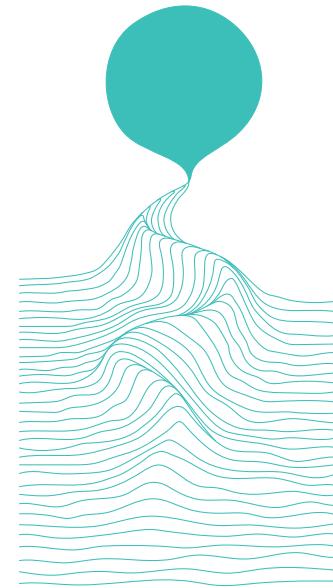


# corrente

*Sharing cultural benefits obtained from a  
riparian ecosystem under restoration*



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riparian ecosystem under restoration*

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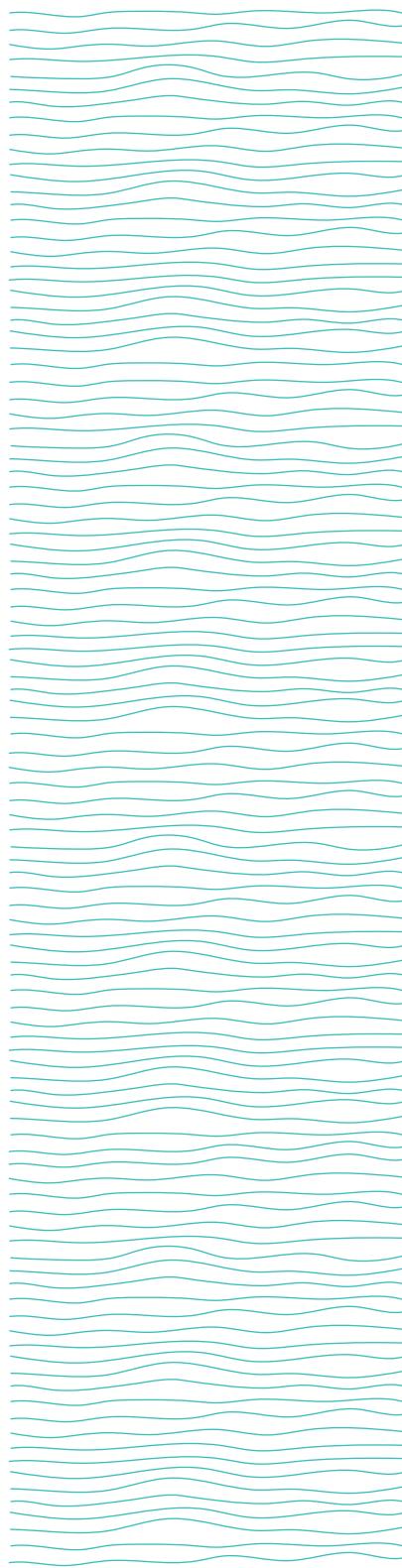
*To Luz,*

*because first and foremost, I swam in her waters.*

# Abstract

## *A project's outlook*

*Corrente* is a project that addresses environmental pressures set by hydropower production on rivers of the province of Südtirol/Alto Adige. It aims at rendering tangible other benefits obtained from a riparian ecosystem under restoration, namely the River Talfer/Talvera, based on an Ecological framework where rivers are understood beyond the resources they provide, for locals of Bolzano to better perceive and give value to beneficial relations with a river that are not shaped by the industrial abstraction of water, and are rather based on reciprocal care. In turn, this is intended to question the adequacy of one's consumption, the energy it demands, and the needs it meets within a framework of increasing demand on renewable energy sources. The project is the result of dialogical interaction with different characters and spaces where care for water is addressed from different fields of knowledge and action. In turn, it exposes the way design can get intertwined in between these efforts to take care of rivers and the benefits they provide for local communities.



# Table of contents

- 15 Acknowledgments
- 17 Introduction
- 20 Of care and Water, and why this project

## **23 1. Theoretical foundations**

- 24 1.1 Diving into a global water-scape
- 30 1.2 Flow of narratives
- 34 1.3 Restoration of freshwater ecosystems
- 38 1.4 Aesthetics of water
- 40 1.5 Interacting with the matter of water
- 44 1.6 Of creativity and water
- 50 Case studies

## **66 2. Diving in the Local**

- 72 2.1 Local waterscape
- 76 2.2 Exploration of rivers
- 88 2.3 Winter Water Talks
- 96 2.4 Of depletion, scarcity and measures
- 100 2.5 Hydropower production and dams in the region
- 108 2.6 Sharing findings with experts

## **120 3. A design project**

- 124 3.1 Framing an artefact
- 134 3.2 Engaging and recording river livers
- 140 3.3 Producing a reflection
- 142 3.4 Displaying a reflection
- 154 3.5 Floating down the river

**164    4.Evaluation**

- 168    4.1 Of designing, or reading a river and writing with it
- 172    4.2 Eco-Social Agency
- 174    4.2 Future possibilities

**178    5. Index**

- 180    5.1 Interviews
- 182    A talk with ML
- 184    A talk with KW
- 186    A talk with TK
- 188    A talk with AV
- 190    A talk with SR
- 196    A talk with HD
- 198    Workshop and performance Semiotics of the river
  
- 200    5.2 Recordings
  
- 220    Ethics statement

**222    Bibliography**

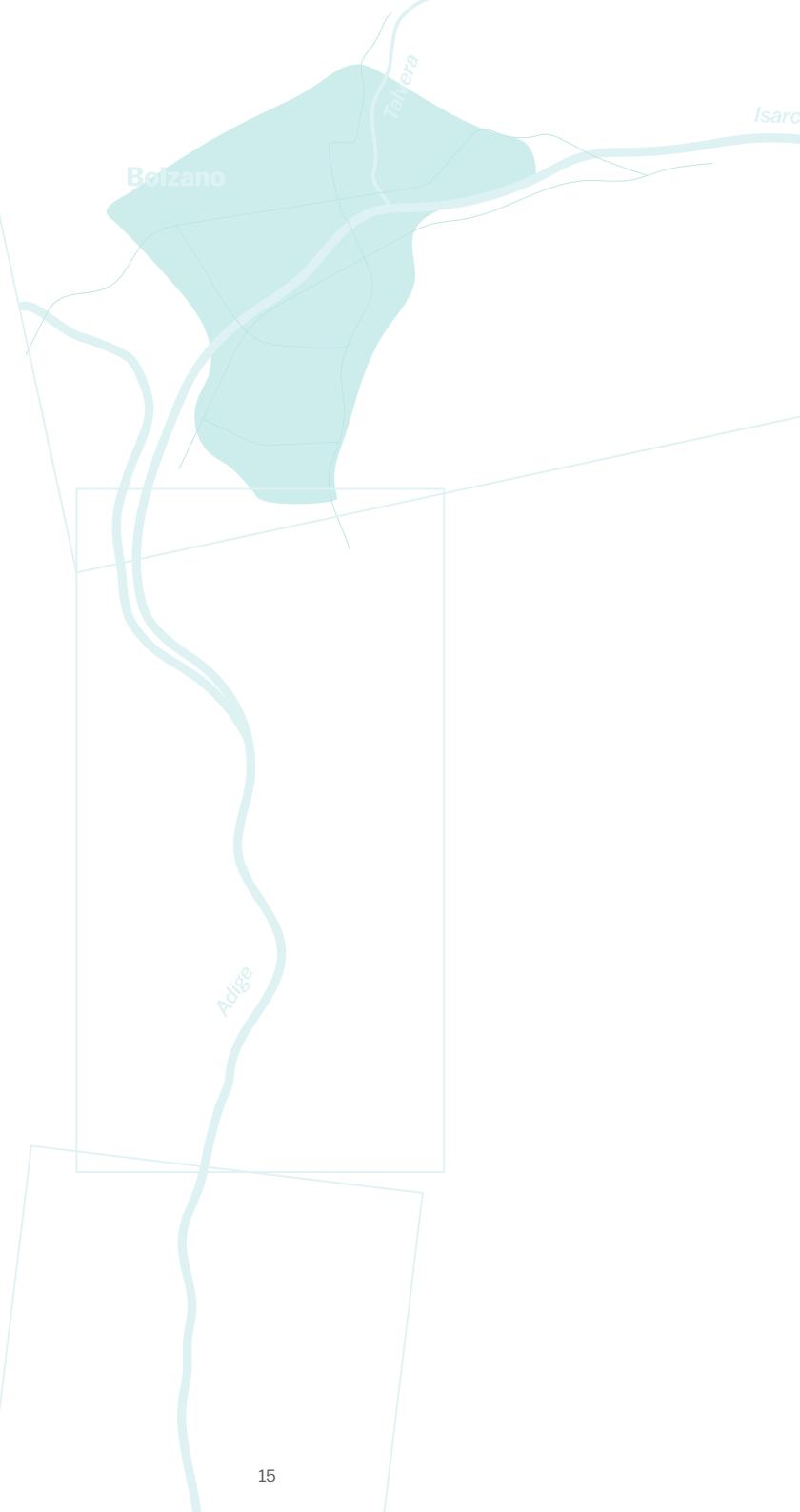
# Acknowledgments

Although the first page of this project presents a single student as an author of corrente, there is not a thing such as developing a project on one's own. Therefore, I would like to express my gratitude to everyone that made this project possible and contributed to it with their knowledge, time and care.

Firstly, I want to thank the river Talfer/Talvera and the streams that are part of the Etsch/Adige basin. One day they kept me from despair and gave me the inspiration to honour life beyond human skin. Secondly, I want to thank every local with professional and empirical expertise on water care, management, use and history that helped me better grasp the different dimensions that make up the local engagement with rivers. In turn, I thank every person I met along the riverbanks of Talfer/Talvera that shared with me their time and insights on their relation with water and the river throughout my public interventions.

On the other hand, I would like to thank the social cooperative Lungomare for sharing with me aspects of the river I was ignorant of, and the role that design can have to engage citizens to live a river in a different way. In turn, I thank the project Fucina Museo for hosting corrente and in Rovereto and enabling a space of resonance for it.

Furthermore, I would like to thank Sofia Scroppi and Hanna Marti for being the voices of corrente, and their help on transcribing from/into both German and Italian the inputs and outputs that emerged while undertaking this project. Finally, I would like to thank the persons that took care of me in different ways along this project by offering me a hug, a meal made with love, a warm word, and any other act of love a human needs to stand with hope.



# Introduction

*Corrente*, a word of different meanings, among which the definition of a river, a current of water, neatly defines a series of aspects that gave shape to the following research, undertaken through a design process. On the one hand, what the flow of local rivers and their unstable nature have lately unveiled in terms of scarcity and even sudden overflow. On the other hand, a reflection on human's watery nature and a determination to find answers in our sensorial responsiveness to the aesthetics of water to enable a more humble and caring relation with water. And finally, a situated concern for the adequacy of increasing the number of large hydropower plants in the local context because of the exponential demands on renewable sources of energy within the current framework of energy transition, whose practical and common grasp may well be the availability of electrical current.

The present work is divided into four parts. First of all, the theoretical foundations present the framework through which care and water are elaborated from the merging of inputs drawn from social and natural sciences. In turn, a series of case studies are introduced to show the possibility that creative approaches enable to raise awareness and action on the conservation of rivers.

Consecutively, the second part, diving into the local, presents a situated research of the local context of Bolzano and the cultural and economic aspects that make up a local engagement with rivers. In this respect, a series of interviews and ethnographic research are introduced as main inputs.

Thirdly, a design project is outlined and introduced as a collective reflection on the benefits a river subject to restorative

efforts, namely the Talfer/Talvera, brings with it when physically experienced, and the role of design to spread this cultural value of such a river.

Fourthly, the evaluation part, introduces the eco social agency of Corrente, and the extent to which it fosters societal transformation into a more sustainable way of living. Finally, the transcription of the recordings made with river livers met on the banks of Talfer/Talvera are presented.



Set sail

# Of water and care

## *and why this project*

*“The essential is invisible to the eyes”*

When one is asked about care, one may think of what one takes care of, and what leads a caring attitude towards someone or something, which may certainly unveil a sense of interdependence with what sustains one's life. This notion entails a responsive ability to look after other beings, places and situations that provide one's wellness, which in practice is often overlooked, as many of the relational networks one belongs to, might not seem very intelligible. Therefore, unravelling what supports one's life is very important to enable a more sustained practice of care, especially towards what seems to be alien to one's influence, and finds itself under important vulnerability.

In this regard, there are certainly many things that are well worth caring, as diverse and entangled one's surrounding is. However, if one is to close the eyes, breathe and feel one's body, one may perceive clearer how saliva is swallowed and blood is pumped from one's chest; In other words, one may feel how water sustains one's life. In a second breath, now with the eyes open, one could make sense that, apart from human bodies, water also sustains the worlds where not only humans, but also other beings rely on. Yet, its commodified access, might render blurred the network of interdependence where water situates us.

Hence, from a more interdependent relation that goes beyond the appreciation of water as a resource, one may say that caring for water's ability to enable life in different scenarios, seems to be a worthwhile selfless object of care.



# 1. Theoretical foundations





This chapter presents the theoretical considerations taken as references for the development of this project. Since the latter emerged out of a concern for the care of water, environmental considerations open the chapter, which, through perspectives from the fields of natural and social sciences, lead to considerations on the role of design and other creative expressions to address the notion of care for water and the ecosystems that sustain it.

# 1.1 Diving into a global water-scape

Water is something every person is familiar with. According to a report by the World Meteorological Organization (Cullmann, et al. 2021), water covers about seventy percent of the planet's surface, which certainly makes it an abundant substance on earth; yet fresh water only makes up the one percent of that vast percentage, which in turn, is mostly contained in glaciers and other solid water bodies such as icebergs, leaving a small percentage of fresh water available in rivers, lakes and swamps for its consumption.

Although its presence on the planet might seem minuscule, fresh water bodies and the ecosystems that sustain them, are not only essential to human life, as they provide us with drinking water; but to a myriad of species living in habitats such as wetlands, which host forty per cent of planet's biodiversity (Almond 2020).

When it comes to humans, fresh water does not only serve a biological function of survival but, among others, a social one, given that early human settlements, and their underlying organisation, were highly shaped by the ability to manage water and develop agriculture along riparian areas (Petri et. al., 2007). Nowadays, beyond its use in agricultural production, water is used and managed to serve a myriad of productive activities that fulfil contemporary human needs, and, to some extent, make up the social, economic and environmental dynamics of the places we inhabit. Water is entangled with one's life beyond basic consumption.

However, water's ability to sustain humans, an important part of non-human life, is nowadays highly affected since the ecosystems that provide fresh water are under significant depletion, largely because of direct human action. Wetlands, for instance, have exponentially been degraded over the last century to the extent that up to seventy percent of these freshwater ecosystems have been lost since 1900, mainly as a result of water diversion and land transformation (RAMSAR 2021). This in turn has had an impact on carbon emissions, and therefore climate patterns, as wetlands act as a storage of carbon, which is then released to the atmosphere when these ecosystems are degraded.

According to the United Nations (UN), change in climate patterns, being the result of overall degradation of diverse ecosystems, acts as a multiplier on existent environmental pressures posed by human direct action on freshwater habitats (UNESCO, UN-Water 2020). This makes the impacts of a given water body under a state of depletion more visible and concerning for human subsistence. In this regard, the High-Level Panel on Water (HLPW) estimates depletion on fresh water resources has worryingly affected the availability of drinking water, to the extent that around 40% of the world population is currently affected by water scarcity.

Under this scenario, the United Nations established a set of targets within the framework of the sustainable development goals (SDG), especially those on SDG number 6 (Ensure availability and sustainable management of water and sanitation for all), that seek global action on water availability and its sustainable management while keeping society from detrimental impact on vulnerable ecosystems. This agenda underlines the urgency for more efficient and adaptable management of water. In this respect, a legislative study on water rights made more than a decade ago by the Food and Agriculture Organization of the United Nations (FAO), indicates that due to modern environmental constraints and demographic conditions, new water

rights should be more tailored to contextual needs and environmental pressures, beyond riparian, prior appropriation, or any other standardized model of water abstraction (Hodgson 2006). This argument implies a call on people to better understand what supplies their direct and indirect demand on freshwater, as well as the social and economic drivers of the latter. On this matter, Strang (2019) stresses the importance of locating environmental management of water in place-based communities, in order to foster more ecological and restorative human engagement with this resource. This claim arises from an outlook on the ever-developing human dimensions that are shaped by water, and the role of this resource on extractive economic models that struggle to mitigate their damaging effects on the environment due to their detaching character. According to the author, local environmental management appears more likely to place humans within ecosystems rather than above them.

In accordance with these challenges, nowadays initiatives to safeguard freshwater availability, and the ecosystems that provide this resource, increasingly involve local communities on different levels that range from awareness to policy making. In a sense, the worse the effects of human disturbance on water bodies get, the more sensitive and responsive communities become, as water, or the lack of it, literally knocks their doors, especially if it is taken into account that around 90% of natural disasters are related to water (UNISDR 2015).

In accordance with these challenges, the United Nations Office for Disaster Risk Reduction (UNISDR 2015) highlights initiatives to safeguard freshwater availability, and the ecosystems that provide this resource which increasingly involve local communities on different levels that range from awareness to policy making. In a sense, the UNISDR publication suggests the worse the effects of human disturbance on water bodies get, the more sensitive and responsive communities become, as water, or the lack of it, literally knocks their doors, especially if it is taken into

account that around 90% of natural disasters are related to water.

Although these initiatives may have a situated character and incidence, they have an important echoing aspect, as they offer different answers for many of the challenges that currently shape human engagement with water. This is for instance one of the purposes of platforms such as the World Water Atlas (HLPW 2016), which provides a useful archive of good practices to better manage different water issues that are categorised in too much, too little and too dirty water when referring to scarcity, flooding, and pollution respectively. In turn, these endeavours to mitigate and better manage water issues may not only unveil some of the impracticalities of current water infrastructures and the demand they serve when brought in a given context, but in a broader sense, the values and narratives upon which they were developed.

