplano are the countless villages and hamlets that are now abandoned and about to disappear. According to what is told by the residents, this is due to the attractiveness of the city of Arica for the new generations, leaving abandoned places, which in many cases were set up by prehispanic cultures.

Another noteworthy aspect is the resistance that has formed against the Pumas project in the Valley and the city of Arica, we interviewed peasants and activists wary of the future of the project and the internal problems faced because is almost the first time who the people, mostly of them elderly, confronted with threatening situations where they can loose their few assets.

The Hydrographies: 607km project had multiple objectives regarding the results and material collected. The first was the publication of recordings and interviews to include in our collaborative sound cartography project www.audiomapa.org, where you can now view the three trips. In addition, the project has generated presentations such as a concert/performance in the context of the Waterwheel World Water Day Symposium sessions dedicated to sound and music, Hydrosonics. The performance was based on the sounds captured during the trip. This concert was performed jointly by Fernando Godoy, Rodrigo Rios and Entelequia Projections, who were responsible for the visual projections. The entire performance was based on recordings of water.

Eventually, we hope to publish a durational sound piece based entirely on trip logs, which is currently in development.

The project was funded by the Dutch Prince Claus Foundation.

Fig.4 Surire: Fernando Godoy and Rodrigo Rios, recording during their third trip. Fernando Godoy y Rodrigo Rios en sesión de registro durante el tercer viaje.
Project Credits

Fernando Godoy Monsalve: Idea, sound recording and project manager.
Rodrigo Rios Zunino: audiovisual and photography recording, support for sound recording and production.
Paola Ruz Canto: Photography during travel in Aysen and Lluta.

Author Biography

Fernando Godoy M is an electrical engineer with a degree in music. He lives and works in Valparaiso. His work uses various means and media to investigate the phenomena of sound. Some of his areas of interest are the study of soundscape, linking art / technology, acoustic phenomena and their relationship to the land and time perception. His practice includes live performances, installations, web projects, compositions and craft development of electronic technologies. Since 2008, he has been director of Sound Art Festival Tsonami platform for the dissemination and development of contemporary sound proposals.

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Versión Española

HIDROGRAFÍAS: 607KM

Fernando Godoy Monsalve
Chile

Abstract

Proyecto cartográfico de investigación y registro sonoro de territorios en riesgo de cambio ecológico/social, realizado en torno a tres ríos y un glaciar ubicados en el extremo norte y el extremo austral de Chile: los ríos Pascua y Baker en la Patagonia de Aysen, el río Lluta en el altiplano y el glaciar Grey en la región de Magallanes.

Introducción

Hidrografías: 607km es un proyecto de investigación y registro sonoro de territorios en riesgo de cambio ecológico/social. El proyecto consistió en la investigación de tres ríos y un glaciar ubicados en el extremo norte y el extremo austral de Chile: los ríos Pascua y Baker en la Patagonia de Aysen, el río Lluta en el altiplano y el glaciar Grey en la región de Magallanes.

Durante tres viajes realizados entre febrero y agosto del 2013, se cartografió el entorno sonoro de...
estos ríos y sus alrededores. Cada viaje se centró en el mapeo de los territorios acústicos en procesos de cambio, donde el principal agente y motor de intervención corresponde a grandes intereses económicos y/o energéticos.

El proceso de cartografía y trabajo de campo fue realizado considerando distintos niveles de actividad sónica presentes en los territorios: registros ambientales para capturar el sonido por el aire, registros hidrofónicos para el sonido subacuático, registros de VLF (very low frequency) para capturar las señales de baja frecuencia naturales del planeta, y finalmente grabaciones con micrófonos de contacto para capturar la vibración a través de las superficies.

En cada expedición la investigación estuvo centrada en el ambiente natural y los entornos vinculados al agua y los ríos, como también el aspecto cultural mediante el contacto con gente y pobladores de los territorios.

Primer viaje: Aysen
Viaje realizado a la Patagonia chilena, territorio que se caracteriza por lo aislado y el difícil acceso. Esta región (de Aysen) posee escasa conectividad y baja densidad de habitantes debido a la dureza del clima y el territorio fragmentado. En la actualidad existe un único camino como medio de conexión entre las localidades y poblados de la zona: la Carretera Austral de 1240 kms construidos sobre ripio. Debido a la crudeza climática y geográfica, este territorio se ha mantenido poco intervenido por grandes intereses económicos, preservando importantes riquezas naturales, en especial las reservas hídricas.

El viaje se concentró en las zonas demarcadas por los ríos Pascua y Baker, especialmente los lugares de inundación donde un mega proyecto energético (Hidroaysen) pretende instalar represas. La travesía consistió en un recorrido entre la ciudad de Coyhaique y el poblado de Villa O’Higgins, zona entre la cual se ubican estos ríos. Durante el trayecto se realizaron una serie de registros del entorno natural y en especial de los lugares de inundación, en donde a la fecha (2013) viven unas pocas familias en situación de extremo aislamiento.

En los Ñadis, una de las zonas de inundación, se visitó la familia de Nelson Garrido, un poblador que ha pasado una vida entera en la región. Además fue posible cruzar al lado norte del rio Baker -donde no existe camino para vehículos y solo es posible llegar en bote- para visitar una familia que vive en condiciones de aislamiento extremo, sin conectividad alguna. Durante la estadía en los Ñadis fue posible conocer y registrar parte de la realidad cotidiana de estos pobladores como también el entorno natural patagónico, donde la presencia humana parece desaparecer ante la inmensidad del paisaje.

El viaje continuó en la zona del río Pascua, donde se visitó el Hospedaje Lago Quetro, una posada familiar ubicada en medio del paisaje y la rivera del río Pascua, zona que eventualmente sería afectada por la inundación. Ahí se investigó y registró el entorno de la familia, el uso de la radio como principal medio de comunicación con el exterior y también el paisaje natural de las inmediaciones y su vida silvestre.

Además de estos lugares de inundación también se realizaron una serie de registros en las inmediaciones y locaciones intermedias entre estos dos ríos, llegando hasta el poblado de Villa O’Higgins, donde termina la Carretera Austral.

Segundo Viaje: Magallanes
Viaje a la región de Magallanes y Campos de Hielo Sur. Fue la única travesía donde no se utilizó transporte de automóvil para explorar el territorio, ya que el lugar de estudio, el glaciar Grey y sus inmediaciones, son un parque nacional y un entorno completamente natural donde no es posible desplazarse más que en barco y a pie.