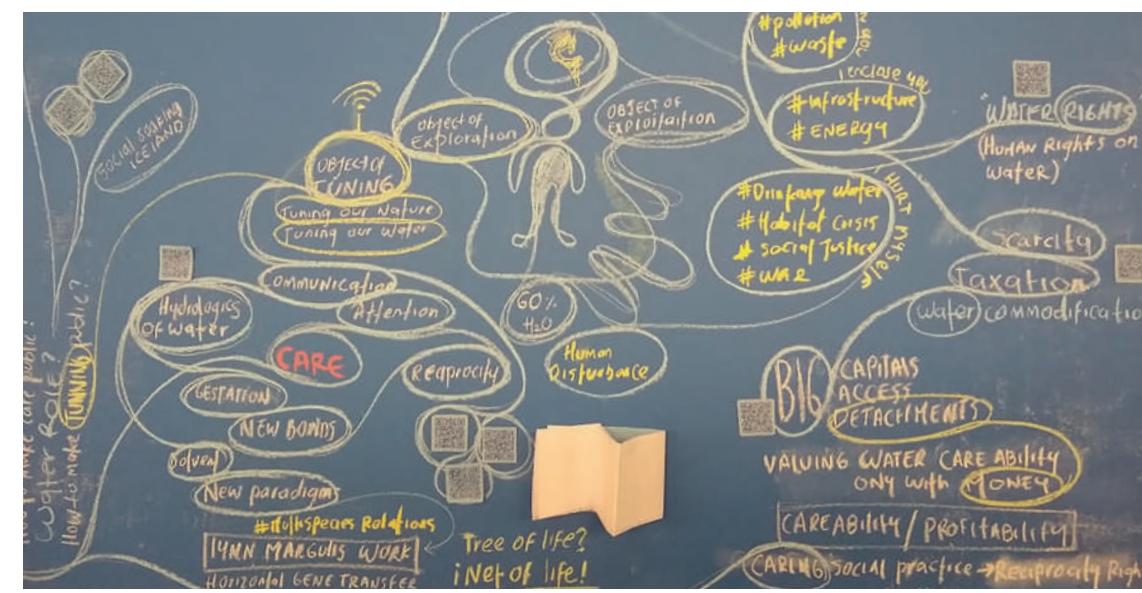


Fig. 1 Joining watery dots

## 1.2 Flow of narratives

### *The stories behind a relation*

Disturbances on the state of water bodies certainly reveal a detaching character that has lately shaped a large part of human relations with other beings and the environment in general. In this respect, among others, social theories that based on the evolutionary findings of Charles Darwin, vaguely heralded the survival of the fittest, underlay values of unfettered progress that certainly played a role on disregarding understandings of the natural world and human predestination to plunder it (Haraway 2013). Yet, these notions and the paradigm they set also had social implications that became highly entangled to different detrimental human engagement with the environment, and particularly freshwater habitats.

In the newspaper article 'Cape Town has a new apartheid', published in the Washington Post (Dawson 2018), it is described how in 2017, the city of Cape Town in South Africa faced a major drought that had been gradually intensifying over years. As a result, the local municipality launched a campaign to encourage its citizens to reduce their water consumption and keep Cape Town from running out of water, in what was known as the Day Zero initiative.

This campaign literally made locals aware of the day of the year the city would run out of water if they kept their water consumption habits. By extension, it became evident that infrastructures and facilities using huge quantities of water were mainly set in white neighborhoods and industrial areas owned by private companies. According to journalist Ashley Dawson, this made visible how water infrastructures sustained segregated narratives that also made the availability of water a social

justice matter in a context shaped by the Apartheid (Dawson 2018). This campaign literally made locals aware of the day of the year the city would run out of water if they kept their water consumption habits. By extension, it became evident that infrastructures and facilities using huge quantities of water were mainly set in white neighborhoods and industrial areas owned by private companies. According to the article, this made visible how water infrastructures sustained segregated narratives that also made the availability of water a social justice matter in a context shaped by the Apartheid.

*Social struggles are commonly linked to claims for climate justice.*

Likewise, Brian Holmes reviews historic engagements with the river Mississippi, and reflects on the human-made landscapes developed along its course from colonial times. Holmes points out how infrastructures, namely levees, that shaped the relation between former colonial settlers and the river followed extractive and racist narratives that are still present and reproduced in current corporate engagement with the river basin and its inhabitants. As a result, contemporary struggles for social justice in regard to access to a healthy environment can be still seen through the lens of the river course and its flows (Holmes 2020). This makes evident that social struggles are commonly linked to claims for climate justice.

In this respect, Strang also reviews different circumstances where water management is addressed and equally exposed how often ruling narratives shaped societal engagement with water bodies (2009). The author also underlines the role of a dualistic thinking where nature is conceived as the counterpart of culture, to depict water and its power as a force that chal-

ges human authority. Following this notion, human instrumentality towards water came to be mainly characterised by control and dominion in many societies. This engagement certainly inscribed in a myriad of landscapes the narratives upon which current water infrastructures stand.

In this regard, it is relevant to underline that efforts to mitigate and manage water issues still tend to maintain a controlling narrative, in which water needs to be organised and placed, as if it was only a resource (Chen, MacLeod and Neimanis 2013). Even technical language plays its role, as for instance, the word management holds a meaning of human control upon a strong force. Likewise, the word resource, which is often used to address water, entails a commodifying character that grants this living matter a monetary value that either distorts or undermines its ecology (MacLeod 2013).

Language and meanings behind the narrative humans use to address water certainly matter to understand it as something that is more than a passive resource. For instance, a notion of stewardship rather than that of management entails a more preserving approach towards water. However, action is always required, and then the question that arises is, which practices enable such a notion and keep us from addressing water care only from controlling frameworks.

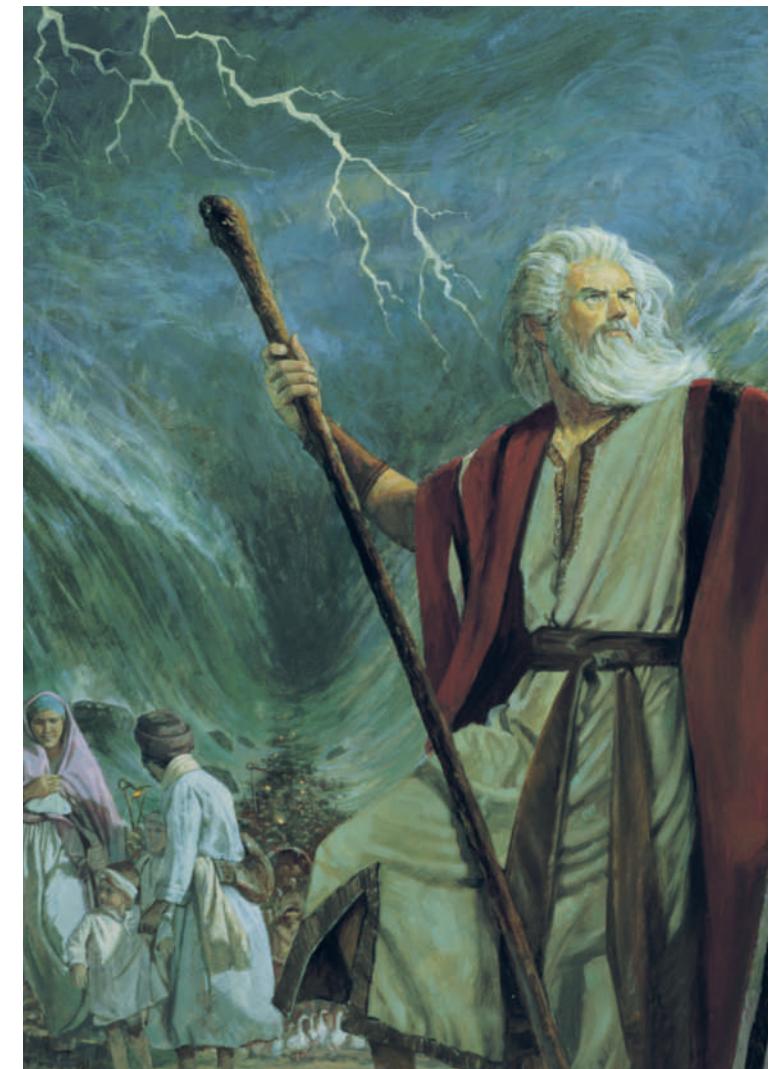


Fig. 2 The patriarch moses controlling waters

## 1.3 Restoration of freshwater ecosystems

The degradation of freshwater habitats such as wetlands and rivers, shows that pressures on these environments does not only cause a significant depletion of water resources, but another set of impacts that go beyond the lack of water availability, which as previously said, are substantially materialised on climate disturbances (Capon et al., 2021). This certainly makes more evident the systemic character of human action, and how human well-being is in many forms, interrelated with the good state of, in the particular case, freshwater ecosystems.

Frameworks on ecosystem services, which, according to the Millennium Ecosystem Assessment (MA), can be described as the benefits humans obtain from ecological functions or structures, better unveil the role of the myriad of interactions between the biotic and the abiotic components that make up an ecosystem, to meet a large range of human needs. As defined by the MA the benefits include “*provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other non material benefits*” (UNEP 2003). These services can vary from one ecosystem to another, as well as their link with factors that determine human well-being such as health, safety, basic livelihood and positive social relations.

The concept of ecosystem services may nonetheless be controversial as it grants a commodified value to the environment in general, when an ecosystem is assessed. However, this approach assumes a less ruling narrative and placement within

the network of interrelations that make human life possible. Indeed, it entails a more symbiotic notion of one's relation with other beings and the environment.

As for freshwater ecosystems, frameworks on ecosystem services have played an important role on comprehending the link between their conservation and their capacity to retain polluting agents, and regulate not only their own provisioning services but also natural calamities such as storms and floods that are exponentially become more frequent within a framework of climate change (Böck, Polt and Schütting 2018).

In turn, approaches that ecologically address the use and transformation of natural resources, have posed a series of thresholds that human engagement with the environment, and therefore economic development should respect. In this regard, among other socio economic accounts, the doughnut economic model posed by Kate Raworth, formulates a series of planetary boundaries coined as ecological ceiling that, if not exceeded, contain a safe space for the earth to fulfill basic human needs (Raworth 2017).

Based on the above, efforts to better engage freshwater ecosystems currently tend to include more restorative practices that seek to improve the state of depleted ecosystems in order to keep humans from a detriment on the resources and the environments that safeguard their subsistence. In this regard, within the framework of the EU biodiversity strategy that is part of the so called European Green Deal, the European Commission has developed a guidance that has adopted the concept of free-flowing rivers to take down obsolete barriers and restore at least 25.000 kms of rivers, floodplains and wetlands by 2030 (European Comission 2022). Even though this endeavor may entail myriad of economic and legal challenges, it sets an important ecological milestone in a continent where the major part of its rivers is no longer running free.

The restoration of a river is a process that may require several years, if not decades of multidisciplinary action, depending on the hydrological complexion of the area to be intervened, but especially on how much social and economic aspirations are at stake. In this regard, time is also an important factor as the benefits of a restored ecosystem may not be instantly perceived due to the magnitude of this endeavour. Among many others, this is the case of restorative efforts on the floodplains of the river Elbe in the vicinities of the Lenzen, Germany; which, with the passing of years, had a greater acceptance and support beyond preliminary refusals these kinds of interventions may naturally unveil. On this matter, cultural ecosystem services enabled by the aforementioned restorative efforts, played an important role to make room for economic activities such as tourism, which eventually contributed to set off limitations on agricultural use of the riparian area (Zerbe 2023).

*They (Cultural Ecosystem Services) entail a direct relation between humans and the ecosystems that provide them a set of benefits.*

In this regard, it is important to underline that even though cultural ecosystem services are sometimes overlooked, given the intangible and subjective nature of their contributions to fulfil human needs and wants (Terry, et al. 2012), they have an important role on public strategies that motivate protection of the environment, as they often entail a direct relation between humans and the ecosystems that provide them a set of benefits. Likewise, the challenge that the assessment of these services poses, also offers an opportunity for creatively glimpse and amplify their value beyond monetary comprehension.

Among these benefits, the aesthetic services, which according to Groot et al. can be described as benefits obtained from the "appreciation of natural scenery" (Rudolf , et al. 2010), and are largely made up of emotions, perceptions and opinions emerged from experiencing the natural environment; make up a significant starting point for valuing and safeguard an ecosystem, given the subjective but immediate effects of such benefits.

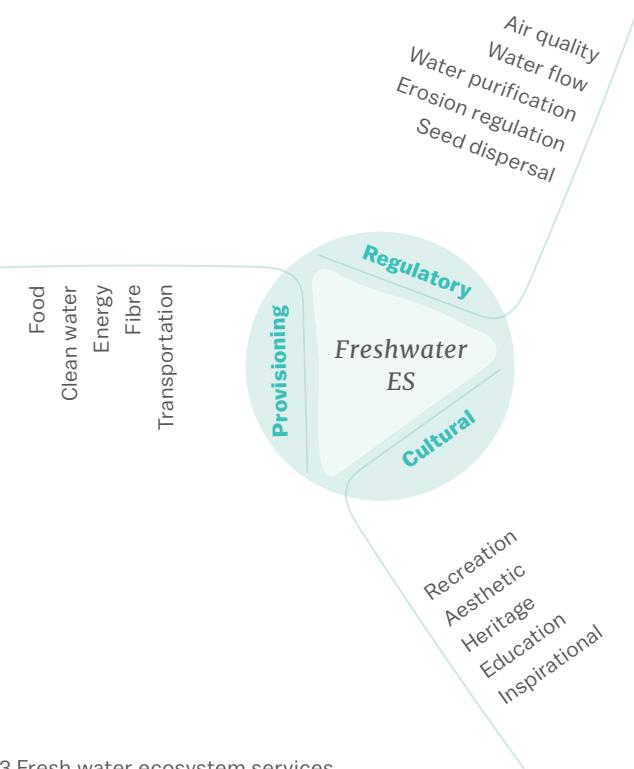


Fig. 3 Fresh water ecosystem services

## 1.4 Aesthetics of water and an environmental attitude

When it comes to the aesthetic benefits of freshwater ecosystems and water in general, it would not certainly be difficult to come across the mental image of a waiting room with the background sound of a stream of water. According to White (2020), beyond cultural appreciation of a given soundscape, this certainly responds to positive psychological effects of spending time around environments shaped by the presence of water, where sound plays an important role in reducing stress.

The author calls spaces shaped by the presence of water blue spaces, whose importance and benefits have become relevant for urban planning matters in the last years. Precisely, Britton and colleagues (2020) undertook a review on the effects these spaces imply for human wellbeing, finding an important relation between the presence of water, mental health and psycho-social wellbeing.

In this respect, even though states of calmness and mindfulness granted by a given aquatic ecosystem might be associated with the adoption of holistic and environmentally friendly attitudes towards that environment, this relation seems to be rather indirect and highly mediated by cultural aspects and individual traits. In this regard, Pereira et al. (2022) indicate that a state of mindfulness, for instance, is not directly related to behaviours that seek conservation of water; yet, a more aware state of mind as well as a sense of empathy and compassion that regularly come along with mindfulness, can have an important role for developing conservation behaviours towards water and its beneficial presence, when, for instance, beliefs on one's own ability to transform the environment come into play.

On the other hand, the sense of focus and attention one can experience by being around water environments may also create a disposition for noticing a set of interactions between water and other components of the ecosystems that sustain it. This, in turn, makes it possible to perceive water beyond the notion of a passive resource, and give it meanings that may inspire one's life and value water's qualities. In this regard, the appreciation of the sonic qualities of water is posed by Janine MacLeod (2013), as an important exercise to perceive water beyond a commodified understanding that strips its liveliness, made up of sounds, smells and colors.



Fig. 4 "Listening to the moment's song"  
Intervention at a bridge by the Talfer/  
Talvera River

## 1.5 Interacting with the matter of water

Interaction is a word used by designers on a daily basis. It usually refers to a set of actions developed between persons and artefacts, which in a sense, animate the worlds where humans live. Yet, in a sense, this concept also interacts with many other disciplines out of the scope of design, transforming its understanding for, among others, designers themselves.

In this regard, Anna Tsing brings attention to the liveliness of the material and the lively encounters between non-human entities, or living matters that respond to each other and one seems to overlook. This in a sense, resonates with the aforementioned ecosystem view of the environment that is made up by a set of interactions between biotic and abiotic factors. Tsing argues that interactions between materials, or coordinations, can be perceived through a landscape observation that allows for the appreciation of non-human abilities (Tsing, 2021). In the particular case of water, it certainly responds to tubes and filters interacting with it when handled. Rust, mould, leaky ceilings and dripping water beating the sink speak up for these coordinations.

Likewise, when water is not under human control, it also responds in many ways to everything it wets, even though we humans are not quite aware of those coordinations. The clay being delivered to a patient meander, a stone drawing flow lines on its surface while water constantly passes by, and a sparkling pond showing fish presence, speak for these interactions. Of course, when one notices them, one does so not only as a spectator but as an active member of a given environment, who certainly is more prone to interact and give meaning to the liveliness of water.

The result of merging these experiences with one's everyday life interactions with modern water-related artefacts and infrastructures, may reveal a wider map of what can be experienced when water is engaged. In this regard Tsing uses the concept of polyphony to refer to the overlapping, or assemblage of different worlds of interaction, which she frames as layers of lively matter, and for the case of water, it may portray how much water can enable even when it is not abstracted.



Fig.5 Water, light, gravity and stones coming into play at Talfer/Talvera

On the other hand, when it comes to human responsiveness to these coordinations, Astrida Neimanis (2013) stresses that humans are also bodies of water, and as such, they share planet's water with other human and non-human water bodies. In a way, this implies a sense of global communication and articulation through physical attributes of water, which places humans in flows of power, indifference, reciprocity and care . Likewise, as other water bodies do, one shares a gestation ability that may

either reproduce or divert these flows in and beyond one's body through creative gestures. On that basis, one can say that placing oneself in flows of water may unveil a map of bonds, where one can glimpse a set of water-like relations that make up the landscapes where one lives. Needless to say, learning and actively reflecting on such relations is an ability of one's watery-nature, a response-ability.

Reflecting on the water flows that surround one's everyday life, by exploring the means one uses to ignore or embrace them, may be a first step to comprehend the character of one's bonding with water beyond the pipes and cubic meters that normally shapes one's understanding of water. Yet, as expressed by Lall Upamanu within the framework of the year long Water Futures programme, which involved artistic approaches to tackle local water concerns in the city of New York; this endeavour requires high sensibility towards water, which implies an opportunity for creative disciplines to bridge gaps of intelligibility (2019).

# 1.6 Of creativity and water

## *Poetry as a tool of resonance*

The quality of water to be in physical constant movement, certainly brings with it an evocative character that has inspired a myriad of creative expressions over history. Therefore, it is not surprising that artists find in its qualities an interesting material to work and create metaphors with which tackle environmental issues from a more sensitive outlook. In her book, *Reading the River*, Basia Irland grants rivers all over the world a voice with which she describes diverse anthropic interventions on the ecology of these streams of water (2017).

In a similar poetic approach, the artist Robin Lasser developed a collective writing exercise called “Operation Ice Ships: Love Letters in the Time of Climate Change”, with which postcards were fictitiously sent to melting glaciers in order to raise awareness about this phenomena (Lasser 2017).

These examples show the role of poetry as a tool of resonance to better communicate and relate to a series of intricate but common matters. Therefore, in a very initial practical exercise, poetry and the qualities of water were used to start creating a practice to bridge water-related gaps of intelligibility.

In a first attempt to make a reflection on our watery nature, the degradation of some water ecosystems and reciprocal care, by means of a more sensorial experience with water, I participated in the event Future Talks, which was held the 31th of may 2022 at Parco dei Capuccini, where I recited a poem about melting glaciers, flooded rivers and human aspects that reflected these environmental concerns as a sort of metaphors, while the attendants to the event held a piece of melting ice cube while listening. As the recital finished, I was approached by Marc Zebi-

sh, head of the centre for climate change and Transformation at the EURAC Institute, who shared with me the role of the ufficio per la protezione civile, and the aquatic ecologist Peter Hecher, for the restoration and care of rivers.



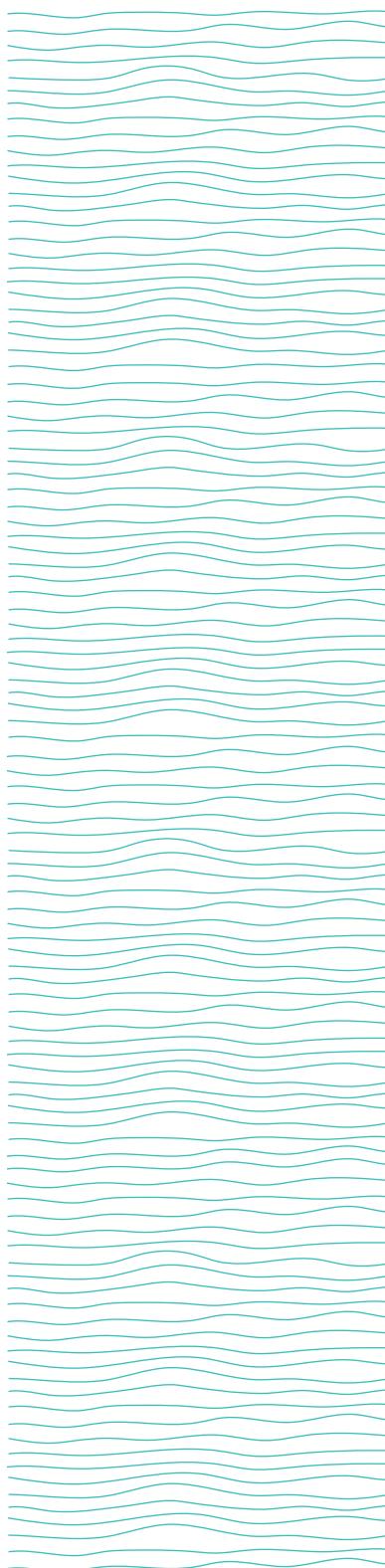
Fig.6 Performative poetry recital

In the stillness of my days I look for movement, I walk and I find a familiar sound in the distance, The effervescence of the river gets into my ears and something dances inside me.

I approach the river and see the long sought movement, The running water passes in front of my eyes and then under my feet.

I see the river and its colours, its nuances tell me a story and reveal a path, This thread of water, like so many others, goes through infinite territories, This thread of water washes and nourishes many places, It leaves us and embraces us in a single instant, Because not even rivers escape from being ambivalent, How much movement in its movement the water gives us, How much life in its course.

I see the river and the river begins to see me, The flowing waters see another river in my gaze as an elusive tear makes its way across my skin, Certainly, like small rivers, tears also go through many places, They pass through our first territory, our bodies, They come out of a flooded soul, without leaving it completely dry, Only light and willing to embrace other waters.



I think of the waters that remain in us and constitute our essence, They are a sort of reflection of the waters contained in the high mountains, The ice that sees the birth of rivers, The glaciers are the soul of the world, They condense rivers of life and embrace waters that fly in colorful afterglows, All in the right measure and the right time.

Today, mountains see a stronger and more anxious cry running through their rivers, Perhaps they mirror our convulsed society, Today, mountains cry until they dry their ice and extinguish their soul, As our eyes dry up when we leave life, The icy peaks dry up as their lives go away.

I see the river and its movement makes me think, I think of how inevitable the loss of glaciers is, I think of the glaciers that have already gone away and I wonder how to honor their memory, Just as one does when one loses someone who gave us so much life.

I think of the glaciers that are still alive as a extension of those that have already gone, And I believe that the best way to honor the life that went away, Is to take care of the one that we have left, The piece of soul we have left.

When it comes to bridging gaps of intelligibility between us and the water flows that sustain our lives by means of creativity, it is also relevant to bring the case of the brook Tibbets in western Bronx in New York, which as a result of being diverted into the local sewage system to clear and develop the land, became more prone to flood, as its increased flow during heavy rains, merges with runoff running over sewers in a same stream. As a result of this concern, since 2014 the art organization City as Living Laboratory together with the locals in the vicinity of the brook Tibbets have been calling on the municipality to daylight (bring to the concrete surface) the brook to reduce the load of the sewer system and bring back the ecological habitat of the brook (City as Living Laboratory 2019). On this endeavor art has played an important role, where, for instance, the temporary tattoos drawn by artist Bob Braine to raise awareness of the presence of water in people's territories and bodies had an important resonance. The tattoo, which is drawn on a person's arm, reveals the similarities between a river course and human veins.

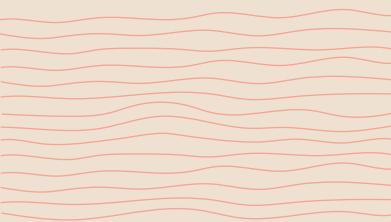
Beyond a romantic idea, the figuration of human veins as water courses has helped humans to understand the ecologies of rivers and other freshwater ecosystems. One such example is the indigenous communities of the Sierra Nevada de Santa Marta, Colombia. The people of the Sierra, or the Elder Brothers, as they call themselves, do not distinguish the water of a river from the blood in the veins of human beings. As a result of this belief, their sensitivity towards river courses is that of measuring the consciousness of people by the way the river is treated (Davis 2020). This ecological consciousness, which is reproduced by rituals such as pilgrimages from the source to the mouth of rivers, has certainly an environmental impact that differs greatly from a commodified understanding of freshwater ecosystems when it is simply conceived as a resource.

It is precisely the voice and activism of indigenous communities that has led some countries to grant rivers legal rights in order to restore and keep them from massive infrastructural interven-

tions on their courses. This approach to rivers expects society to establish a relation of reciprocity and respect towards aquatic habitats and rightless entities in general, by following the notion that laws doesn't only affect constitutions but the social pact, and therefore, the culture of a given society (Hessey 2021). In this regard, it is certainly true that laws are not self-enforcing, and therefore, mechanisms and entities that pursue action must come along with social and legal statements on the rights that seek the conservation of freshwater habitats, so that they are upheld. Indeed, it is precisely under the umbrella of awareness and discussion that water flows permeating one's life and the ecosystems that sustain them may be addressed beyond the existent means used to daily relate to them.



Fig.7 "Elemente des Kreislaufs", banner at Bolzano's museum of natural science



# Case studies

*The tap of inspiration*





The following are different examples in which a closer and more tangible relationship with the freshwater ecosystems that sustain human life as well as that of other species, allows one to establish an attitude of care and attention to these environments, what permeates human relation with them and what they enable.

An important aspect of these examples is the *in situ* reflection, or the presence of water as an actor that plays a role in the way a water issue is shared, discussed and especially sensed. In turn, moving along the course of a river is also another element that characterises these examples, as a factor that contributes to seeing a river from different perspectives. In this regard, walking is a very important aspect, as it helps understand that a river can be experienced from its banks and the fact that it is more than running water.

# 2467 km

## *Journey to the black sea*

The Danube is one of the major rivers in Europe, it either crosses or borders ten countries over central and western Europe, which makes the river an important element of the social and environmental landscape. Yet, its importance does not keep it from disturbances on its flows. Indeed, one of the largest hydropower plants in Europe, the Iron gate I-II, is located on the river course.

Moreover, pollution levels might be alarming over some of the river stretch. In June 2017 the windsurfer Pascal Rösler started an unusual trip from Munich to the mouth of the Danube River at the black sea. Standing on his stand-up paddle, he traversed around 2500 kilometers of waters along the river course of the Danube and its tributary Isar.

The goal of Rösler's performance was to draw people's attention to the pollution of the river, by altering the means used to navigate and see this water course. People living around the river would come to the riverbanks and ask what Pascal was doing, which was a question whose answer may have been provided by the smell, color and other features of the river itself.

Rösler's performance shows the power of taking people out of their comfort zone to enable possibility, by waters, on shores. Likewise, as in this case, curiosity for the misplacement of objects, actions and scenarios is a powerful element to publicly make room for reflection from a more sensitive space.



Fig.8 Rösler navigating the Danube on his stand-up paddle

# Anime galleggianti

## *Exploring the Tartaro Canalbianco*

The Padan plain is the largest valley in the Italian territory. Along this valley, which is traversed by the river po', there is an intense agriculture activity that is supplied with many canals that divert the course of the po' river over the large plain. Given the intensive monoculture a person would come across when this area is visited, the Padan plain has adopted a boring and modest character in Italian popular culture.

With the aim of opposing this narrative, Massimo Zamboni and Vasco Brondi started a trip along one of the canals of the Padan plain, namely the Tartaro Canalbianco, to explore the landscape with different lenses; from the perspective of someone that traverses the plain through a water canal. The trip that started in Mantova and finished at the mouth of the po' river, allowed the explorers to see beyond the Plain. Actually, as the canal is somehow depressed, the perspective from its waters does not grant an observer a view of the Plain; somehow it becomes an idea, which makes room for the shores of the canal to be fully observed.

The trip of Zamboni and Brondi became a reading of the canal shores, a place inhabited of herons, fishers, migrants and unexpected objects, whose appreciation created a different comprehension of the place and the fact of being with the place. The scripts, captions and songs produced out of this trip witness the possibility that water poses when one is to move along with it, which in a sense, is also an invitation to get lost and amazed by the ordinary surrounding at the rhythm of water and its dynamics.

On the other hand, the journey of Zamboni and Brondi has a particular element, it goes through an artificial canal, a water course completely subjected to irrigation and a disregarding character typical of many infrastructures that sustain one's habitats. In a sense, their journey shows that it is not only possible to understand the canal beyond a merely provisioning perspective in spite of its artificial character, but also to find a space for mutual care when other relations emerged out of its exploration.

Fig.9 Zamboni and Brondi navigating Tartaro Canalbianco



# Kinstitude

## *The voice of nature*

With the aim to recognize the Belgian river Zenne as an entity with legal rights, the Voice of nature *Kinstitude*, a collective of people with an artistic practice, is starting in 2022 a series of walks over the whole course of the aforementioned river to establish a framework of experiences that may bind people and rivers by means of mutual care. By doing so, it is expected to comprehend and reflect on people's kinship with rivers and more-than-human ecologies.

The Zenne river is not the first water body addressed by this collective on the same goal. In July 2021 the collective developed a research residency over the course of the river Tejo in Portugal through sensing and listening exercises. By doing so, vernacular practices, situated knowledge and local characters were addressed to discuss the industrial engagement of the river, the conflicts emerged out of it, and mechanisms of restorative justice.

*Kinstitude*'s practice shows how walking along the course of rivers and perceiving what they bring with them, may render an act of unlearning, care and response ability. On this matter, one might say that wandering around a river and wandering in community represent experiences that enable different understandings of these water bodies.

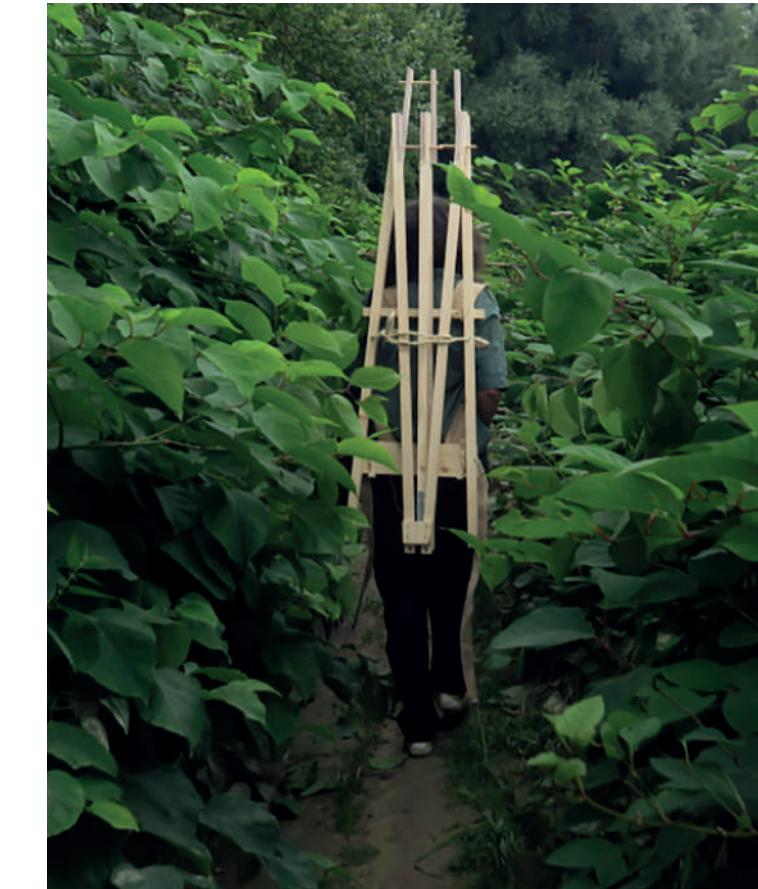


Fig.10 A kinstitude's member walking a river

# Caminar el agua

## *Walking transforms*

*Caminar el Agua* is a collective of researchers from scientific and artistic disciplines that seek to restore human's relation with the natural world, by means of walking along natural water courses and rendering tangible existent and former relations between these water bodies and society. As a result of their walks, which started as a situated project in Madrid, Spain, and involved a set of elements such as performance, concerts and workshops that made these routes a way to live the river; the collective developed a series of routes for people to follow and be in contact with human and non-human aspects the that currently make up the ecologies of water courses.

*Caminar el Agua* is also an archive of experiences and reflections that can be at the reach of those who cannot experience either the collective walks or their resulting routes, as a podcast and a blog gather these experiences to engage other publics to walk their surrounding water courses. The experience of this collective reflecting on what has shaped the relation of many rivers all over Europe, shows how much elements can be unfolded when water courses are walked and actively reflected.

On the other hand, *Caminar el Agua* has proven that involving a diversity of creative expressions can create a common ground of understanding between different expert and expert narratives of rivers where gaps of intelligibility with the water flows that shape one's life are closed and cared for in community. Likewise, walking along a water course is understood within this project as an act of care towards oneself, and a subtle but powerful insight on what a river has and can enable.



Fig.11 Walk along a stream in the surroundings of Madrid

# **Walking water**

## *Walks of resilience*

*Walking water* is an initiative that invites people from the state of California, United States to undertake hiking tours along the rivers that traverse this western region of the country. As a result of their overuse to meet different socio economic needs, given the fact that California is one of the most densely populated states in the country, local rivers are under high pressure to the extent that many freshwater ecosystems have been depleted or even lost along with traditional practices that, in many cases, shaped the spiritual life of many communities.

Within this framework, walking water is a collective that seeks to embrace rivers, the infrastructures that nowadays shape their courses and the relation that they pose between locals and these water bodies. To this effect, community walks as well as different events where personal reflections on one's relation with water are shared, seek to create a space for restorative connections with water courses and other populations that rely on them.

An important aspect of this project is the involvement of different voices on their reflections, as technical, tribal and non-expert insights are mixed in a space where themes such as tribal sovereignty, infrastructure, water and power, gentrification, social and environmental justice are discussed and embraced in community.



Fig.12 Walk along a channelled river

## *Learnings*

As seen in the aforementioned case studies, the banks of the rivers offer a liminal space where to shape and reshape people's response to a myriad of cultural and ecological concerns that only the solvent quality of water can embed and spread. Likewise, creative practices that rely on the sensitivity of humans play an important role to enable the river as a space of reflection.

Traversing and walking the banks or the surroundings of a river can certainly unveil a series of realities, practices and engagements with these water bodies that are harmful to their ecological state. Yet, it is also an opportunity to sensitively understand a river beyond those practices and learn from one's experience that other relations can emerge from reading a river through the senses. This indeed applies for human and non-human relations, as for one side, one can see, perceive and internalise that one is also part of a series of ecological bonds, that either require or grant care; and on the hand, social bonds can be build in a different way when the river is approached and experienced in community.

On the other hand, the use of artefacts and practices that do not match the ordinary dynamics of a given context, such as the paddle-pad of Pascal Rösler and even the trip of Brondi and Zamboni is seen as an important performative element to invite other people experiencing the same places to read them in a different way. In turn, the use of media that collects the aesthetics of a river seems to be an important evocative factor to then invite people to immerse themselves in unknown aspects of this freshwater habitat.