Este viaje fue realizado en conjunto con dos organizaciones de la ciudad de Punta Arenas (la ciudad
más austral de Chile y ubicada a 400 kms del glaciar): LiquenLab, grupo independiente de artistas visuales, y un grupo de científicos de la DPA o Dirección de Programas Antárticos de la Universidad de Magallanes.

Se coordinó un viaje conjunto al glaciar, bajo la supervisión de los científicos de la DPA, quienes tenían como misión rescatar equipos de medición instalados al interior del glaciar. A su vez los artistas de LiquenLab buscaban realizar proyecciones visuales sobre el glaciar, en lo que configuraba como una expedición con tres objetivos simultáneos.

Gracias a los investigadores de la DPA fue posible acceder a zonas privilegiadas no accesibles para turistas. Luego de un viaje en barcaza de dos horas por el lago Grey se accedió a un nunatak (enorme isla de piedra ubicada justo en la mitad del paredón del glaciar que se precipita al lago), donde se instaló un campamento. A partir de ahí, y luego de una caminata de dos horas se ascendió hasta la superficie del glaciar donde, bajo la supervisión de los científicos, se caminó por el hielo con el principal objetivo de rescatar los equipos enterrados 600 metros hacia el interior de este.

La experiencia de caminar sobre esa masa de hielo resulta compleja de describir, principalmente porque es una superficie muy particular, llena de irregularidades, grietas, flujos de agua, moulines, flujos submarinos etc. Luego de 40 minutos de caminata fue posible rescatar los equipos científicos y comenzar el regreso al nunatak, tiempo en el cual se realizaron dos detenciones para registrar algunos aspectos del hielo como orificios de drenaje ubicados en la superficie (moulin).

Debido a las complicaciones, medidas de seguridad y prioridades de los científicos que comandaban la expedición, el tiempo de exploración aural sobre el glaciar fue muy reducido, lo que significó solo dos registros de no más de 15 minutos. Por esta razón la investigación en el glaciar Grey se concentró en las inmediaciones, en los hielos desprendidos, en las playas circundantes y el bosque. De este modo durante los dos días siguientes se abarcaron las inmediaciones cercanas al refugio del lago Grey, cartografiando la vida natural, la actividad de los barcos y especialmente los desprendimientos del glaciar a través de los témpanos que se iban acumulando en pequeñas bahías y playas próximas a él. Si bien no fue posible volver al glaciar, sí pudo explorarse la actividad submarina en zonas próximas y los témpanos como signos de su retroceso.

**Tercer viaje: Arica y Parinacota**

El tercer viaje fue el más extenso y estuvo centrado en la exploración del río Lluta, incluida una zona desértica y el altiplano.

El Valle de Lluta se ubica en el extremo norte de Chile y de él depende parte importante de la producción agrícola de la ciudad de Arica y la región. Posee cultivos y plantaciones de vegetales como choclo nativo y tomate.

El conflicto en Lluta está instalado debido a la ya inminente construcción del proyecto minero en los orígenes del río, donde se ubicará la minera Los Pumas que extraerá manganeso. La construcción de este proyecto contempla la instalación de lagunas de residuos tóxicos a solo 150 y 200 metros del cauce del río, lo que significará la contaminación inminente de este. El impacto caerá directamente sobre los 10.000 campesinos que viven de los cultivos del valle y también sobre el agua potable de la ciudad de Arica.

Durante este viaje se realizó un mayor numero de intercambios con pobladores y activistas, generando entrevistas como la realizada a la científica/botánica de la Universidad de Tarapacá Eliana Belmonte, o el activista en contra de los proyectos mineros Francisco Salvia. También se entrevistó a campesinos y se documentaron algunas conversaciones casuales con pobladores de la zona. Todas estas entrevistas, como también parte importante de los registros realizados durante los tres viajes, se encuentran disponibles.

La cuenca del Lluta presenta un paisaje muy diverso que va desde un humedal, en su desembocadura, a un valle lleno de vida y agricultura. Hacia el origen del río en la cordillera, se alcanza el altiplano andino llegando hasta 4000 metros de altura. Cerca de allí se instaló la base de
operaciones de la travesía, en el poblado de Putre, ubicado por sobre el valle y a los inicios de la región altiplánica, a poco más de 3000 metros de altitud. Desde Putre fue posible recorrer y explorar tanto hacia el origen del río, donde se proyecta la minera Los Pumas, como también hacia la parte baja donde se encuentra el valle.

El trabajo de campo durante este último viaje presentó características particulares dependiendo de la región: el altiplano -donde se ubica el origen del río- es un paisaje de altura, con muchos bofedales y afluentes de agua, viento y condiciones climáticas difíciles; el valle de Lluta, en cambio, es un oasis en medio del desierto de Atacama, zona agrícola encerrada entre las quebradas por donde transita el río. De este modo no resulta extraño que estos entornos expresen estas diferencias en sus paisajes acústicos, el altiplano como espacio abierto en progresivo abandono y quietud; el valle de Lluta como centro agrícola y de tierra cultivable en base al río, fuente de abastecimiento económico para las familias campesinas.

Una característica cultural importante del paisaje en el altiplano chileno son los innumerables poblados y caseríos que se encuentran actualmente en abandono y a punto de desaparecer. Según relatos de los propios pobladores esto es debido al atractivo de la ciudad de Arica para las nuevas generaciones, dejando abandonados lugares que en muchos casos habían sido instalados por culturas prehispánicas.

Otro aspecto destacable es la resistencia que se ha formado contra el proyecto los Pumas en el Valle y la ciudad de Arica, allí se entrevistó a campesinos y activistas que relataron como ven con preocupación el futuro del proyecto y los problemas internos que enfrentan debido a que la mayoría de los pobladores son personas de edad avanzada que por primera vez se ven enfrentadas a una situación que pone en riesgo su escaso patrimonio.

El proyecto Hidrografías: 607km tiene múltiples objetivos respecto a los resultados y el material recopilado. El primero fue la publicación de los registros y entrevistas en la cartografía sonora colaborativa www.audiomapa.org, donde actualmente se pueden revisar los tres viajes. Además el proyecto a generado presentaciones a modo de concierto/performance, siendo en el contexto de Hydrosonics nodo del 3WDS14, donde se realizó por primera vez el ejercicio performático basado en los sonidos capturados durante el viaje. Este concierto fue realizado en conjunto por Fernando Godoy, Rodrigo Ríos y Entelequia Proyecciones quienes se encargaron de las proyecciones visuales. Toda la performance esta basada en registros del agua o en la manipulación de ella para ser proyectada visualmente.

Finalmente se espera publicar una pieza sonora de larga duración, basada íntegramente en los registros del viaje, pieza que se encuentra actualmente en desarrollo.

El proyecto fue financiado por la Fundación Príncipe Claus de Holanda.
Biografía del Autor
Fernando Godoy M. es ingeniero electrónico y licenciado en música. Vive y trabaja en Valparaíso. Su trabajo utiliza diversos medios y soportes para investigar los fenómenos sonoros. Algunos de sus campos de interés son el estudio del paisaje sonoro, la vinculación arte/tecnología, los fenómenos acústicos y su relación con el territorio y la percepción temporal. Sus prácticas incluyen presentaciones en vivo, instalaciones, proyectos web, composiciones y el desarrollo artesanal de tecnologías electrónicas. Desde el año 2008 ha sido director del Festival de Arte Sonoro Tsonami, plataforma para la difusión y el desarrollo de propuestas sonoras contemporáneas.

Referencias y Links
Por favor consulte la versión en Inglés de arriba.

Water Views: Caring and Daring • Waterwheel World Water Day Symposium 2014 • 3WDS14

CRÉDITOS DEL PROYECTO
Fernando Godoy Monsalve: Idea, registro sonoro y encargado del proyecto.
Rodrigo Ríos Zunino: Registro audiovisual y fotografía, apoyo en registro sonoro y producción.
Paola Ruz del Canto: Registro fotográfico en los viajes a Aysen y Lluta.

Referencias y Links
Por favor consulte la versión en Inglés de arriba.

Water Views: Caring and Daring • Waterwheel World Water Day Symposium 2014 • 3WDS14

Fig.6 & 7 Captura de pantalla de la presentación en el TAP / Screen captures of the Tap presentation

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REMEMBERING CHINAMAN CREEK
Dr Nicholas Ng & Amber Hansen
Griffith University, Brisbane, Australia

“When men are friendly, the water is sweet.” — Chinese proverb

Abstract
This cross-art collaboration (dance, music, spoken word) is a performative response to the role of water in China’s age-old relationship with Australia. Using new media with traditional instruments in a structured improvisatory format, we arrived at a contemporary interpretation of the importance of water in this saga of Australian history. In this practice-based piece, we drew on notions of myth and memory with a vision towards the future.

Background
Australia, unequivocally a western nation situated in the Asia Pacific, has grappled to define and redefine its connection with the ‘Middle Kingdom’ since the earliest times of Chinese migration. Water has been a constant point of connection between the two countries. Historians reveal that the intelligentsia of China were aware of a great land mass to the south, centuries prior to European exploration: the northern Australian coast line was frequented by Chinese-employed Makassar fishermen in search of Bêche-de-mer (a potent aphrodisiac), while the great Fifteenth Century Ming Admiral Zheng He allegedly directed his fleet to the northern coastal line of Australia using the brilliant star Canopus for navigation (Rolls, 1992, 1996; Langton, 2011). The figure below reveals the official Seventeenth Century Chinese understanding of the world as a round globe, consisting of land masses separated by huge waterways.

The mid-1800s brought shiploads of Chinese to Australian shores. This was mainly due to the explosion of the Mainland Chinese population to some 400 million by 1850 due to a long phase of internal peace without any means to engage the growing population in any productive way. China was consequently infested with ‘destitution, popular demoralization, corruption, apathy, and the breakdown of public order and personal morality’ (Pan 1994: p. 43). In addition, there was political and civil strife caused by the Opium Wars, the Treaty of Nanjing, other unfair treaties and the infamous Taiping Rebellion of 1850–1864 (Belden 1997: pp. 30–31).

The earliest Chinese to venture into Australia via the southern seas during this period came as...
indentured labourers and gold diggers. Early films such as The Birth of White Australia (1928) reveal that Chinese diggers seeking their fortune on the goldfields were quick to alienate their European counterparts by polluting communal waterways (Walsh 1928) (Figures 2, 3 & 4). Social tension was further exacerbated by the performance of Cantonese opera, which most European miners found intolerable. The ensuing disharmony fuelled by this and other cultural differences eventually culminated in outbreaks of civil violence and brutal massacres, the best remembered of which are the Lambing Flats Riots of 1861 (Fitzgerald, 1997; Fitzgerald, 2007; Rolls, 1992; Williams, 1999, p. 28).

Fig. 2, 3 & 4 The Birth of White Australia — washing in the creek (1928).
Many Chinese returned home as gold dwindled, but many stayed and later took up market gardening. They developed methods of working with water as a shared resource, to the benefit of themselves and those around them. These highly progressive gardeners gained their success from natural fertilisation and strategic placement of garden beds along waterways.

In 2012, the film Chinaman Creek was released in recognition of the Chinese contribution to ecological farming (Figure 5). This historic film is set around the location of Chinaman Creek, near Conclurry in northwest Queensland, and addresses the theme of mixed marriages between “Chinamen” and European women. Amber Hansen is herself partially of this heritage, so it was a pleasure for us to explore this narrative through sound and exploratory movement (Chinaman Creek).

**Fig. 5** Chinaman Creek — film shoot 2 (2012).

**Performance**

In our piece, we wanted to draw on the importance of water in relation to Chinese settlement, and various related themes and issues that have arisen in the often times uneasy dialogue between Australia and China.

Water represents wealth in Chinese culture; it is also one of the five natural elements that govern Chinese cosmological thought. While preparing for the performance, we looked for ways to sonically explore how this money-bringing element brought prosperity to the gold diggers, and later, the market gardeners.

**Fig. 6** “The large gong, struck and dipped in water.” Screen capture.
The large gong, struck and dipped in water to produce varying pitch and timbral inflections, comes with symbolic meaning (Figure 6). Musically marking the beginning of the piece, it represents the entry of the early Chinese into the rich gold-bearing waters of the Australian gold rush. The gong, like the small cymbals used in this piece also alludes to gold, another of the Chinese cosmological elements, and the main reason behind the eighteenth century mass Chinese exodus into Australia and America.

After the opening gong passage, a metal bowl is placed in the same container of water and struck in rhythmic counterpoint to the gong in the adjacent screen. This bowl is a reference to the tools of colonial gold fossicking and tin mining. The percussive dialogue refers back to the sounds of the arduous labour of many a Chinaman in this era. There is much recorded on the recreational activities of the early Chinese in Australia on the goldfields and in the mines. When not working, they enjoyed performances of music and theatre produced by fellow workers or professionals on an Australian show circuit (Farrell 2009; Giese 1995; Love 1985; Lydon 1999).

Fig. 7 “After the opening gong passage, a metal bowl is placed in the same container of water.” Screen capture.