## 2. Diving in the local





Following it is presented a contextual research where rivers crossing and bordering the city of Bolzano are addressed through primary and secondary research that helped unveil diverse cultural aspects that make up the local engagement with these water bodies as well as environmental concerns, which all in all made room for a subsequent design project. In particular, historical and institutional documents available online, in public libraries and local archives were reviewed. Likewise, articles from local newspapers documenting water-related events were revised. On the other hand, ethnographic exercises, namely, passive observation of rivers, and contextual interviews with locals with both expert and empirical knowledge were carried out.



## 2.1 Local waterscape

### *Of trade flows and overflows*

Bolzano is a city in the northern Italian region of Südtirol/Alto Adige, whose history has been largely shaped by the rivers that surround this town, the Eisack/Isarco, the Talfer/Talvera and the Etsch/Adige. Over time, these rivers, especially the latter, allowed a trade route between northern and southern regions of central Europe, where Bolzano and its placement in between mountains, consolidated as a trade centre among alpine regions regardless of the geopolitical dynamics that made the town belong to different territories over time (Bassetti 2013).

Likewise, the presence of the aforementioned rivers on local's everyday life was very strong beyond the transportation of goods, as for example, in the case of the river Talvera/Talfer, it provided the city with water for basic consumption and irrigation by means of canals that went through the actual town and its surrounding agricultural fields. Indeed, on historical maps reviewed by the art historian Paola Bassetti, it can be seen a series of canals that diverted part of the course of the river Talvera/Talfer into the city before it finally reached the Isarco/Eisarck River. These water canals even served other activities beyond basic consumption such as laundry, which certainly shaped locals' daily basis and relation with water.

However, a recurring series of floods, typical of the natural dynamics of rivers, and labeled as natural disasters, threatened over time local population and the expansion of the city to the extent that measures were taken to control the course of local rivers by means of dikes and other infrastructures that somehow changed the relation between locals and rivers, especially as new means of transport, namely the train, replaced river



Fig.13 Flooded street (Via Brennero) in the summer of 1957

courses as communication ways between the once Austrian empire and different territories nowadays placed in the Italian peninsula.

Although several dikes were built along the course of the rivers that surround Bolzano, and the canals that once linked the river Talfer/Talvera and the town were blocked and eventually covered, the city did not completely keep itself from flooding well into the 20th century. In this respect, local newspapers registered important damages to local fields, road infrastructures and of course residential property in the years 1957, 1966 and 1987, which together with other floods that took place along the region, such as a large overflow of the river Etsch/Adige that flooded the town of Salorno in 1981, called into question the

adequacy of improving the containing and controlling character of water infrastructures (Bona 2011).

This certainly made regional authorities adopt more naturalistic and restorative water management approaches by the end of the century, which in turn, posed a cultural challenge in the light of the disregarding legacy for the presence of water that, following years of natural calamities, shaped the relation of locals with rivers.

### **A disregard for water**

In the work of Dughera (1998) we are confronted with a gloomy image of the presence of water in the city. Water played an important role in the engagement of locals with foreigners that migrated to Bolzano seeking better life opportunities, as they could only find room to settle in swampy areas nowadays covered by the industrial zone of the city. In a sense, water as well as foreigners were given a place at the margins of local society, and therefore the presence of one, reinforced a negative image of the other. As the author highlights, this was very evident in the way the local press covered the area, as it was often referred to as a place with a poor quality of life due to, among other contemptuous expressions, its muddy streets and flooded squares.

Nowadays, the once swamp is characterized by a gray ambient where water does not have a significant room, however, the presence of water in marginalized spaces is still very strong in spite of the passing of time. An example of this is the use of the riverbanks of both the Eisarck/Isarco and Talfer/Talvera as a space of shelter by homeless people, mainly migrants that struggle to find accommodation in town. In this regard, between 2020 and 2021, the architect Susanne Waiz (2021) portrayed the life of several homeless people that lived by the local rivers, which rendered tangible a reality that might be overlooked by the broader public.

Fig.14 Objects kept safe under a bridge crossing the Talfer/Talvera



## 2.2 Exploration of rivers

### *Getting to know local streams*

Over the last decades, due to municipal endeavors to enable more green areas inside the city, which somehow followed civic efforts led by the professor Michele Lettieri in the early 1970's, the surroundings of the Eisarck/Isarco and Talfer/Talvera turned into linear parks that, in a sense, broke down the barrier between the city and the rivers that once dikes made up. Even though these green areas do not completely cover the course of the rivers as they cross Bolzano, they make it possible to better access the mentioned rivers, which certainly entail a closer relation with the river that is explored as it follows.

Fig.15 Former riverbed of the Talfer/Talvera



As the Isarco/Eisarck leaves the city center of Bolzano and receives the waters of the Talfer/Talvera, a linear park with free access to the river looms on the north bank of the river. By walking around this area, one realizes that apart from the natural vegetation of a riverbank, a line of trees is disposed between the park and the actual river, setting up a visual barrier that, at some points, gets interrupted by a shore where mostly dog walkers stop by for a while during the day. From these spots a wide river as well as Brenner highway and its roaring sound can be perceived, which does not really make the scenery very natural in spite of the stunning presence of the river.

This setting greatly contrasts from the one that could be experienced in the vicinity of the city's downtown, where, for a short stretch, both banks of the Eisarck/Isarco are free of any wall and visual barrier. Precisely, at that point, it is possible to see and access the mouth of the Talfer/Talvera, where one suddenly realizes how much more accessible this watercourse is, when contrasted to the Eisarck/Isarco River, which, with the exception of the areas aforementioned, does not grant locals a continuous access to its banks as it crosses the city.

Fig.16 Banks of the Eisarck/Isarco



As one explores the banks of the Talfer/Talvera from its mouth, it is possible to see some people hanging out by the riverbanks, which, of course, varies from the season and time of day. Yet, as one walks over the banks, one can notice the traces of what people do by the river, as different objects that are left behind as witnesses of the relation between locals and this river.



Fig. 17 Hut by the riverbanks of Talfer/Talvera

Right next to the mouth of the Talfer/Talvera one can already see empty beer bottles, napkins, food leftovers, and even cooking oil, which certainly witnesses people's gatherings. This is a more recurrent setting as one walks upriver and leaves the city behind, as even stone-made fire pits with traces of charcoal are found over the banks. In this respect, other rough and ready structures such as a small hut made by children were also found.



Fig. 18 Leftovers by the riverbanks of Talfer/Talvera

Fig. 19 Firepit by riverbanks of Talfer/Talvera



Furthermore, during summer time, as the river vegetation gets leafier, it is not difficult to run into used condoms as one explores the Talfer/Talvera. This, in a sense, also portrays the river as an intimate space, that depending on the perspective and the situation, can certainly grant either an intriguing or an unsafe character to the river. In this regard, just as one finds more fire pits when one goes upriver, one sees more often the presence of condoms as the banks are no longer surrounded by the meadows of the city but the actual forest. Indeed, right where the river cannot be followed anymore towards its source, due to an artificial waterfall that lowers the riverbed in the vicinities of the Sill skating rink, a hookup scene, where people meet and sexually engage, has been taking place over the years.



Fig. 20 Painted stones found by the riverbanks of Talvera

On the other hand, a more inspirational aspect of the river was found while walking through its riverbanks, this time in the vicinities of its mouth, as a set of stones that served as easels used by an artist to portray different figurative and abstract paintings. At this point, it becomes evident that stones, regardless their size, are a fundamental element of the riparian scenery, as they enable different interactions with the actual watercourse.

In this respect, one can mention how often one comes across rock cairns as one walks upriver, especially around a catchment infrastructure that is intended to contain large threatening material such as big stones and tree logs in the vicinities of the Sill dog shelter. Even though these stone-like monuments do have different meanings ranging from pilgrimage sites as well as path markers, and their mere presence could not describe what they were meant to signify, they clearly show intention to experience and be with the river, either for spiritual or recreational purposes.

On the other hand, if one is to perceive the liveliness of the river Talfer/Talvera, it is undeniable that its sound is one of its most remarkable characteristics, which precisely would not emerge except for the presence of the stones the river brings with it and find a place over its course to break the current and unleash the sound and the foamy textures that make up the scenery of the course of the Talfer/Talvera. In this regard, although the river seems to emit a unison roaring sound that may be associated to memories of past floods, once it is accessed, its sound varies as one goes from one stone to another, which makes the noise of the river a sort of polyphony of sounds that one can grasp as one moves over the stones along the river banks.



Fig. 21 Rock cairns in the vicinity of the communal Kennel

These stones, which are particularly large in size, can somehow work as a sort of platform, or if you want furniture, for people to sit, or even lie by the river. Indeed, while exploring the river, it was common to see people even practicing yoga on these sort of platforms, which tells about what stones enable over the course of the river.

This stone-like character of the course of the Talfer/Talvera differs from the scenery the river had since its well-known intervention in the early 1970's, when it was straightened to make room for the iconic meadows of the city, until 2010, when its riverbed, which had been stepped and flattened, was subject of intervention to give it back the rocky character it had before the works led by Michele Lettieri and his students.

In this respect, it is important to say that Mr. Lettieri actually happened to ask the local authorities that supported his initiative to grant the river course a more meandering and natural shape (Lettieri 2011). Precisely, the interventions that started in 2010 and finished in 2016, had the purpose of dismantling the steps that interrupted the continuity of the riverbed, as well as setting stone jetties to slow down the river current, and then reduce the risk of overflows and foster the flourishing of riparian species (Distretto delle Alpi Orientali 2019). Needless to say, this restorative efforts also had an impact on how locals experience the river.

On this matter, beyond a personal exploration of the river Talfer/Talvera, I reached the cooperative Lungomare in order to share my own insights of the river and enrich my understanding on different aspects the river contains, brings and unfolds. Lungomare is a social cooperative that works as a platform for creative cultural works and currently undertakes a project called *Flux*, which collects diverse facets that make up the local engagement with the rivers that cross and the city of Bolzano to envision future scenarios of relation with them.

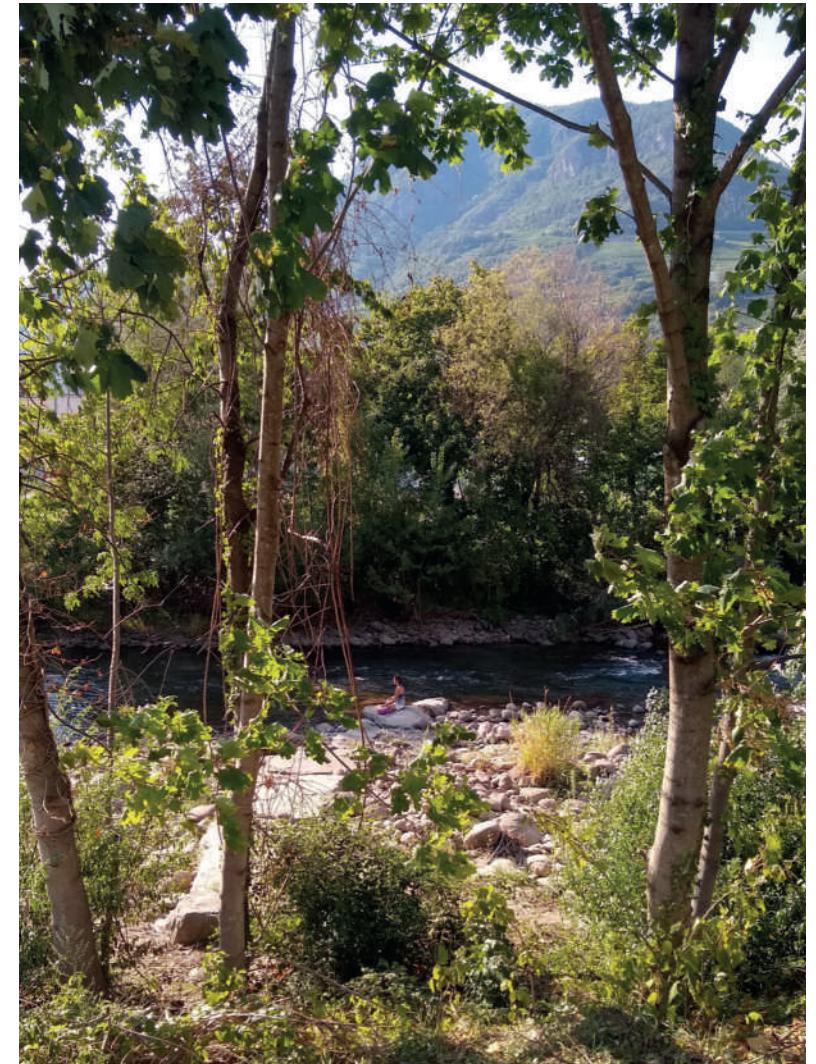


Fig. 22 A person practicing yoga by the river Talfer/Talvera

Other than an archive of different types of media that reconstruct the story of the city in regard to the rivers, Lungomare also performs a series of active research together with local and international artists that aim at understanding the river as space, where more contemporary elements of the river are collectively embraced. Therefore, I did not hesitate to take part in their activities.

Initially, during the summer of 2022, I attended a set of interventions at the confluence of the rivers Eisarck/Isarco and Talfer/Talvera, where Lungomare in collaboration with the collective Future farmers set up over the banks of the rivers, a couple of watermill-like instruments that were intended to explore new scenarios of relationality between locals and rivers. In a second moment, when these interventions involved local artists and expressions, it became evident the use of the river as technology that enables and has its own creative agency.

In another effort from Lungomare to bring to light the meanings the rivers of the city carry with them, a performance with an ethnographic approach called Semiotics of the River was organised in June of 2022, where I actively participated and got to know hidden but important aspects of local rivers, which are more broadly discussed in the section 2.6.



Fig. 23 A couple hanging out by the rocky banks of the Talfer/Talvera

Fig. 24 Futurefarmer's water-powered artefacts





## 2.3 Winter water talks

### *Engaging locals to water talk*

As the autumn of 2022 set in time, the river Talfer/Talvera, and in general, outdoor settings were slowly emptying but not entirely, since some few people were still seen taking the sun over the river stones when the weather allowed it. Yet, it was not really common. Therefore, a concern to better know the value that spending time by the river had for locals beyond a prior observation and deduction, led me to other local meeting spaces where I may talk to locals about their relation with water, water bodies and local rivers, keeping in mind the intelligible barrier that reflecting on water body without sensitively experience it may imply. In this regard, inspired in the Water Bar project developed in the United States, where the aesthetics of the water, such as its color and density are used to prompt conversations between scientist and locals about different aspects of this resource; a series of water talks were developed in local bars of the city of Bolzano, using water colors as aesthetic element to share experiences and stories shaped by the presence of water.

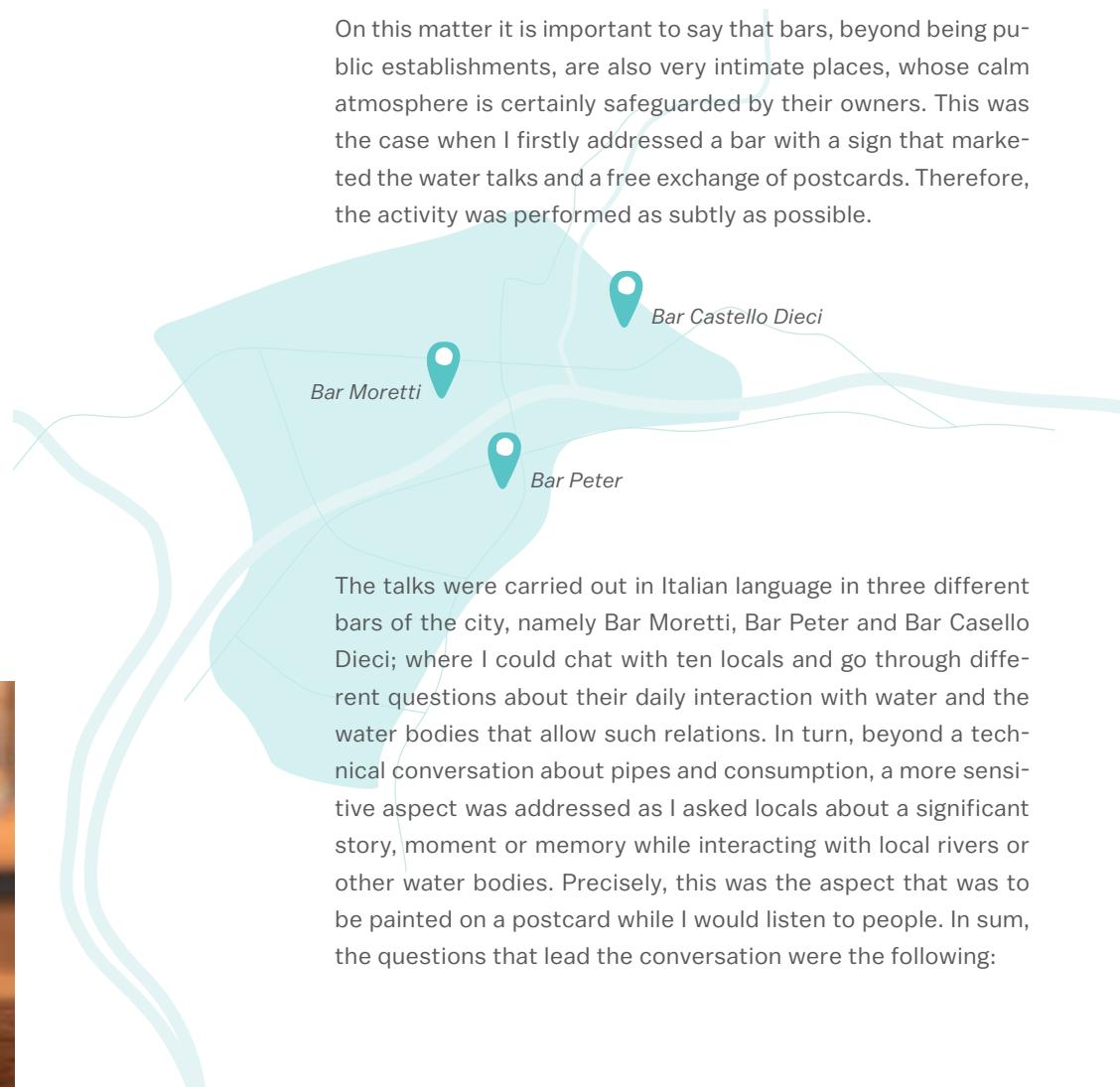
Fig. 25 Minnesota's water bar prompts



#### How did it work?

In particular, a postcard with watercolors, which would be painted while interacting with people, was given to the latter as an exchange for their stories at the end of a conversation. The interaction would be defined by me sitting on a table inviting people either entering or leaving the bar to share a story in return for a postcard. In this regard, the postcard as an interactive object was chosen, as it is strongly associated with memories and their exchange.

On this matter it is important to say that bars, beyond being public establishments, are also very intimate places, whose calm atmosphere is certainly safeguarded by their owners. This was the case when I firstly addressed a bar with a sign that marketed the water talks and a free exchange of postcards. Therefore, the activity was performed as subtly as possible.



The talks were carried out in Italian language in three different bars of the city, namely Bar Moretti, Bar Peter and Bar Casello Dieci; where I could chat with ten locals and go through different questions about their daily interaction with water and the water bodies that allow such relations. In turn, beyond a technical conversation about pipes and consumption, a more sensitive aspect was addressed as I asked locals about a significant story, moment or memory while interacting with local rivers or other water bodies. Precisely, this was the aspect that was to be painted on a postcard while I would listen to people. In sum, the questions that lead the conversation were the following:

Is there a significant moment with water or a water body that you remember in particular?

**C'è un momento significativo con l'acqua o un corpo d'acqua che ricordate in particolare?**

How do you enjoy water in your daily life, indoors and outdoors?

**Come vivete l'acqua nella vostra vita quotidiana, in casa e all'aperto?**

Where does this water come from?

**Da dove viene quest'acqua?**

Where does this water pass before it reaches you?

**Dove passa l'acqua prima di arrivare a voi?**

Does it come or go to the rivers?

**Viene o va ai fiumi?**

Is there anything you are curious about the water that flows through your place and the city?

**C'è qualcosa che vi incuriosisce dell'acqua che scorre nel vostro luogo e nella città?**

Fig. 26 Water talk at Bar Moretti



### Locals' Queries

What is the quality of water in every city of the country? How much water do I eat? What can we use rainwater for? Where does our water go when we die? Can we drink water from the river? Do we drink the water that runs through the apples' fields? Are there fishes swimming through the sewage? Could it be for free? Do we all pay the same for water?

As a result of these talks, there was certainly little awareness on where the water that is daily used by locals comes from and therefore its underlying watershed. Likewise, there was an important appreciation of the quality of drinking water in the city, as locals would easily perceive the lack of limestone, which is a common and, unfortunately unhealthy element in most of the drinking water along the Italian territory. Precisely, quality as well as other curiosities, rather technical, shaped what these group of locals wondered in regards to water. Yet, without doubt, the strongest input collected from these interactions was the stories shared with me, where different emotions, mainly pleasant, shaped their experiences with the river as well as other water bodies such as lakes and the sea.

In this regard, it was grasped an important sense of relief, mindfulness, appeasement and smallness when locals shared the tranquility and comfort that a heavy rain had during a troublesome time, the self-awareness the sound of a stream or the waves would bring along with them, or the respect, fear but also sense connection to the whole, a sea storm would trigger while facing it on a boat. Here the river had an important relevance, as locals would remark that, even though they would appreciate coming back to the places that triggered the aforementioned experiences, local rivers were practical and convenient settings where these feelings would also emerge, naturally keeping some nuances.

In a sense, this reflection helped to unveil the nature of the benefits, or if you want cultural ecosystem services of the river Talfer/Talvera that were initially grasped while observing and tracking people performing different activities such as yoga along the riverbanks. Somehow, while doing this activity, a more comprehensive understanding of the wellness brought by natural water bodies, among which, the river in question, was drawn.

On the other hand, aforementioned remarks on the quality of water came along with comments on the scarce availability of

water and the low level of rivers, which was a common and well documented topic by the press during the whole year, and drove me to go further into the local measures to manage environmental pressures, which is discussed in the subchapter down below.

Note: As the water talks were carried out by one person (me), and I would be painting as well as keeping the conversation pleasant and attentive, there was not the opportunity to take notes and textually transcribe the conversations.

Fig. 27 Painting a postcard





Fig. 28 Postcard made with watercolors



Fig. 29 Postcard made with watercolors

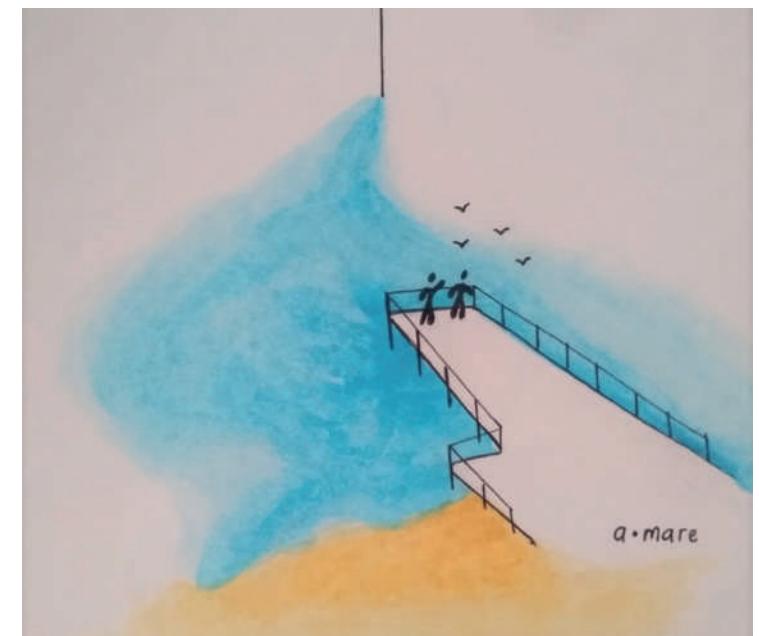


Fig. 30 Postcard made with watercolors

## 2.4 Of depletion

### *Scarcity and measures*

Controlling river courses was not only an endeavor to avoid natural calamities in the local area, but, as mentioned before, to irrigate agricultural fields and render them larger by claiming the space of meanders and swamps that made up the basin of the river Etsch/Adige, which involves every river running over the region. This significantly shaped the current crop landscape that characterises the valley floor that surrounds this river and many of its tributaries.

Indeed, not far from its source, where the river is just a brook, the Etsch/Adige already faces a huge dam that then determines its controlled and straightened course as it runs through alpine mountains before meeting the Venetian flatlands and finally the Adriatic Sea. This naturally changed the flow dynamics of the river, and paradoxically affected its own capacity to better retain overflows and protect local population from floods. This, as mentioned before, led to more restorative approaches on rivers management in the whole region, considering the regulatory services that riparian habitats with a good ecological state offer, not only to contain floods but also to better regulate water provision through a system of swamps and groundwater reservoirs, from which, for example, the city of Bolzano sources its water.

Within the framework of climate change this latter aspect became as relevant as the overflows kept in local memory, since in the last years, the low level of the rivers has concerned local population to the extent that during the summer of 2022 some towns in the region suffered water shortages. On this matter, it is true a restored river does not completely solve the lack of

rain and water in general, but it is an endeavour that mitigates the pressure posed by extreme weather fluctuations.

In turn, the catastrophism with which the press has lately covered drought events, not only at local but national level, has created a gloomy picture of rivers and surely raised a feeling of helplessness when they are engaged, especially if they bear a relation with locals partly shaped by disregard. Likewise, as management measures foresee a more careful use of water, which may be translated by the broad public as a spoliation of benefits obtained by its harnessing, the situation the rivers bring and unveil becomes highly shaped by fear and doom.

Regarding this latter point, political contentions have arisen between regions as a consequence of the low availability of water, as some political authorities have called into question the adequacy of water management and the way it is harnessed in places outside their jurisdiction along the basin of the Etsch/Adige. On this matter, even though the basic consumption legally prevails on other uses of water in situations of scarcity, and there is a shared understanding on that; political statements made during the last year on this respect often had a blaming character towards what other towns and regions should do or stop doing with water.

Such an example is an exchange of statements between political leaders of both Alto Adige/Südtirol and Veneto during the summer of 2022, who blamed each other for the current use of water on hydropower production and irrigation respectively, which, without leaving first a doom ambient of dispute for water, led to an agreement to safeguard basic provision for people living along the basin of the Etsch/Adige.

On this matter, beyond local guidelines on management, there is a national norm, which has been effectively adopted by regional authorities and sets a vital minimum flow of water (Deflusso Minimo Vitale) that seeks the safeguard of rivers and therefore

human basic consumption. This measure, which worth the classification, is variable in regard to the flow of every river and the length of the basin it draws, has been lately subjected to study, given the high pressures that freshwater habitats currently experience, and a result has been modified into what is known as Ecological Flow (Deflusso Ecologico).

The Ecological Flow, follows current European guidelines on restoration and protection of rivers, which, consequently, does not only imply a certain amount of water running for a period of time over the course of a river, but other ecological factors such as sediments as well as the presence of riparian vegetation and fauna that speak for a river under good ecological state (Commissione Agricoltura e produzione agroalimentare del Senato Italiano 2021). However, the implementation of this measure that came into force in 2022, has naturally caused an important public concern as less water is meant to be abstracted from streams in a context where this resource is already very scarce. This, in turn, may add further tension to restorative efforts, which are already very slow processes in the local context.

Reshaping the engagement that productive activities locally have with water underlines a significant effort that varies in complexity from one sector to another, as for example, the economic dependency and social heritage built around the production of snow for artificial ski slopes, greatly vary from monoculture farming. Yet, in the light of the physical barrier hydro-power stations make up over the course of rivers, the increasing demand on renewable energies and the little questioning that hydroelectric energy locally poses as it is advertised as green energy; it becomes worthwhile understanding to what extent this productive activity poses a pressure on rivers, and embraces mitigating and restorative efforts.



Fig. 31 Low water level of the Talfer/Talvera

## 2.5 Hydropower production

### *And dams in the region*

As embankments emerged over time, and it was possible to manage and deviate water, an important tradition on watermills developed throughout the area, to the extent that nowadays one can easily find a promenade, alley or street with the word mühl/mulino (mill) in many towns of the region.

As in many other latitudes, these mechanical structures harnessed the power of water to serve the production of different goods. Yet, with the advent of more industrial times, the harnessing of water was shaped by larger structures, namely hydroelectric central stations that changed the landscape of many valleys in the region to meet the energy demands of the country in the first half of the twentieth century. This caused an important impact on the local heritage, as many farms and even villages were swept to make room for these projects that curiously did not offer any connectivity to many places along the province, which made locals to develop their own small-scale hydropower projects.

In a sense, small scale watermills, once symbols of a self-sufficient economy and swept by the pass of time, found again their place in history, this time as small hydropower stations that currently help some areas in the province to secure their energy self-sufficiency, even though at the present time the overall grid of energy offers a better connectivity. Nowadays, the presence of hydropower stations over the province of Bolzano is quite substantial, to the extent that more than a thousand of these infrastructures are set over different water courses along its territory. This makes the province a leading region in the production of this kind of energy, whose supply does not only meet

local demands but also external ones when, during summer months, part of the production can be exported to the rest of Italy. In a sense, harnessing water to produce energy constitutes a significant chapter in the recent economic history of the region, which, although is run by the private sector, leaves an important flow of revenues for the province depending on the type of concession granted to a given project.

In turn, the delicate energy situation where the European continent currently finds itself, as the war between Russia and Ukraine broke out in 2021 and sanctions over Russia by the European Union highly involved the supply of Russian gas, has not only raised energy prices but also accelerated the urgency to make a transition to renewable and local sources of energy, where hydropower production seems to be very compelling.

This has surely had a resonance within the thriving energy sector of the region, namely the energy association of Südtirol/Alto Adige, der Südtiroler Energieverband, which together with the local chamber of commerce presented in the late autumn of 2022 a project to finance 10 large scale hydropower stations in the province with an investment of 600 EUR millions. Even though this initiative would theoretically increase the supply of energy, and therefore reduce the energy prices, it did not have an effective account on local environmental authorities, considering that even some of the projects had already been rejected in previous years as a result of ecological concerns, in spite of the economic benefit their development would bring (Luther 2022).

Likewise, the announcement of this project created a huge fuss within different environmental organizations, especially the local association of fishers, fischereiverband, whose response to such initiative was an alternative project mainly consisting of making more efficient the existing hydropower stations for them to increase their capacity (Gobbato 2023). Beyond the impacts that these infrastructures imply for fish species in alpine territories, especially as a result of hydropeaking events<sup>1</sup>, tur-

ning the existing infrastructures more efficient seems to be an imperative for this sector.

In this respect, it is important to point that the current environmental regulation of the province leaves no room for more large projects in the region, which although can be changed, seems very unlikely in the light of the weather conditions of the last years that have rendered the region drier and more prone to water stress. In 2022, hydropower stations reduced their production by about 30% as a result of the low level of the rivers (Bordonetti 2022), , which did not only call into question the adequacy of new projects but also the existing infrastructures. Rendering existing hydroelectric infrastructures more efficiently does not only entail the improvement of their machinery as one might think at first, but also the degree of interference a given hydropower station may have on the course of the river, namely its continuity. Precisely, on this matter, the Saint Antonio - Eisackwerk hydropower station, which was built on the course of the Talfer/Talvera River, is a pioneer infrastructure in the European continent, as it does not precisely dam the river but deviates its waters in underground reservoirs, where once the power of water is transformed into actual energy, it keeps flowing until it is sent back to the river in the vicinities of the bridge Sant'antonio, as the Talfer/Talvera crosses the city of Bolzano.

This approach to hydropower production certainly resonates with European restorative endeavors that seek to set rivers free of any artificial barrier. Indeed, the concessionaire operating this station developed together with the office in charge

<sup>1</sup> The term hydropeaking refers to the sudden release of water into a river from an artificial reservoir as a result of a peak on the energy demand, which causes unnatural variations in the flow of rivers. This was widely discussed on the film screening and discussion of the movie was Fische wollen within the framework of the Fluss festival organized by the Filmclub Capitol Bolzano in collaboration with the local association of fishers the 27th of January 2021 .

of restoring river courses in the province of Bolzano, Agenzia per la Protezione Civile, efforts to give the river course more continuity and slow down the current as mentioned before. This was mainly intended to mitigate eventual hydropeaking events. In this regard, the coexistence of restorative efforts and hydropower production on the course of the Talfer/Talvera river shows that it is possible to set a place of mutual benefit for the ecological flow of a riparian ecosystem and the activities merged out of harnessing its provisioning services. Indeed, this is very important for other productive activities set along the course of rivers of the province, as restorative efforts can locally take decades to be developed.

On the other hand, in spite of the avant-garde character of the hydropower Sant'antonio, it does not escape harmful effects on the river ecology, namely hydropeaking events, which can be monitored by following real-time data collected by the province through a hydrometric station placed on the course of Talfer/Talvera before it meets the Eisarck/Isarco. Indeed, by following this data during a week of the year 2022 without events of rain that may naturally have an impact in a river's flow, it was visible that significant and sudden changes in the river flow came about as a result of water release, which, in turn was beyond the limits recommended by local environmental authorities to safeguard the ecology of the river (1:4 between the max and min river flow as water is released).

Of course, one could not completely replace the dependency of one's life to electrical power with a recreational ecosystem service and then deny the strong weight of the linkage between provisioning ecosystem services, namely water, and the well-being obtained out of its harnessing. Yet, regulatory and cultural ecosystem services have also an important role in fulfilling some needs that one might just conveniently meet with the use of artefacts and services that directly or indirectly are dependent on actual electrical power to run. Then the question that arises is how this reflection comes up.

In this respect, it is worth bringing up the way the Covid-19 pandemic reshaped in many cases the understanding of outdoor settings and the benefits they supply. Since the outbreak of the Covid-19 pandemic in 2019, most of the world population faced lockdowns along the subsequent couple of years, which made visible how important social media and other online services were to ease isolation and remotely enable educational, working and leisure spaces. This brought positive changes on the access and flow of information that were to remain after lockdowns came to an end, making it possible to conveniently carry on a life from the comfort of home and the speed of a click. Yet, beyond the efficient use of time and energy that remote environments presumed, they naturally posed a high dependence on electronic devices and what powers them to fulfil one's needs. This certainly brought along concerns on mental health, and unveiled the importance of spending time outdoors for human wellbeing, which in a sense, rendered more significant other benefits the natural world provides beyond the resources it supplies.

However, although some countries along Europe reported an increasing use of green areas compared to pre-pandemic years when lockdown restrictions were lifted (UK ONS 2021), the access to these spaces may sometimes be constrained by socio economic factors and the availability of green areas in a given context. In turn, as restrictions to go out eased, the enjoyment and appreciation of outdoor green spaces and a healthy lifestyle came along with a strong promotion of, among other products, sports gear, whose consumption found a place in the urgency many had to go out (McKinsey & Company 2022). This is just to say that expected changes in the engagement with the natural world and the use of technology in the aftermath of the pandemic were still relative and largely shaped by a significant consumerism.

As for Bolzano, the proximity of the mountains and public parks certainly offered its inhabitants an important space to impro-



Fig. 32 Hydropeaking events registered by the hydrometric station at Talfer/Talver with related flow proportions

ve their wellbeing. Yet, the rivers that cross the city, especially the Talfer/Talvera, deserved a special attention on this matter, since they offer a very intimate space, in the sense that they do not leave that much room for activities promoted by an outdoor recreation industry, but a more spontaneous and unique engagement. This was highly appreciated during several observations along the course of local rivers, which then became a worthy aspect to be valued, as it presumably entails another way to benefit from the same ecosystem that provides the resource to produce the power used to directly or indirectly fulfil locals needs.

Therefore, the question that arises is if this engagement with the river widely observed during almost year in the aftermath of the pandemic, constitutes a way to obtain well-being, and could play a role to revise the way locals understood their needs and the means by which these are met, namely electric power; which in turn, rises an inquiry on the places where this reflection could be spread with a broad public.