The most popular instruments still in use today are the erhu (two-stringed fiddle) and pipa (four-stringed lute), and Nicholas introduces these instruments in succession, with some sacred and secular vocal vignettes to complement Amber’s own sojourn from Chinese temple drum, gong, accordion and voice.

Facing the online audience on the left of the screen, Amber explores her unique Australian ancestry in relation to the theme of the film, Remembering Chinaman Creek. On her paternal “Australian” side, Amber has a Chinese ancestor from Amoy (otherwise known as Xiamen) in Fujian Province, who migrated to Australia during colonial times. She embeds textural, melodic and harmonic passages on the accordion against Nicholas’ Chinese instruments. In addition, she brings in her maternal Lebanese ancestry through vocal inflections and Arabic modes through a pre-composed piece, Old Streets of Amoy, featuring a melody written specifically for Nicholas’ zhonghu (two-stringed fiddle), a lower variant of the erhu.

In terms of form, we jointly decided on a semi-improvised structure of four sections with pre-composed segments that would at times isolate each of the instruments, and other times combine them in a meaningful way. Of course, we were limited by what we could physically achieve as a duo, and our particular skills and areas of expertise: Chinese chant was juxtaposed with piano accordion; the temple drum occasionally appeared solo in fast sections and above a pre-recorded soundscape; and the erhu and accordion were played above a contemporary digitised track. We each had a pre-recorded track embedded into the performance. These soundscapes very much allude to the unique contours of the Australian coastal landscapes and the murkiness of myth and memory.

To help evoke this memory, we found the need to move physically over the pre-recorded soundtrack.
towards the end of the performance as a cathartic gesture. Amber and I have trained in completely different types of movement (we have between us bellydancing, wushu and ballet). However, we managed to find ways to structurally improvise together in a meaningful way with long, red and yellow ribbons most commonly used in Chinese ribbon dancing (Figures 8, 9 & 10). The colours red and yellow are symbolic of China. The Yellow River is China’s most well-known waterway, while red has for several centuries been the colour associated with China. At the same time, yellow, as a racially signifying colour, was used in a derogatory manner to refer to the Chinese at a time when Australia feared a ‘Yellow Invasion’ from the North (Rolls 1996). This eventually led to the Chinese exclusion acts of the late Nineteenth Century and the infamous White Australia Policy. Red, as part of our artistic dialogue, refers also to bloodlinks and blood, which like water flows through the generations despite prejudice and other social obstructions to intercultural harmony.

Fig. 8, 9 & 10 ‘Remembering Chinaman Creek’ – ribbon work. Screen captures.
Concluding remarks

Water has played an extremely important role in the centuries-old relationship between Australia and China. It was a great privilege for us as artists to address this importance through a musical and movement-based play on myth and memory as part of the Waterwheel initiative. Inspired by the proverb at the start of this paper, we aimed to explore, through sound and movement, how the quality of life improved for colonial Australian pioneers when people worked together towards harmony between cultures. Water, so central to the lives of those in the goldfields and mines, certainly started to run sweet despite racial attitudes of the time.

Using a contemporary and multimedia platform within a semi-improvised structure, we were able to explore, through suggested sounds and gestures, certain historical incidents in the often tenuous relationship between China and Australia. We are aware that many positive developments are taking place as these two cultures continue to meet in friendlier ways through the medium of water; it is of great interest to us how this relationship will develop in the decades to follow.

AUTHOR BIOGRAPHIES

Dr Nicholas Ng is a composer/performer/Research Fellow at Queensland Conservatorium. His music may be heard on the radio (ABC), in dance and theatre productions (Australian Choreographic Centre), and as exhibition installations (Art Gallery of NSW). Nicholas has performed at venues including Merkin Concert Hall (New York), and has been commissioned by the Melbourne Symphony Orchestra and other ensembles. He is published by Orpheus Music and collaborates with William Yang, Anna Yen and Julian Wong.

Amber Hansen is an Australian multidisciplinary artist, composer, producer, performer, researcher and teacher with a mixed cultural heritage (Lebanese, Danish, Chinese, Irish, Welsh). Amber is most passionate about composing for film and dance works as well as engaging with Arabic music, language and dance. In 2012 Amber successfully completed a Master of Music practice-based research project exploring her own cross-cultural practice as a composer, producer and performer, and is founder / creative director of ASHAJARA (Arabic for ‘The Tree), an emerging Australian / Arab Near Eastern inspired creative initiative and arts company.

REFERENCES & LINKS

Nicholas Ng http://www.nicholasngmusic.com
Amber Hansen www.amberhansen.com


Mount Alexander Mail [newspaper]. (1858, October 1). VIC.


Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4977
VOLUMINOUS HYDROLOGIC
Sergey Jivetin
High Falls, NY, USA

The presentation showcased ‘Voluminous HydroLogic’ sculptural installation artwork in action. ‘Voluminous HydroLogic’ is one in a series of Jivetin’s mechanical installation artworks, inspired by the fragility of the equilibrium of the Hydrologic cycle. First shown in a hospital environment, it uses medical apparatus and materials to convey a sense of an artificially supported bodily organ. For the Waterwheel Symposium, the piece was installed and live-streamed from Jivetin’s studio in High Falls, New York, USA.

‘Voluminous HydroLogic’ is composed of 800 feet of medical flow tubing filled with blue-colored water and intermittent bubbles, and hooked up to an internal feeding pump. In medicine, such peristaltic pumps are used to provide nutrition by an artificial means, such as a feeding tube.

The rate of flow of water inside the tubing is designed for a steady and peaceful reflection, though it is often interrupted with moments of higher or lower rates of flow, created by the pressure fluctuations inside the closed system. These natural occurrences/disturbances allude to the unpredictability of full control over nature.

The mechanical pump sound provides white-noise: a synthetic soundscape alluding to human involvement, and adding a sense of artificiality.

Fig.1 ‘Voluminous HydroLogic’ sculptural installation.

Artist Statement

Our existence is an intersection of finely balanced eco-systems: internal and external; biological and environmental; micro and macro. Most of the time we take the configuration and maintenance of those systems for granted. But whenever that delicate balance is out of tune, we seek to re-establish the equilibrium through artificial and synthetic means, relying on scientific apparatus, advanced materials and current technology to correct the imbalance.

A hospital environment is teeming with artificial support systems that replicate or enhance natural cycles of the human body. Each apparatus is designed to serve a specialised purpose, to replace one of the elements in a
very complex system. Curiously, the consequent external observation of the internal dynamics of the body also reveals the precision and fragility of its equilibrium.

Water is an essential element in these cycles, being the medium as well as the necessary nutrient. Its flow sustains the individual as well as collective planetary existence. As invisible and seemingly disparate as they appear, the internal biological and external hydrologic cycles of water are inseparable. Unfortunately, we often realize their fragility only when these flows are interrupted.

Growing up in a green oasis-city near a vast desert in Central Asia, I became acutely aware of the scarcity and importance of water, and its absolute necessity for our environment. I was witnessing the poorly planned irrigation for agriculture and cotton production significantly interfering with the delicate balance of the natural, local eco-system to the point of inflicting major and irreversible damage.

Now living on the East Coast of the United States, surrounded by a great abundance of water, I find it is completely taken for granted. In my recent work, I seek to highlight the fragility of the equilibrium of the hydrologic cycle and the effects of our intentional or unintentional influence on it.

Fig. 2 & 3 ‘Voluminous Hydrologic’ sculptural installation. Screen captures.
BIOGRAPHY


LINKS

http://jivetin.com

video 1: http://www.youtube.com/watch?v=Z8o_ddpZx74&feature=youtu.be

video 2: http://www.youtube.com/watch?v=ew7TeS3HTgk&feature=youtu.be

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4971
IMAGINARY CONCERTS
Dr. Ricardo Dal Farra
CEIARTE, National University of Tres de Febrero – Argentina

‘Imaginary Concerts’ is an electroacoustic music performance series that the Electronic Arts Experimental and Research Centre (CEIARTE) of the National University of Tres de Febrero (UNTREF) launched in Argentina in 2006.

The online edition of the ‘Imaginary Concerts’ presented during the Waterwheel Symposium 2014 included works focusing on the main theme of the event: water.

CEIARTE has been linking art, science and new technology projects for a decade. The centre devotes a significant part of its activities and initiatives to projects aiming to find solutions to environmental threats to human life by using new media art as a catalyst.

In 2010, CEIARTE organized the first Balance-Unbalance Conference in Buenos Aires, and in 2012 launched the first ‘art!climate’ competition in collaboration with the Red Cross Climate Centre. Most of the sound-based art miniatures in the ‘Imaginary Concerts’ program were pieces selected during this international competition.

Fig. 1 Screen capture of the Tap presentation. Captura de pantalla de la presentación en el Tap.

PROGRAM / PROGRAMA

‘Many Drops’—Richard Garrett (UK / Reino Unido) [*]  
‘Drip Bop Drop Dribble’—Alden Jenks (US / Estados UNidos) [*]  
‘Agua’—Antonio Russek (Mexico) [*]  
‘Entre mi cielo y tu agua / Between my Sky and your Water’—Ricardo Dal Farra (Argentina / Canada)  
‘Radiation Balance at ‘Top of the Atmosphere’ (TOA) from 1850 to 2300’—Katharina Vogt (Austria) [*]  
‘Natural’—Pablo Anglade (Argentina) [*]  
‘Mosquitoes’—João Fernandes (Portugal) [*]  

[*] Piece submitted to the ‘art!climate’ contest.
BIOGRAPHY

Ricardo Dal Farra is an electroacoustic music composer and new media artist, researcher, educator and curator. He holds a PhD in Arts from UQAM. Dal Farra is Professor in the Music Department of Concordia University, Canada and has been director of the Hexagram Centre for Research-Creation in Media Arts at the same university.

He is also the founding Director of CEIArtE, the Electronic Arts Research Centre at the National University of Tres de Febrero, Argentina. Dal Farra has been developing a number of projects aiming to use (electronic) art as a catalyst, with the intent of engendering a deeper awareness and creating lasting intellectual working partnerships towards solving our global environmental crisis, among them: Balance-Unbalance, the ‘art!xclimate’ contest together with the Red Cross/Red Crescent Climate Centre, and more recently, the EChO worldwide database.

LINKS

http://ceiarteuntref.edu.ar/art_climate_selected_works
http://hexagram.concordia.ca/researcher/ricardo-dal-farra
http://ceiarteuntref.edu.ar

First Balance–Unbalance conference at the National University of Tres de Febrero, Buneos Aires, Argentina http://ceiarteuntref.edu.ar/eq-deseq-en

Second Balance–Unbalance conference at Concordia University, Canada
http://balance-unbalance2011.hexagram.ca/?page_id=229


http://ceiarteuntref.edu.ar/arte_clima_ obras_seleccionadas
http://ceiarteuntref.edu.ar/art_climate_2014
http://ceiarteuntref.edu.ar/seleccion_especial_arte_clima

Video document of the 3WDS14 presentation: http://water-wheel.net/media_items/view/4976

Versión Española

CONCIERTOS IMAGINARIOS

Dr. Ricardo Dal Farra
Centro de Experimentación e Investigación en Artes Electrónicas de la Universidad Nacional de Tres de Febrero - Argentina

‘Conciertos Imaginarios’ es un ciclo dedicado a la música electroacústica que el Centro de Experimentación e Investigación en Artes Electrónicas (CEIArtE) de la Universidad Nacional de Tres de Febrero viene realizando en Argentina desde 2006.
El concierto online presentado durante el simposio Waterwheel tuvo como tema central al ‘agua’.

CEIArtE viene realizando actividades vinculando arte, ciencia y nuevas tecnologías desde hace alrededor de una década. El Centro dedica una significativa parte de sus esfuerzos a proyectos que buscan encontrar soluciones a los problemas ambientales que ponen en peligro la vida humana, empleando a las artes electrónicas como factor catalizador.

CEIArtE organizó la primera conferencia internacional Equilibrio-Desequilibrio (Balance-Unbalance, por su nombre en inglés - en 2010 y más recientemente el concurso ‘arte!clima’, conjuntamente con el Red Cross/Red Crescent Climate Centre.

BIOGRAFÍA DEL AUTOR

**Ricardo Dal Farra** es compositor y artista multimedia. Doctorado en artes por la UQAM, es profesor del Departamento de Música de Concordia University, Canadá, y ha sido director asociado del Hexagram Centre for Research-Creation in Media Arts en la misma universidad. Es además Director fundador del Centro de Experimentación e Investigación en Artes Electrónicas (CEIArtE) de la Universidad Nacional de Tres de Febrero, Argentina. Dal Farra ha iniciado proyectos como Balance-Unbalance dedicado a buscar soluciones a la crisis ambiental integrando al trabajo artístico como factor catalizador; y “arte!clima” en conjunto con el Centro del Clima de la Cruz Roja.

REFERENCIAS Y LINKS

Por favor consulte la versión en Inglés de arriba.