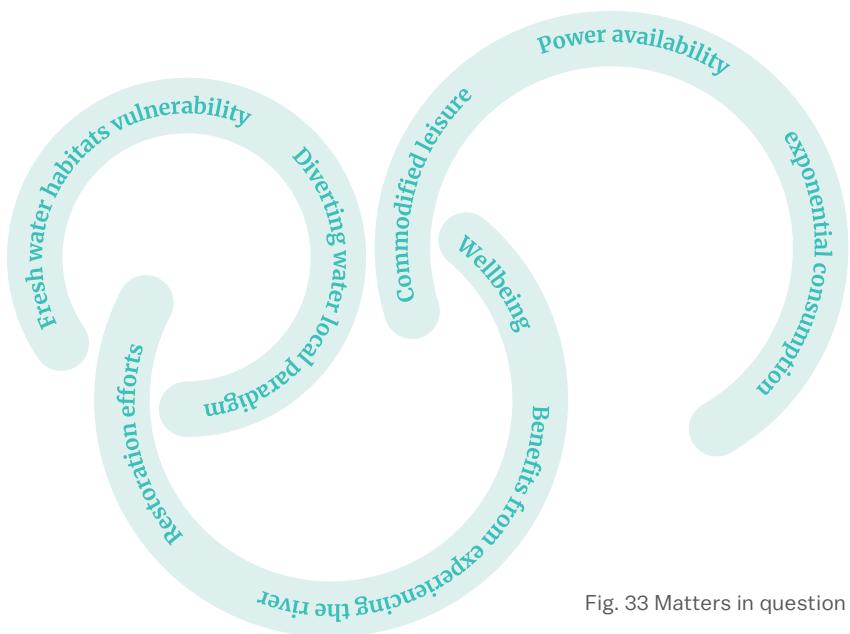


Fig. 33 Matters in question



Fig. 34 Largest water reservoir for local hydropower production reschensee after a dry summer

## 2.6 Sharing findings with experts

With the aim of confronting the aforementioned environmental concerns and cultural aspects of the local engagement with the river Talfer/Talvera and other water streams, findings emerged from primary and secondary research were shared and discussed with a group of experts encompassing activists, and professionals in the field of social and natural science. These conversations took place in different spaces such as the Fluss festival, a local film even about rivers taking place at the Filmclub capitol of Bolzano, the river Talfer/Talvera and the social cooperative Lungomare.

Indeed, when it comes to Lungomare, this space did not only offer me the chance to share ideas on how to portray a river with the artist TH<sup>2</sup>, who has been over years interested on the ecology of rivers and gave me his perspective on using nonverbal language and relying on the still evocative aesthetic qualities of water to portray a river; but the opportunity to participate in a performative workshops they organised within the framework of their project *Flux*. As a result of this event, I got to know many hidden and uncanny aspects of the river shared by other participants, as well as the opportunity to get familiar with Lungomare's own research about local rivers and the social aspects that shape human relation with them. In turn participating in their performance *Semiotics Of The River*<sup>3</sup> was an interesting opportunity to get introduced to performance as a tool of embodiment that I would then eventually use for the design project.



Fig. 35 Performance semiotics of the river taking place at the confluence of Eisarck/Isarco and Talfer/Talvera

<sup>2</sup> Interview with a visual artist, Bolzano, March 17th 2022

<sup>3</sup> Performative workshop, Bolzano, June 2022

On another note, the conversation with the art historian KW<sup>4</sup> was very important to discuss the aforementioned findings with historical uses of the river and the economic role that water streams historically played in the local context. Likewise, reviewing historical images of the rivers with this person and bringing out the role of memory as a collective tool to transform societies, gave me a significant input on the power of collective storytelling to unveil historical, and why not ecological, aspects of a place that are often overlooked.

In turn, conversations with SR<sup>5</sup> and AV<sup>6</sup> gave me an important understanding of the institutional perspective on water management and the nature of hydropeaking and other ecological impacts linked with hydropower production. Their input was also very important to understand the complexity of hydropower production, and the essentiality of this kind of source of energy to secure the stability of a network of electricity where not only Bolzano relies to sustain its energetic needs. In turn, challenges in terms of efficiency and their relation with conservation and restoration of rivers were shared, for me not to have a demonized image of dams.

Furthermore, the talks that I had with the activist ML<sup>7</sup> and HD<sup>8</sup> gave me a significant insight on how institutional concerns for water care are put into practice, and the aspects they currently try to involve in those management practices that might not have an important voice or economic value. In this regard, ML expressed his concern for the slow process restoration with which restorative efforts are carried out, the prevailing economic interest, and the many manifestations and public calls they

have done from WWF to raise awareness on the societal benefits of granting rivers more space. In turn, HD gave me important inputs on the energy sector in the local context, the underlying efficient but slow character that current efforts for rendering hydropower energy have, and the need to include degrowth as an aspect when it comes to consuming energy sustainably.

Finally, even though I do not present a transcription of the conversations I had with them, mainly because of their very informal character, the input that other persons working in the field of ecology gave about ecosystem services, and the ecological character that measures such as the deflusso minimo vitale, were very important for me to better understand the entanglement between locals and the rivers.

<sup>4</sup> Interview with an art historian, August 12th 2022

<sup>5</sup> Interview with a biologist, June 30th 2022

<sup>6</sup> Interview with an hidrologist, January 25th 2022

<sup>7</sup> Interview with an environmental activist, February 14th 2022

<sup>8</sup> Interview with an environmental activist, March 18th 2023

# Actors' map

## A dialogic approach



Understanding the dimensions and cultural dynamics that make up local engagement with water and local rivers, required an important dialog with different actors with whom it was possible to find key insights and areas of opportunity for corrente.

The following a map of idividual, collective and institutional actors are presented to better illustrate with whom a broad matter of concern for water care turned into a design project.

# **Leading inquiries**

## *Drawing possibility*

The identified cultural value of the river Talfer/Talvera, as well as the healing and comforting character of the experiences with water bodies shared with me during the water talks, made me think on the possibility that this particular aspect of water and the riparian ecosystem that locally sustains it, could play a role on mitigating an environmental pressure, that is connected to the availability of energy and a way to obtain wellness that is usually prone to be commodified, given the amount of products and services that one normally uses and access in one's leisure time. From an ecological point of view, this inquiry is framed within the inspirational and educational services of an ecosystem, which far from replacing one cultural service with a provisioning one, helps to better grasp the adequacy of plundering the latter.

### **Research Question**

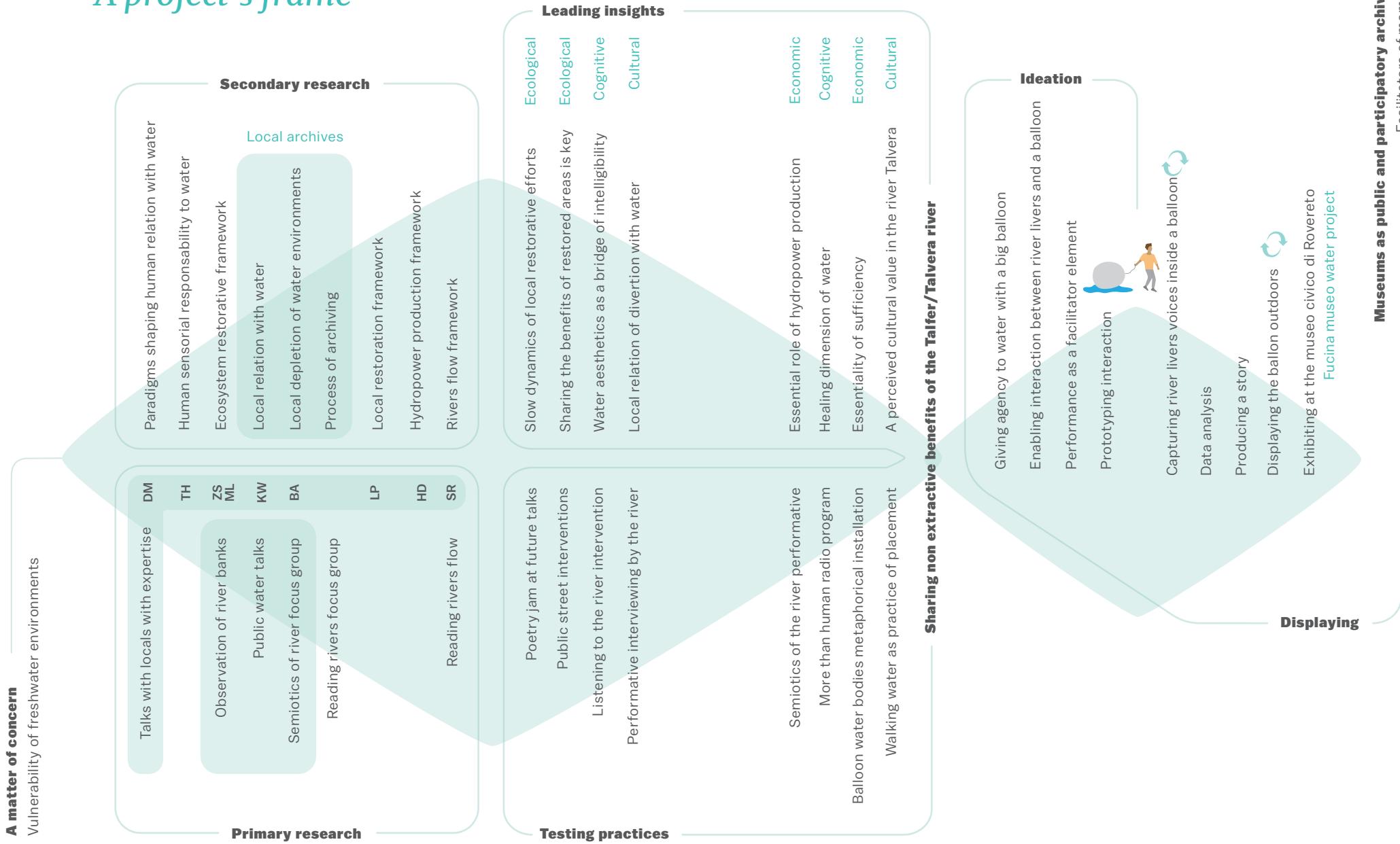
How might cultural benefits or services offered by the river Talfer/Talvera, enable a reflection on the adequacy of directly or indirectly using power, mostly derived from diverting water, to meet daily needs?

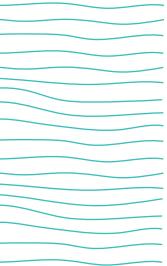
### **Design Question**

How might cultural activities performed by the river Talfer/Talvera be gathered and portrayed as a way to obtain wellness for a wider public in the city?

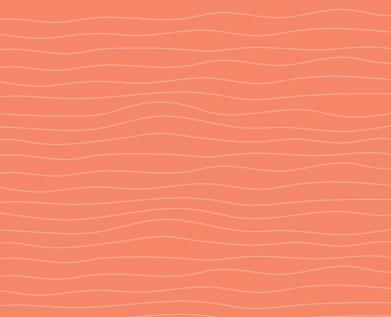
# Double diamond

## *A project's frame*





*The river is taking me somewhere,  
But I am still here,  
Where does it take me if i am still here?  
Now I see, I see now that I feel,  
It takes me to another state,  
Just like the river,  
I go to other spaces while still remaining.*



### 3. A design Project





This chapter documents how a low-fi artefact was developed to answer the aforementioned research questions, as well as the way it interacted with locals in two different scenarios to first collect and then display an identified cultural aspect/value of the river Talfer/Talvera around the city of Bolzano. The chapter presents five subchapters that go through the different stages of a design process, from the conception of an idea to its materialisation. In turn, the last section relates how the artefact moves from one context to another, still following the same river basin, and the reasons behind this activity.

## 3.1 Framing an artefact *a relational element*

Following an inquiry on how to gather and share cultural experiences taking place along the banks of the river Talfer/Talvera, led me to think about a relational object as an essential element of interaction between me, the river and the characters that make up its cultural dimension. The idea of containing and releasing that follows the actions of gathering and spreading a dimension of the river, made me think of the human body as a water body largely made up of this substance, which in turn, led me to reflect on how we contain water and let it flow once it transits our bodies.

Certainly humans are not always aware of the high presence of water in their bodies, yet, every person has felt a natural need to urinate, a moment where one is conscious about carrying some water inside the body. The bladder as a containing organ makes us aware of the presence of water in our bodies and the need to let it flow. In a subsequent moment, the aesthetic qualities of the released water, mainly the colour, tell us a brief story of our bodies and what it contains but we cannot tangibly perceive.

The aforementioned reflection of the bladder as a containing element was precisely essential to set a participatory intervention within the framework of the summer 2022 GOG event, where a set of balloons containing water were the canvas for visitors to write down what their bodies contain, being this reflection technical, emotional, or even metaphorical.



The balloon, initially framed as a containing and collecting element was then thought as a more interactive object that could play with the aesthetics of the river and then convey a message that would lead to the stated reflection about energy and needs. In this regard, it was important to give the river some agency, and have its aesthetics and nature as a protagonist of this reflection. Therefore this object was set by the river to see how it came into play with the environment.

In this regard, movies and shows such as *la belle verte* (1996) and *the prisoner* (1967) show how, in popular culture, this kind of object and its particular lightness nicely flow on water and air, and then granted some agency to these substances and the balloon itself. Indeed, big balloons can nowadays be also associated with a social agency, given their surveilling use by several governments.

Fig. 36 Spatial transportation device, film *La Belle Verte*



Fig. 37 Light and water coming into play on a balloon's surface

As for the use of a balloon as a relational object, the result of setting it up by the river was very appealing to see as it would play with many different elements of the riparian environment. For instance, the lightness of the object would nicely make it flow on the river's current while the wind would make it rotate and navigate back and forth from one bank to the other. Moreover, the waving shimmering patterns on the surface of the river, characteristic of sunny days, would be reflected on the balloon, drawing moving patterns on its surface. These interactions would aesthetically speak of what the river enabled, which, as a matter of fact, drew the attention of a school trip, a bunch of dogs that barked at the balloon, and even one person that got in the river to get the balloon, as it was set up by the river in the vicinity of the Museion contemporary art museum.



Fig. 39 Printed message on the balloon's surface

Fig. 38 A curious person playing with the balloon by the Talfer/Talvera



After exploring the interactive qualities of the balloon when set by the river, the next step to consider was the way this object could play a role to address people spending time by the Talfer/Talvera, and gather what their relation with this river was about as well as the alleged wellness behind it. In this respect, a reproduction of the balloons set as canvases at the GoG event previously mentioned could be an option for people visiting the river to write down what the latter would bring them by following a key question printed on the balloon's surface. Yet, two elements were underestimated in this scenario.

On one side, the sonic nature of the river where the voices of people spending time along its banks could play a more intimate role in a sonic portrait, as actual elements of the riparian soundscape. On the other hand, my very presence, as a performative element that could enliven the way the balloon relates to river visitors beyond its attractive appearance. Therefore, the balloon was projected to have a recorder inside that would collect and contain people's voices and experiences in the form of audio, as I would carry the balloon along the banks of the Talfer/Talvera that allow locals to access the river as it crosses the city of Bolzano. In a further step, the balloon would act as a sonic messenger that brings a collective reflection around the city on how to obtain benefits from a river in a non-extractive way.

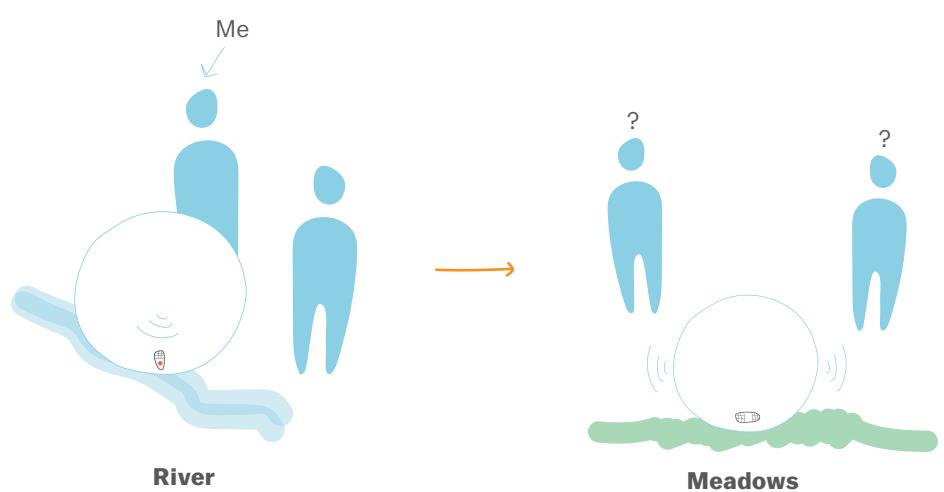


Fig. 40 Scenarios to gather and spread people's voices



## 3.2 Engaging and recording *River livers*

As the spring of 2023 brought warmer temperatures with it, the Talfer/Talvera did not only see the appearance of its riparian vegetation but the presence of humans wandering and occupying its banks. This was an important opportunity to start engaging people hanging out by the river, with the help of the shimmering and floating balloon.

To this end, three key spots were chosen along the course of the river, where breakwaters, shores and the vegetation offer a space to get to the river: a shore nearby the yellow bridge that connects the Eurac institute with the city centre, the shores underneath the serpentine bridge in front of the modern art museum Museion, and the shores in front of the skatepark in the vicinity of the Mareccio castle. Of course, some other spots, rather intimate, were also considered and get through by walking over the actual riverbed when a person was spotted, as beyond the key venues aforementioned the performative display of the balloon encompassed the overall river course as it crosses the city of Bolzano.

In this regard, it is important to underline that I would respect the intimacy of the experience every person would be having by the river, as I would approach them merely when they showed any sign of curiosity towards the balloon and its presence at the river. Precisely, to answer the question of what I was doing with this balloon, that would be often asked as I would carry it along the river banks, I would answer: I am just recording the sound of the river, which in turn, would give me the space to ask people if they wanted to have their voices contained inside the balloon.

Moreover, I would display the balloon at the river during the weekends of March and April, when warmer temperatures and longer days invited people to spend more time outdoors. In total, nineteen people/people groups agreed to speak with me, among whom two did not want to be recorded for privacy reasons. In turn, there were definitely a set of trigger questions presented as follows, with which I would play to talk to people at the riverbanks.