**Fig.2** Captura de pantalla de la presentación en el Tap / Screen capture of the Tap presentation
Presentation

‘Mille Lumières’ preview at the Planetarium of Espace Mendès/Lieu Multiple. Shift from a landscape to abstraction, for a delicate visual and sound adventure in Poitevin country with Jacques Perconte and Julie Rousse. Thousands of sounds, thousands of colours, thousands of pixels, thousands of samples, thousands of materials for an acoustic and visual meeting. Manipulation of video files with broken structures, savage compressions and magical landscapes mixed with spontaneous collages of acoustic taken as raw and dynamic. It is an experience that oscillates tenderly between bucolic initiation and psychedelic trip.

Presenters

Julie Rousse, born in 1979, lives and works in Paris. Sound artist, improviser performer and electroacoustic composer. Her work is diverse and expressed through many different projects, first of all live performances. She also works on sound installations, music scores for films, works with choreographers and directors and does sound creation for photographers. Passionate phonographer, she is always looking for new sonic sources in her travels through Europe and the world, exploring the possibilities of sound capturing in specifically chosen contexts (urban, natural or industrial); working with different recording devices and microphones, using them as instruments; sometimes with movie extracts, television or radio archives... In this process she oscillates between purity of the recordings and a special attraction for archaic, Lo-Fi machines.

Jacques Perconte is a French filmmaker and new media artist born 1974 and living in Paris. He is well known as one of the pioneers of French Internet art. He is among the first artists to have worked on compression codecs. Jacques made his debut with Internet and video art. His first films date back from 1995 and his first Internet artworks from 1996. The website technart.net is the core of his work, showcasing all his activities (notes, articles, performances... the web is endless). He frequently works with other artists. Even though his works become less and less theoretical, the relation between form and substance remains crucial. Jacques Perconte works on the forms of fiction in various media as well as a formal research, focused on the body and the landscape. He has a good knowledge of his technology, which serves him when dealing with frame and colour. He tries to transform digital technology into a new media, which can be aesthetically as rich as any other classical art.

Links

http://julie.la.rousse.free.fr
http://technart.net
http://www.jacquesperconte.com/oe?142

Screen recording of the Tap presentation parts 1 & 2:
http://water-wheel.net/media_items/view/4970
http://water-wheel.net/media_items/view/5078
Top Left: Julie Rousse and Jacques Perconte during their performance at the Poitiers Planetarium, Espace Mendes in France Screen capture.

‘Mille Lumières’ preview. Screen captures.
Presentation

Electroacoustic performance and research presentation with a live hydrophone in Brisbane River was presented by Toby Gifford and Simon Linke, who are part of the ‘River Listening’ Project. This was a pilot performance for ‘River Listening,’ a large-scale art-science project exploring the creative possibilities of aquatic bioacoustics and the potential for new approaches in the management and conservation of global river systems. In 2014, The Australian Rivers Institute (ARI) and Dr Leah Barclay were awarded a prestigious Synapse grant to support the development of ‘River Listening.’

Presenter

Dr Toby Gifford is a music technologist, sound designer and acoustic musician. He has recently completed his PhD in interactive music systems. His Jambot software has received national acclaim, appearing on the ABC New Inventors program. Recent interactive installations have been exhibited at the Australian Centre for the Moving Image, the Museum of Melbourne, Splendour in the Grass music festival, and the European Capital of Culture Festival in Patras, Greece. He is currently an artist-in-residence at GOMA, Brisbane, developing live soundtracks for silent films. He is an active acoustic musician. His teaching experience includes computational arts, digital aesthetics, and music interaction. He is currently working as a Research Fellow in computational musicology.

Dr Simon Linke is a Senior Research Fellow of the Australian Rivers Institute, Griffith University. After graduating from Universitaet Konstanz, Germany, in 2000, he moved to Canberra, at first working as a research officer in biomonitoring and species modelling and then, supervised by Prof Richard Norris (University of Canberra), Prof Bob Bailey (University of Western Ontario) and Prof Bob Pressey (now James Cook University) for his PhD (2003–2006), he adapted systematic planning algorithms to riverine landscapes. In 2006, Simon moved to the University of Queensland on an eWater CRC funded postdoctoral fellowship, working in Hugh Possingham’s lab. Today, Simon Linke is recognized as one of the world leaders in the field of freshwater conservation planning. Despite only being six years out of his PhD, together with a group of 4-5 researchers from Australia, New Zealand and South Africa, he is one of the founders of the discipline of conservation planning in river systems.

Links

http://riverlistening.com

http://leahbarclay.com

Screen recording of the Tap presentation:
http://water-wheel.net/media_items/view/4979
From left to right: Toby Gifford and Simon Linke at Brisbane River in the early morning, and on the Tap. Screen capture.
Appendices
CALL FOR PROPOSALS

Waterwheel World Water Day Symposium 2014 – 3WDS14
“Water Views: Caring and Daring”
17–22 March 2014

Following last year’s success, this 3rd online edition of Waterwheel World Water Day Symposium - 3WDS14 will be hosted during the week leading up to and concluding on World Water Day, 22 March 2014.

Scientists, academics, artists, architects, urbanists, engineers, practitioners, activists, inventors and water drinkers are invited to submit projects and papers (25-minute presentations), performances (up to 20 minutes), panels and workshops (3 hours maximum and panels must include at least 45 minutes of discussion), on the theme “Water Views: Caring and Daring”.

As an element, water embodies extremes and contrasts: oceanic depth or shallow rivulet, transparent or opaque, flowing or still. Water cycles through the living systems of the planet: water bodies, life forms, atmosphere. Climate change has produced global water extremes in terms of sea level rise, polar ice disappearance, floods, droughts and desertification. Is water a shared resource or a commodity that is bought, sold, owned and wasted? While we might not all share the same perception of water, exploring deeper connections to it may facilitate a greater understanding of how our collective views have influenced actions and decisions about water.

3WDS14 will explore questions about how we are living, and will continue to live, with water and its contrasts. There is a demand for new perceptions and approaches to water management, urban planning, and cooperation, as well as for a renewed respect for water as a vital resource and shared heritage.

The symposium encourages transdisciplinary approaches that include the following sub-themes:
– Histories of human perceptions and practices pertaining to freshwater and seawater,
– Knowledge of our vulnerabilities and conflicts, needs and trends, success and failures involving water, and
– Communication facilitating our collective goals, plans, values and dreams for water, as well as the governance and stewardship that would facilitate them.

3WDS14 will take place on the Internet platform http://water-wheel.net and in “nodes”. Nodes are physical venues for screening portions of the programme to local audiences, as well as for hosting presenters. The symposium is a week-long series of online events representing a diverse collection of geographically-dispersed individuals and communities, with nodes, so far, in San Francisco, New York, Buenos Aires, Tunis, Berlin, Coburg, Poznan, Torun, Paris, Syracuse, Athens, Hydra and Cairns.
NEW FOR THIS EDITION

- Fostering greater creative collaboration among artists and scientists in this year’s symposium, four days of “pitch matching sessions” (Oct 18–21) will offer options for meeting others and exchanging ideas prior to submitting project proposals. If you are interested, please join the doodle, http://bit.ly/3WDS14-PitchMatch-doodle introducing yourself and your work in the comments section!

- We are putting out a special call for proposals from youth, up to age 18 http://bit.ly/3WDS14_youth_call

TIMELINE

- 27 September 2013 Call open
- 22 November 2013 Closing date for submission
- 21 January 2014 Notifications
- 4 February 2014 Program out
- 1–4 March 2014 Training on Waterwheel & technical test
- 7 March 2014 Final papers and media uploaded
- 17–22 March 2014 Symposium week

The proceedings will be peer-reviewed and published online as an e-book with an ISBN.

SYMPOSIUM PARTNERS:

AR: CEIArtE – UNTREF, IQlab & Reciclarte (Buenos Aires)
AU: Bonemap (Cairns); Inkahoots & Igneous (Brisbane)
DE: Bildungsbüro, Aktionstag (Coburg)
GR: World Water Museum Installation (Athens)
PL: Centre of Contemporary Arts (Torun) & University of Arts, Studio for Transdisciplinary Projects & Research (Poznan)
TN: University of Tunis
USA: Ear to the Earth (NY); Milk Bar & WEAD – Women Environmental Artists Directory (San Francisco)

The selection committee is composed of professors, teachers, researchers, scientists and artists:

AR: Alejandra Ceriani, Bernardo Piñero (Buenos Aires)
AR / CA: Ricardo Dal Farra (Buenos Aires / Montreal)
AU: Leah Barclay, Suzon Fuks (Brisbane); Russell Milledge (Cairns); Mary Gardner (Byron Bay)
CO / FR: Paula Vélez (Medellín / Paris)
DE: Irina Novarese (Berlin); Jasmin Müller-Alefeld (Coburg)
IT / AU: Silvana Tuccio (Syracuse / Melbourne)
NZ: Ian Clothier (New Plymouth)
PL: Dobrila Denegri (Torun)
PL / DE: Joanna Hoffmann-Dietrich (Poznan / Berlin)
TN: Amin Hammami (Tunis)
USA: Allison Leigh Holt, Ian Winters, Lauren Elder, Molly Hankwitz (San Francisco); DL ‘West’ Marrin (San Diego)

UNIVERSITIES COMMITTEE

AR / CA: Ricardo Dal Farra (CEIArtE-UNTREF, Buenos Aires / Hexagram-Concordia University, Montreal)
AU: Russell Milledge (James Cook University, Cairns)
PL: Joanna Hoffmann-Dietrich (University of Arts, Studio for Transdisciplinary Projects and Research, Poznan)
TN: Amin Hammami (University of Tunis)
The selection committee’s notification will be announced on January 21, 2014. Text of selected works should be formatted according the template provided here http://bit.ly/3WDS14_template-paper and uploaded by 7 March 2014 latest.

Guidelines for submitting a proposal with ‘EasyChair conference system’

**PROPOSAL GUIDELINES**

- Proposals should be uploaded via the EasyChair conference system and be 300 words maximum, and include links to supporting materials.
- Final papers should be a maximum 3000 words
- Performances and installations should be appropriate for the proposed site and conference theme, and must be viewable by an online audience on Waterwheel’s Tap (a videoconferencing, media mixing, and interactive system).
- Time limits are: 25 minutes (projects and papers), 20 minutes (performances), 3 hours max (panels and workshops, including at least 45 minutes discussion for panels)
- We encourage trans-disciplinary and artistic/scientific projects that include, but are not limited to, a combination of creative approaches, which could include factual, literary, playful, poetic, musical, auditory, technological (innovations or hacks), visual, and any others related to our curatorial theme of ‘Water Views: Caring and Daring’.
- Projects will be selected on the basis of their addressing the main theme and sub-themes of the Symposium, as well as their focus on critical awareness, novel questions, or explorations into the nexus of critical and creative ideas.

**Note:** Performances, presentations and panels will be streamed ‘live’ online on the Waterwheel Tap and from the nodes. Therefore, we strongly recommend that you exploit Tap-specific functionalities, which include layers, visuals and sound (e.g., live drawing, video, stills, animations, sound, and as many as 6 webcams), and/or audience interaction (e.g., chat boxes). Please look at past Symposium documentation on the Waterwheel blog http://blog.water-wheel.net as part of preparation for your proposal. All selected participants will be asked to practice on the Tap.

While this step in the proposal process is formal, our intention is to mix session types throughout the Symposium week.
Call For Proposals

VOICE OF THE FUTURE – Youth Participation
in Waterwheel World Water Day Symposium 2014 – 3WDS14
17–22 March 2014
Submission deadline: December 31, 2013
No Entry Fee

Voice your ideas in next year’s Waterwheel World Water Day Symposium! The theme is “Water Views: Caring and Daring”. It will take place on the Internet platform Waterwheel http://water-wheel.net. Participate and take an active and important part in an international online event. Meet artists, scientists, water activists and inventors of all ages, and share your photos, images, videos, texts, poems and ideas with the world!

WHAT IS WATERWHEEL?
Waterwheel is like a multi media YouTube where you can upload all kinds of files, and via the Tap, meet people and audiences from around the world. The Tap is like Hangouts or Skype. It is the venue where presentations and performances are held, using your webcams and uploaded media. You can also draw online in real time. Everything can be moved, rotated, resized and more.