Fig. 41 Key wandering spots by the banks of Talfer/Talvera

How often do you come?  
**Ogni quanto vieni al fiume?**

Do you come on your own?  
**Vieni da solo?**

What do you usually do here?  
**Cosa fai di solito qui?**

Do you always come to the same spot?  
**Vieni sempre nello stesso posto?**

When was the first time you came here?  
**Quando è stata la prima volta che sei venut\* qui?**

Do you have a similar river at home?  
**Hai un fiume simile a casa vostra?**

What does the river bring you?  
**Cosa ti porta il fiume?**

Fig. 42 Carrying the balloon along the riverbanks of Talfer/Talvera





Fig. 43 Talking to a river liver by the banks of Talfer/Talvera

### Reflections

All in all, the persons addressed were very glad to share a conversation and have their voices contained in the balloon. In turn, they would even keep talking about their relation with the river after they expressed their intention to finish the recording, where they would emphasise more comfortably what they had already said while being recorded.

On one hand, people with young children, being these present or not, would especially appreciate the recreational aspect of the river, and how creativity and imagination would spark in these liminal spaces between the city and the waters of the river. Yet, a therapeutic, and even spiritual aspect of having a close experience with the river shaped most of the people's responses, as the river was referred to as a place that would recharge and bring energy to their bodies, minds and even souls.

In turn, unexpected aspects of the river were also found, such as the story of a person that lived for some months by the river and used it as a fridge to cool down beers and other perishable products.

On the other hand, as the recordings were done, most of the people addressed expressed their gratitude for having the opportunity to put in words what their relation with the river was, as it was an opportunity for them to better grasp and be aware of the feelings and the wellness brought by this particular setting, apart from the therapeutic effects of verbalising feelings. This is an important aspect to be considered, since the persons interviewed to collect the stories that together would remind other citizens of the mutual benefits of being with the river for a while, were also receivers of some kind of care while being addressed.

## 3.3 Producing a reflection

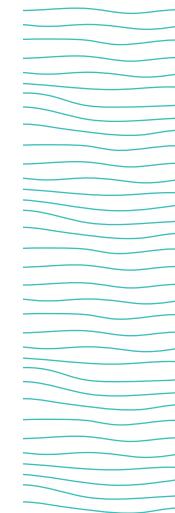
### *Is it a song? A feelscape?*

Playing with the sonic feedback obtained from the encounters by the river was a challenging exercise, as every recording had a different mood, and I initially did not know how to play with the variety of languages, as indeed, although I mainly used english and Italian language to address people, I asked them to speak in their mother tongues when being recorded.

On the other hand, even though I set the recorder for it to neutralise the ambient noise, the roaring sound of the river was very present in every recording, which also posed a challenge. However, in the end, the roaring background of the river was left as it came and then matched to different sounds gathered from a soundscape recording previously done along the river course. The sound of the river would then be the guiding thread of the recording where put together.

Then, as many of the recordings would repeat similar themes, which, in terms of research makes up an important input, but for producing purposes might seem repetitive, the audio that was produced omitted an important part of the recordings to render the story to be shared more flowing.

Of course, all these voices gathered reflect a way to benefit from the river in a non extractive way, or if you want a cultural service of the Talfer/Talvera, but still, in order to make tangible the reflection on the needs these experiences meet and the fact that this reflection can make other citizens think about the adequacy of using electrical power, which is locally based on an extractive way to engage the river, to meet their daily needs. Therefore, it was decided to play with the italian word that



translates current, corrente, as in English, it also makes reference to both the current of the river and the flow of electricity. Then, a short plot was created to underline that the current of the river brings benefits that may not be very obvious when one is to interact only with electrical current. The plot that introduces the voices gathered by the river goes as follows:

*The river sounds,  
Sometimes because it flows free,  
Sometimes because it does not;  
Sometimes it is harnessed;  
And its current becomes another current;*

*On its way to the sea,  
Before it finds the Eisack,  
and then the waters of the Adige,  
the Talvera finds Bolzano,  
There one can touch its waters,  
In its waters one can stand,  
its current produces something,  
Something beyond electricity.*

The intro would be played in loops in both German and Italian as they are the official and most spoken languages in the city of Bolzano. Then, arabic and english will be also part of the audio produced which lasts 12 minutes and goes as follows:



## 3.4 Displaying a reflection

### *Taking the river around*

Once the aforementioned reflection was produced, the balloon that was initially used as a voice collector would then work as a messenger, bringing river liver voices, and a reflection on an overlooked value of the river around its surroundings and public spaces over the city.

As the goal of this step of the project was inviting locals and the city to engage the Talfer/Talvera in a closer and sensorial way, the meadows surrounding the river were important venues for this purpose given the accessory and even uncanny character that the river holds in this public space and keeps people from experiencing the river closely in spite of the existent access. Bringing the river to the meadows, in an exercise that intends to break up cultural barriers between the city and the river and make memory of a closer human relation with water beyond a romanticised steady image of a stream, is also an effort to keep the memory of the Talfer/Talvera, as its floodplains used to occupy what the city claimed from the the river to make room for the current meadows.

Precisely, as part of the local green plan elaborated in 2021, the city intends to keep intervening the Talfer/Talvera to give it more space as it crosses the city and therefore, the meadows. Then, the question that arises is, to what extent the cultural value held by the meadows for locals and visitors can make room for the river to have more space. On this query, bringing the potential the river has to be a cultural place is indeed very important, as well as every effort to make it tangible, where corrente plays a reflective role.

On the other hand, as part of the aforementioned urban plan, the municipality intends to daylight some canals that used to bring water from the river Talfer/Talvera to the city as a landscape strategy to revitalise urban areas. Indeed, one of these canals runs along the river in the vicinity of the Luigi Cadorna street.

These inputs defined the places where the balloon, acting as messenger, would go and draw people's attention by being a strange artefact able to occupy a space given its lightness. In turn, as mentioned before, this time the balloon would contain a player inside that would play the audio produced via a set of headphones, which created a more intimate atmosphere that was not the case during a first attempt to broadcast the audio by means of a loudspeaker inside the balloon.



Fig. 44 Paved canals intended to be daylighted by the local municipality

## **Set up**

Setting up the balloon would only require a few materials such as the actual balloon and the player that were mentioned before, yet other details were important to consider. Firstly, a smaller balloon was thought to cover the player and be inserted inside the big balloon in order to hide the player as well as keeping it from getting wet, as some water would be also poured in the big balloon for it to draw patterns on its surface as it would lightly move with the wind.

On the other hand, inflating the balloon would be a task requiring about thirty minutes to be done on site by means of manual blowing. Therefore, it was thought to inflate it beforehand with the help of a compressor every time it was set up, to then transport it to the planned venues. This turned out to be an important performative action, as locals would see this artefact being pulled around the streets. Indeed, some bypassers were heard saying they had already seen this strange object over the city. In a sense this was a way to make it more familiar with the local context.

Fig. 45 Getting the balloon ready with a compressor



Fig. 46 Elements needed to display the artefact

Fig. 47 Taking the balloon around the city before its set up







Fig. 48 Artefact set up at *Via Dei Cappuccini*



Fig. 49 Artefact set up at *Piazza Municipio*



Fig. 50 Kids listening to *Corrente* above the covered canal of *Parco Petrarca*



Fig. 51 Teenager listening to *Corrente* on the meadows area





Fig. 52 Person listening to *Corrente* at *Parco Petrarca*



Fig. 53 Person interacting with the artefact while listening to *Corrente* at *Parco Petrarca*

## 3.5 Floating down the river

### *Leaving Bolzano's shores*

Bringing the reflection *Corrente* carries with it to other spaces where it could have more resonance, did not only lead me to think about a collaboration with a local cultural organisation to continuously diffuse the cultural value *Corrente* shared with locals over the spring months of 2023, but the value that it might have in places along the Adige basin, of which the Talfer/Talvera is part of, and may not have the space of thinking and engaging a water stream in such a way.

By following the waters of the Talfer/Talvera down the river, which flows into the Eisarck/Isarco and then the Etsch/Adige, one realises that the areas where one can access the river become more limited, as dikes become more prominent and steeply set a border between the river and human space, which is characterised by large crops. Likewise, as the Etsch/Adige crosses different towns, it is visible a distant relation with the river and even small brooks that flow into the Etsch/Adige. Yet, a few restorative works were also seen on the way, mainly to render the river more meandering. In turn, places once affected by the river's overflows call on the memory of the former course of the river and at what cost it is possible to sustain their current social and economic landscape, which is the case of Kurtinig/Cortina where a totem-like info point is set by the river as place of memory.



Fig. 54 Steep dikes giving a straight shape to the Etsch/Adige River

Fig. 55 Info point with historical facts on the Adige course



As the waters of the Etsch/Adige took me to the city of rovereto I did not only find out the local civic museum has the river and its history as year theme, but also the existence of a project within the framework of this year team called Fucina Museo that is held by the museum and local social organisations such as la Foresta. The project intends to collect communal and participatory works that foster a more eco social sensibility with water, which seemed to be a space of resonance for *Corrente*.

Indeed, by discussing the output of corrente with the project staff, it came up the remark that water had been a topic largely discussed from its technicality, by addressing concerns such as climate change and scarcity, but the Leno, a stream that crossing rovereto flows into the Etsch/Adige and passes in front of the museum, has never been thought as a river with more space to be experienced beyond mere observation. This is also the case of the Etsch/Adige, whose relation with the city is mediated by dikes. Of course, the reasons, actors and subsequent tensions that define the space of the river, as well as the space locals in Rovereto have with it, are different from those of the context of Bolzano, yet, opening the space to think about the possibility of a closer and more sensitive relation with rivers as way to open up a discussion about their restored value seemed to be a good opportunity for corrente to inspire people to sensorially imagine a river with less barriers and then create a sort of manifesto, out of their insights.

Fig. 56 Fucina Museo project's poster





sedetevi e ascoltate

For this particular goal and the particular space of Fucina Museo, the balloon was brought together with a few guidelines that visitors could follow after listening to the sonic reflection on the cultural value of the Talfer/Talvera, and be encouraged to go to a closer river and imagine what their relation with it would be if there was not that much separation between the city and the rivers. Then, if wanted, locals' insights on this matter would be possible to be shared on a phone line, or if you want a river line, that would keep their words in a public on-line archive claiming for more space for -with- the rivers. In turn, as a souvenir, visitors could turn the guidelines flyer into a paper boat and take it home as a symbolic element of the river occupying their lives.

Inspiration is then the value brought by corrente to this context, not to romantically overlook tensions that claim the land that used to be part of the river but to confront them from a sensorial point of view.

Fig. 57 Flyer with instructions to imagine and ask for a free flowing river through a river line

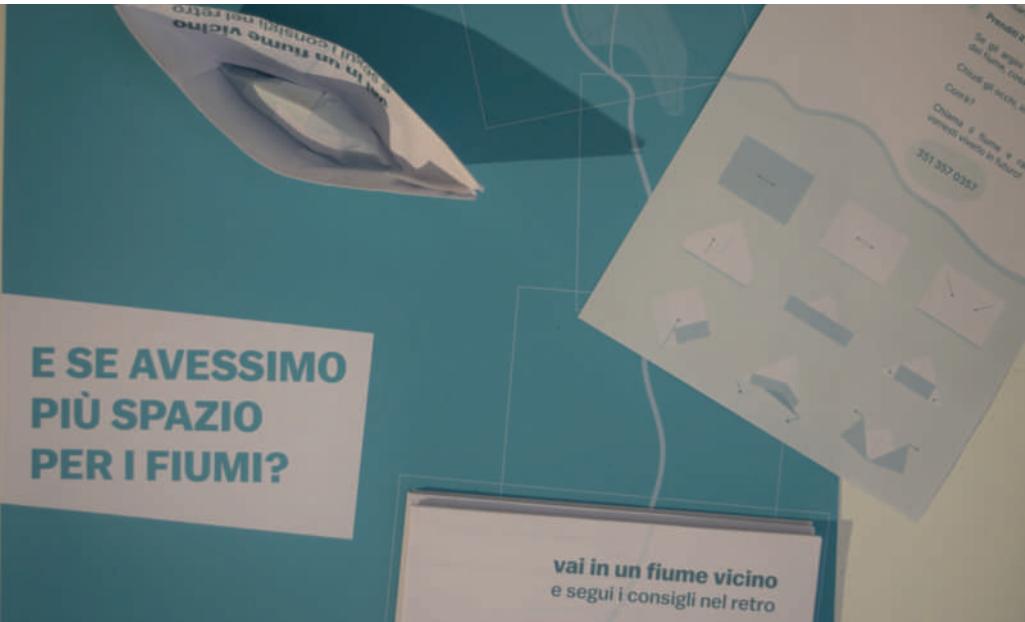


Fig. 58 A person listening to Corrente at the Museo Civico di Rovereto





Fig. 59 A person listening to *Corrente* at the Museo Civico di Rovereto



## **4. Evaluation and discussion**



This section presents a reflective description of the output of the project described in the previous chapter. In brief, it initially introduces my reflections on dealing with this topic and an environmental pressure from my human nature and perspective of water, which unveiled important implications on how to address other elements of the natural world such as a river, and how one may not only design for it but with it. Then a discussion of the eco-social agency of the project is addressed to see the extent to which corrente makes room for a more solidary and sustainable society. In this respect, ecological, economic and social agency are presented. Finally, it is discussed the way in which the exercise of narration and the cultural values of a river tackled by corrente can foster transformative scenarios for people and rivers to have more space together.

## **4.1 Of designing**

### *Or reading a river and writing with it*

*Corrente* started as a determination to take care of an essential substance for human and non-human life: fresh water, often labelled as a resource for its social and economic value, and under significant pressure as identified through observation, secondary review and interviews with experts. Indeed, by making sense of the tensions its availability arouse in the local context, and their resonance with national and global concerns on this substance, I initially went through technical comprehensions of water and its management regarding the adequacy of its use, where I found myself lost in rational translation.

More precisely, after noticing sudden changes of flows in the river Talfer/Talvera, and becoming aware of the impact of hydropower production in alpine streams thanks to the local association of fishers, I felt entitled to bring to light the ecological implications of this industrial engagement with fresh water and the habitats that sustain its availability. In this determination, I came across data that allowed me to read the river such as the flow of the stream, which I then confronted with authorities as a sort of reclamation for technical inconsistencies. As a result, I did not only become more aware of the complexity and implications that producing energy out of water entails in the local context, but the certainty that dealing with numbers and technical figures would only give me answers within a framework of efficiency, where there is always an economic argument to harness a river up to the right limit. In turn, sticking to a technical aspect to read a river would precisely prompt a translation of its nature easy to commodify, and overlook other ways to read and therefore relate to a river, as pointed out by Janine MacLeod in her text *Water and the Material Imagination*.

In that latter respect, it was quite important for me to immerse myself further in the river that aroused a personal matter of concern, and beyond being an passive object of study, turned into a lively body that gave me answers to address its dynamics and nature. Indeed, a river is more than water, and water is in turn more than a substance made up of three atoms when it is drawn in our minds beyond its rational comprehension as a resource, calling upon the notion of responsiveness pointed by Astrida Neimanis. More precisely, the sound of the Talfer/Talvera became an element that anchored my attention to the moment beyond any technical preconception of the river that I would bring with me. In fact, listening to it, became another way to read the current of the river, its flow and velocity, whose translation was not quantifiable but rather subjective and sensorial: a personal reading. In a sense, reading the river turned out to be a way to read oneself.

*In a sense, reading the river turned out to be a way to read oneself.*

Rather than being a romantic notion, this interpretation of researching a river implied a consideration of one's nature and interplay with other natural components, which made room for an appreciation of qualitative aspects of the river as something of my own. Other than relating to an inspiring and even spiritual aspect of being with water emerged during the water talks, this aroused a sense of empathy for the river beyond any moral presumption that called for its care, a sort of response ability to its nature that was later perceived by other people, and once framed in an ecosystem approach gave me an multifaceted answer to picture a freshwater habitat, and a given concern on its management and economic engagement.

Telling rivers not only as a resource and a numeric volume is very important to appreciate its value for human life, as one cares more for something when it is not only a distant and sometimes incomprehensible figure, but a part of one's own, one's experience and ability to relate to it as shown by many of the case of studies reviewed. Of course, with this, I do not want to undermine the importance of technical readings of a river, and the anthropic pressures they help us grasp, but the need to render more sensitive the way communities become more willing to restore their river, initially with their own relation with a river, which might be beneficial in a myriad of ways. In a sense, humans are not per se rational beings, we are emotional beings able to rationalise.



## 4.2 Eco-Social Agency

### *How the project seeks it*

#### **Ecological**

Corrente raises awareness of the cultural benefits of a riparian ecosystem when it is subjected to restorative efforts and it is granted with more space for its biological processes, and in turn, human presence, which from a practical point of view means the existence of less barriers, especially dikes, that restrict the natural course of a river and the access it provides for people. It is based on the findings made by exploring the river Talfer/Talvera of Bolzano and identifying by means of observation and contextual interviews, a beneficial aspect of this river, framed as a cultural ecosystem service. While stressing a sensorial and cognitive relation with a river, corrente brings to light a subtle but tangible connection a human being can sustain with an ecosystem, namely a river, and therefore make clearer their agency as an element of it. This is intended to be an important step to foster a major sensibility for restorative efforts, in particular, the ecological services that a restored river provides to better regulate the increasingly frequent erratic flows of water that are locally the most important reason to give these water bodies more space.

#### **Economic**

Corrente emerged as a reflection on the pressure that hydropower production supposes for local rivers and the spotlight renewable sources of energy receive in regard to sustainable modes of living, leaving little room left to reflect on the still growing consumption that green energy powers beyond its renewable and decarbonised qualities, which may in turn drive

massive and concerning engagements with vulnerable ecosystems such as fresh water habitats. While inviting locals to engage the current of the Talfer/Talvera from closer, corrente brings a message that separates one's wellness from consuming an economic good, and the subsequent energy for its production, which inevitably poses a question on what it is needed to have a good life and to what extent a river, or any other ecosystem, has to be intervened to fulfil one's needs. This, without denying the crucial role of electrical power and the provisioning services of an ecosystem, namely a river, on human wellbeing. In turn, Corrente, by itself does not directly mitigate the pressure that hydropower production poses on local rivers, nor bring an ultimate solution for it, instead, it enables a reflection that makes room for diverse solutions emerging from one's own sensibility with a river.