HOW TO APPLY: AS AN ARTIST, A PERFORMER, AN INVENTOR OR A CURATOR.
Join our digital party! You will get to play on a cool platform and you will gain experience in putting forward a proposal! You can participate as an individual or as a group (preference will be given to collaboration), posting on the Waterwheel website either:
- An art piece – a drawing, video clip, poem, song, animation, etc
- A live presentation or a performance – as a written or video proposal (for up to 20 min)
- A curatorial project – you may propose to organise or/and present works from a group

MEDIA
- images (photos, drawings) – .jpg, .png (1000 pixels)
- video (with or without sound) – .mp4 (with sound 128kbps)
- animations – .swf
- sound file (e.g. music) – .mp3 (with 128kbps)
- text (e.g. poem) – .doc, .rtf, .pdf
- written proposals – max 300 words explaining what you’ll do and who’s participating – .doc, .rtf Up to 5 media items can be uploaded per proposal.
APPLICATION CALENDAR

- Deadline: December 31, 2013
- Notification of Acceptance: January 21, 2013
- Training sessions: dates to be confirmed. Meanwhile, see ‘How to Use’ below
- Event: March 17 – 22, 2014

CONDITIONS & SELECTION PROCESS

- You can apply in English, French or Spanish.
- A teacher or parent must help you register if you are under 18 years.
- All work presented must be original.
- When you upload your media, identify it with the tag #3WDS14_YOUTH.
- Please refer to the screen capture on the next page for all details.

A curatorial committee will review your applications and art pieces. They will contact you on the email that you supply with your registration.

IF YOU HAVE QUESTIONS, please write to youth@water-wheel.net

HOW TO USE WATERWHEEL

Uploading Media - video: http://vimeo.com/waterwheel/howto-upload
Look for the manual here:
- General information about the Waterwheel website and how it works: http://water-wheel.net/how-it-works

HOW TO UPLOAD YOUR MEDIA

[Image of login page]
Below, we're shown how the media item will load into the Tap to show relative size. If needed, consider resizing the image so that it loads at the desired size.

Do I confirm that the item appears to be fully uploaded, working, and is ready to publish (you won't be able to edit the item after you activate it)?
now click on the logo to go to the homepage, your media is there, the last ring on the wheel!
We are proud to announce the 3rd edition of WATERWHEEL WORLD WATER DAY SYMPOSIUM – 3WDS14 hosted during the week leading up to and concluding on World Water Day, 22 March 2014. The entire symposium will be streamed online via Waterwheel platform for audiences to watch and interact from their own computers anywhere in the world, free of charge!

FROM 17–23 MARCH 2014, MORE THAN 200 PEOPLE FROM 5 CONTINENTS will present their latest work about water. Children, youth, communities, TED talkers, scientists, activists and artists will interact with audience online and in 18 nodes (physical venues) in Argentina, Australia, Colombia, France, Germany, Greece, Israel, Morocco, New Zealand, Poland, USA, Taiwan & Tunisia.

WATER VIEWS: CARING AND DARING is this year’s theme. The Symposium promotes exchange between people who are concerned with water issues - for a better sharing of knowledge, perspectives and governance – through Waterwheel, an online platform dedicated to water. Created two and a half years ago, by an Australian team – Inkahoots, Iguneous and Suzon Fuks. “WATERWHEEL responds to the global need of sharing resources around water awareness, management and celebration. It is also an online global community growing exponentially every year, as is the symposium, Waterwheel’s biggest annual event” says its initiator Suzon Fuks.

3WDS14 PROGRAM composed of 41 sessions, caters for all time zones, and focuses on art, science and activism. It explores questions about how we are living, and will continue to live, with water and its contrasts. Demands for new perceptions and approaches to water management, urban planning, and cooperation, renewed respect for water as a vital resource and shared heritage are highlighted through transdisciplinary approaches.

3WDS14, FAMOUS PATRONS! Ulay, renowned artist from Slovenia - who previously worked with Marina Abramovic - will open the symposium, followed by a performance by internationally acclaimed Singaporean artist, Jason Lim.

3WDS14, AN INTERGENERATIONAL EVENT! Suzon says: “Following feedback of last year symposium, we’ve initiated VOICE OF THE FUTURE to include youth participation. It has received a tremendous response for its first incarnation! Children and youth will have their say amongst adults in sessions such as Activism, Art & Science, Sea Level Rise, and Art & Ecology”. Curator Keti Haliori from Athens has done a stunning job with ‘Ask the Flask’ project, where youth from water-scarce countries exchanged their life experiences with youth.
from water-abundant countries, and collaborate in making art projects.

**3WDS14, AN INTERCULTURAL EVENT!** To mention a few examples, a forum about “Indigenous Water Rights” will challenge us to revisit our perception of water, inline with the Aboriginal ethos of “caring for country”. We will discover how image and sound of a traditional Persian Garden can help balance our urban life style in the 21st century. Two communities, one in Wellington, New Zealand and the other in Taipei, Taiwan will exchange their award winning multi-layered projects to revive their creeks, and their communities at the same time. A session about “Past & Future” water management & perception in India will feature Fulbright scholar and writer Cheryl Colopy.

**3WDS14, A LIVE FORUM!** Discussions between presenters and audience online and onsite will follow every session. People will be able to comment and ask questions to leaders & experts. Indeed, for the “Visual narratives” session, our guest speaker, a TED talker, Angela Morelli, will explain how science, art and design can help to convey important ideas such as virtual water, and its imprint on food.

**3WDS14, A PERFORMATIVE EVENT!** Performances with dancers, musicians, sound designers, circus and live art performers, will entertain and provoke at times. “Some will be world premieres and experiment with new mobile technology, such as “Bay Requiem” with a crew from San Francisco and “Speak 4.0 Liquid” from Buenos Aires. Two TED Fellows will exchange between continents a flurry of white paper vessels in “Ocean Synapse”. The symposium finale with the Ear to the Earth node in NY, will reach its celebratory peak with Hydrosonics Lab in a global jam by high calibre musicians” concludes Suzon Fuks.


**ADDRESS OF THE DAY:** to view the Symposium, open your browser, go to [http://water-wheel.net/tap](http://water-wheel.net/tap) & click the top-most Symposium link. twitter: @the_waterwheel #3WD14

**INTERVIEWS, PHOTOS, VIDEOS and AUDIO**
Symposium Chairs Suzon Fuks (Brisbane) and Amin Hammami (Tunis), as well as each responsible of the nodes are available for interviews, see below. Photos, videos and audio on request.

**KEEP WATERWHEEL TURNING:** The symposium is made possible by the use of Waterwheel’s videoconferencing and media mixing system, the Tap - unique on the web! The Waterwheel creative team has just launched a crowdfunding campaign to revamp the site and update the Tap! Little streams make big rivers! Help us keep Waterwheel going so more people can make and share about water worldwide!

[http://www.pozible.com/waterwheel](http://www.pozible.com/waterwheel)

**ENDS**

**MEDIA ENQUIRIES**
**GENERAL ENQUIRIES** - English/French
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Tunisia: also Arabic: Amin Hammami, amin.hammami@voila.fr, skype aminhammami, mob +21 698 906 890

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