#### **Social**

Corrente follows efforts to question and break down a notion of division between humans and the environment, and the subsequent relations of care and disregard with other living beings emerged out of that paradigm. More precisely, it challenges a disregarding relation with water that has shaped the way local freshwater habitats, especially streams, have been diverted and sometimes reduced to canal-like courses for local communities to thrive. While playing with the words current and energy, Corrente underlines the importance of granting both a river and locals more space together, as well as the notion of working together with the natural world, namely the nature of a river to foster human wellness, which has indeed implications on the efficient approaches that lead engineering interventions on rivers and see flow fluctuations as something to be controlled. In a sense, Corrente brings with it the notion that ecological justice is equal to social justice, by following a more entangled conception of our nature in which, as Donna Haraway underlies, we become with the other.

## 4.3 Future possibilities

### An outlook on possibility

*Corrente* emerged as a dialogical reflection with several actors that shared a concern for water care or, as understood by the local society of Bolzano, water management. Yet, my exchange of inputs with them did not go further in terms of a collaboration, which is definitely key for the output of this and any other project to blossom in established spaces that foster the preservation of water and the habitats that sustain its availability.

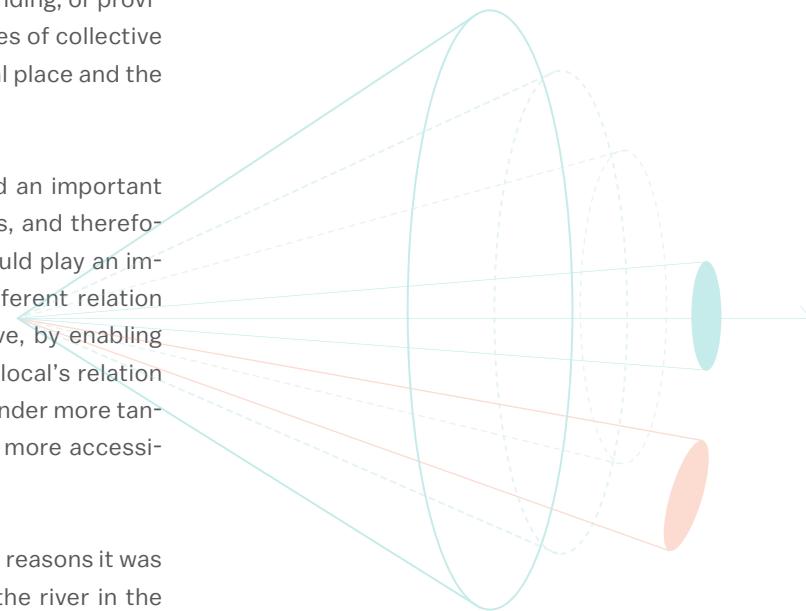
In particular, this project focused on a collective storytelling to portray a river beyond its resource-like understanding, or provisioning services, which can be related to exercises of collective memory and the experiential revision of a cultural place and the relations that it entails.

In this regard, museums have historically played an important role on documenting and sharing those relations, and therefore, it is foreseen within this project that they could play an important role on engaging locals to foresee a different relation with local rivers from an experiential perspective, by enabling an open and itinerant a portray of stories about local's relation with rivers, that diverse in time and space may render more tangible and reproducible the cultural benefits of a more accessible and restored EtschAdige basin.

In this respect, although for technical and logistic reasons it was not possible to make an itinerant reflection by the river in the city of Rovereto, as the space *Fucina Museo* of the civic museum of Rovereto hosted *corrente*, encouraging a person to call a river line and intertwine their stories with other river li-vers along the basin of the Etsch/Adige shows to be an example

of how this dynamic could take place and being carried by this kind of institutions.

On another note, beyond the natural interests local museums such as the *Magie des Wassers museum* in Lappago, the *Natural Science museum* of Bolzano, and the *museo etnografico del fiume adige* in pescantina, on portraying rivers along the basin of the Etsch/Adige river, it is still to be discussed how these initiatives can include very situated efforts for ecological restoration of rivers that can drive this storytelling exercise into institutional actions. Indeed, it is precisely on this point that presumably relies a potential use of this aspect of the river to spur more systemic action.

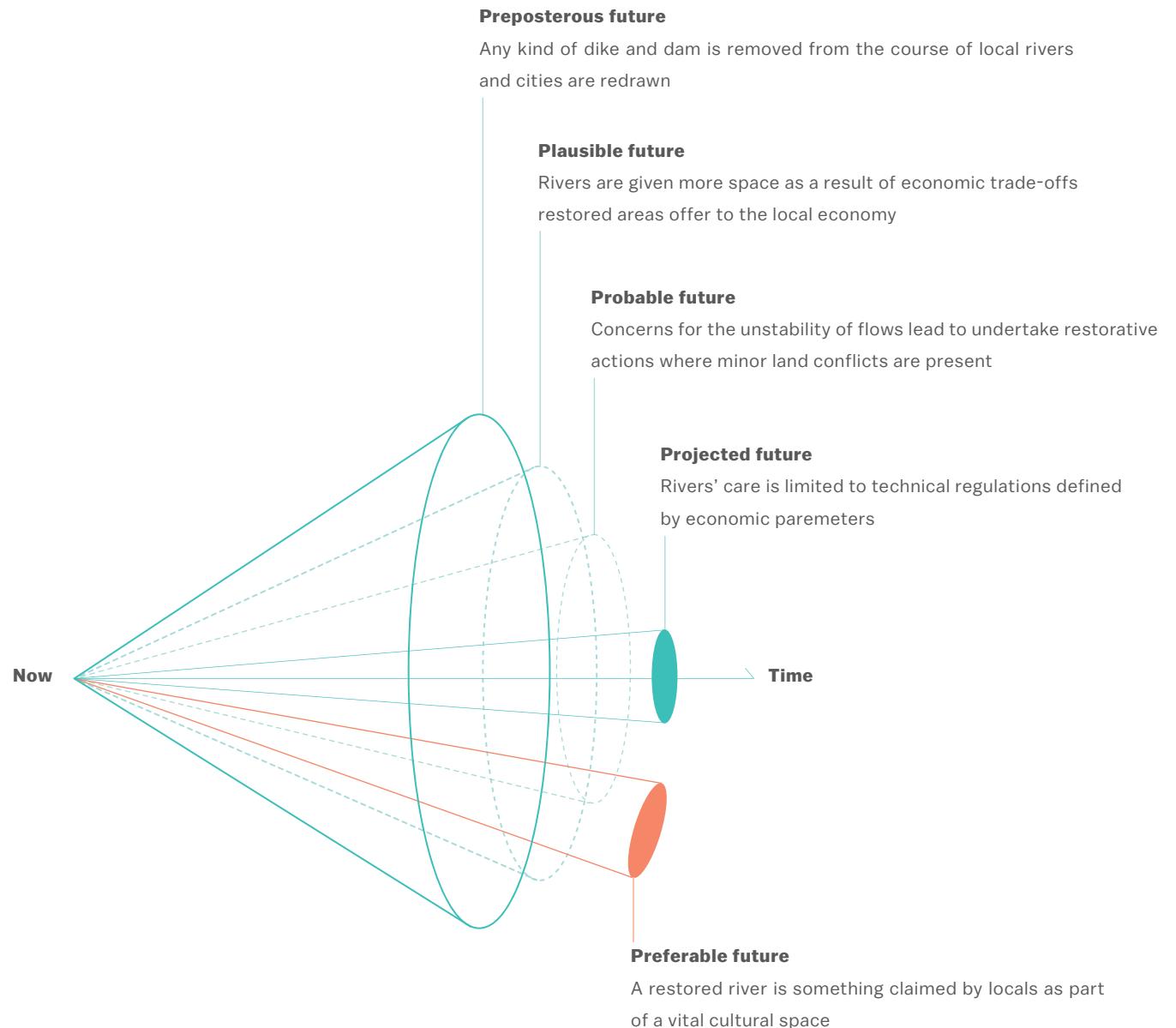


# Future cone

## A vision of scenarios

The future cone, a tool developed by Hancock and Bezold (1994) to envision alternative future scenarios to a certain current reality. It helps to situate a desired future among what can keep occurring, following the idea of business as usual; and a very unlikely reality.

The following cone situates a proposed preferable future where having space with a river is an important cultural aspect driving restorative efforts beyond the technical and therefore, prone to be commodified, benefits of wisely managing and restoring a river.





## 5. Index





## 5.1 Interviews

*Connoisseurs' input*

# A talk with M.L.

*Member of WWF Bolzano*

The meeting took place the 14th February 2022, at the local office of WWF in Bolzano, where I first told M my concerns on the straightening of local rivers, the climatic events that almost overflowed them in the last summers and their outlook on restorative efforts.

Me: M, how do locals currently make sense of overflows?

M: Floods are not old events for local population. They are part of the history of the region. In spite of the embankments and other infrastructures, flooding risk is still very present in Bolzano and the province. Last year rivers were about to flood many cities in the province. In Chiusa, the river Isarco overflowed the promenades and streets around the watercourse.

Also, in Bressanone and its surroundings, particularly the industrial zone, they are quite concerned about floods, as the river Isarco has been about to overflow in the last years. On this matter, we can mention the case of the iconic bridge Aquila in Bressanone, which is going to be renovated soon so that it may not be affected by floods. So, even though there has been a will to contain water at any cost, water always finds its way to threaten local towns.

Me: And how does the idea of respecting the natural space of a river resonate with WWF and the broad public?

M: The idea of respecting the natural flows of rivers is very in-

teresting as some watercourses have been channeled in the region. In this regard, we can mention the river Adige that has practically been reduced to a line from its original course. As a consequence, lots of endemic species have been lost to make room for monoculture. This scenario has certainly reduced the bed of the river, and increased its flow, which, in a sense, reduced the ability of the basin to mitigate flood risk.

In this respect, as WWF we made a statement asking local authorities to grant main rivers of the province a larger bed and a vital space where they may overflow. Indeed, there are some European guidelines that urge EU members to make pristine river basins in order to avoid floods and other water-related extreme weather events.

However, since the valleys of the region are very narrow, this is very controversial as there is a strong economic pressure on the areas that were once floodable and are now cultivable. This is not the case of other larger cultivable areas in Italy such as the Padan plain, where rivers are given more freedom.

# A talk with K.W.

## Art historian

With the goal of understanding the relation between the city and its rivers over history, the 12th August 2022, I had a conversation with the Art Historian K.W, with whom I discussed how the rivers shaped the heritage and development of the town.

Me: K, what does the river have to tell us?

K: Well, the river contains several stories and the history of Bolzano itself, and revising history is really important to understand the present and envision the future. Somehow, as we are used to see the same landscape, we forget that the river was different as well as our relation with it, therefore making memory is very important to understand, for instance, what was before the meadows that nowadays shape the surroundings of the river Talfer/Talvera. Many people do not know it, but back in the days, the famous meadows where we all go to hang out did not exist, they were part of the actual river, namely its riverbed.

Me: Really, and how does one could make memory of that, and unfold other realities relations with the river?

K: Comparing *in situ* is a very interesting exercise so that one can wonder what was here before, see, if you go for a walk through the promenades of Bolzano you come across historical frames where old pictures are compared with the current time, and, this would be interesting to be done with the rivers, and see how they were before works of embellishment were undertaken, for the case of Talfer/Talvera, in the early 1970's,

as a result of a student's initiative led by the professor Michele Lettieri. These frames also unveil people's relation with the landscape, and why not serve as a platform to imagine something else in the future.

Me: I went through the work of Ivan Dughera and I would like to ask you what your perspective is on the marginality water and rivers entail for some vulnerable populations like migrants?

K: Back in the days the rivers were a door for Bolzano to be connected with other places in the region and the political territories it belonged to over history, but in a sense, rivers are also borders, and they certainly shaped the separation between Italian and German speaker populations, however, the bridges helped to close differences between these two groups of population and improve a cultural exchange.

Now, the bridges also unveil a reality of which Dughera Talked about. They go over the river, and beneath them a space between the city and their cultural flows and the actual river is created, a space by waters where migrant people seek shelter by waters, just as it used to be years ago with the swamp. Nowadays if you go under bridges, you can find mattresses and blankets that witness this reality, and this in a way still shapes an uncanny understanding of the actual river beyond a general positive appreciation the surrounding meadows of the Talfer/Talvera and Eisarck/Isarco have.

On the other hand, even though the rivers are part of a beautiful landscape that nowadays invite locals and visitors to enjoy the scenery of the city, locals still keep a feeling of fear towards these water courses because over history many people died while hanging at the riverside, as sudden floods would come over. I personally, lost one of my closest childhood friends because she got trapped in the middle of the river when the river suddenly overflowed. This was very sad for me and the whole town where I grew up.

# A talk with T.H.

## *Interdisciplinar artist*

On a cloudy afternoon of march, I met artist TK at the cooperative Lungomare. In our conversation, which was joined by LP, a head member of Lungomare, we initially talked about how verbal language is permeated by water-related words that would be interesting to analyze and even embody to make room for new relations with water bodies such as rivers.

T underlined that a more haptic language should be used to address locals' sensitivity on their ecological consciousness in regard to their connection with other water bodies. Non-verbal languages such as sounds should be then interesting to be tackled again.

Listening to the river is, in a sense, a way to relearnt what we have forgotten: the ability to read the river and its changes. Somehow, this inability to read river flows may explain the fear of floods locals internalized over time.

In this regard, LP stressed the necessity to make people get closer to the riverbanks of the river Talvera by means of infrastructures that foster conviviality by the hidden shores of the river. T also underlined the synchronizing character my project could involve, and insisted on the importance of reattaching society to the natural world in order to tackle environmental issues.

Indeed, he mentioned his experience working on the river Tagliamento in Italy, which is the last wild river in Europe, where he had to synchronize with the different flows of the river, since

every time he would visit this water body, it portrayed a different setting. In the end, accepting the river is always different was one of the outputs of his work.

# A talk with AV

## *Hydrobiologist consultant*

The meeting took place at the office of AV, to whom I expressed my interest and concern on the impact of dams on water bodies, particularly on the local context of the province of South Tirol, as my understanding of dam's adequacy was very poor, which is why I addressed A with a very open and general question.

Me: A, do dams and artificial lakes created out of it render an important environmental damage?

A: Dams do change the landscape, and their environmental adequacy is as relative as it is the size and the type of their foundations. Of course, rivers and their ecologies are affected by these infrastructures. When one river is tapped with many dams, as it happens in some basins in Germany, we cannot longer call them by the name of rivers, they are artificial watercourses, those controlled flows help us, among other things, to irrigate fields and produce energy.

Me: What about underwater life?

A: Life is still possible in artificial lakes and basins intervened with dams. Fishes and other species can still grow in these water bodies despite the presence of large infrastructures. Yet, some species are very sensitive to variations on the water level of some artificial lakes, especially during winter, as precipitations remain in form of snow where rivers headwaters are, and then, the volume of lakes decreases.

Now, what it is really harmful for the environment is the sudden change of river flows when water is released in big quantities after being used to produce power. This is called hydropeaking and renders a threat for organisms living downriver that cannot bear the high pressure that comes along with a stronger flow.  
Me: Is it worth it?

A: In spite of the impacts of dams on ecosystems, these infrastructures are currently the most reliable alternative of power production within a framework of decarbonization of energy. Indeed, in case of a large blackout, hydropower plants are the only facilities able to provide instant energy to supply the demand. In fact, due to its prompt availability, the production of hydroelectric energy can follow the variation of the energy price in Europe, which means that, when the price of the energy is higher because of a higher demand, hydro plants produce and sell more power.

In this regard the water does not follow natural but capital flows. However, no matter how high the energy price is, a hydro plant must not exceed some limits to not compromise the balance of the power network. For this reason, when there is an overproduction of energy, big consumers of energy, such as large factories, get paid to receive and use power overproduction.

# A talk with SR Biologist

The meeting took place remotely on teams, and allowed me to ask S my concerns on hydropeaking events that concerned institutional regulations on water management and the overall impact of hydropower stations on local water courses. *The conversation was held in Italian language.*

Me: S, alla luce del livello basso della Talvera, io sono curioso del ruolo della produzione idroelettrica della centrale Sant'antonio su questa situazione e di come viene definito il deflusso minimo vitale della Talvera, è sempre 2 l/m<sup>3</sup> come stabilito dalla direttiva europea, e poi come si capisce il concetto di deflusso ecologico?

R: Allora, il deflusso minimo vitale fa parte del cosiddetto deflusso ecologico che riguarda aspetti fisici come la temperatura e la portata, aspetti chimici come il livello di ossigeno e l'acidità, e aspetti biologici come la presenza di pesci, alghe microscopiche, e macroinvertebrati. Poi, per quanto riguarda al deflusso minimo vitale, questo viene calcolato prima di fare qualche prelievo d'acqua per uso industriale, che nel caso della Talvera e la centrale Sant'antonio succede a Sarentino.

Quello che rimane nel fiume è un deflusso residuo a cui viene aggiunto il residuo rilasciato dopo la produzione d'energia nei pressi del ponte Sant'antonio.. Qua è importante dire che questa centrale ha una produzione di energia maggiore ai 3000kW per anno, e per questo il deflusso minimo vitale può essere più basso di quello stabilito come norma generale. Questo purtro-

ppo vuol dire che il deflusso viene piuttosto definito dai parametri socio economici.

Me: S, quale sono dei limiti degli episodi di hydropeaking legate alla produzione di energia idroelettrica della centrale Sant'antonio quando essa rilascia l'acqua nei pressi della città.

S: Allora per quello che riguarda questi eventi, non è che c'è un numero limite ma l'obbligo di mantenere un rapporto tra magra e morbida indotta. Questo è stato fissato nell'art. 6.B.v del disciplinare n 24495 del 16.09.2016. Il disciplinare è l'accordo tra concessionario e Provincia autonoma di Bolzano che ha dato la concessione e che definisce tutti gli obblighi che deve mantenere il Concessionario.

Nell'art. 6.B.v sta scritto: Il concessionario deve presentare, entro un anno dalla data di validità della concessione, un progetto che consenta di ottenere l'abbassamento del rapporto tra le portate di magra e di morbida indotte dalla centrale ad una misura ecologicamente compatibile (valore inferiore 1:4 in modo da contribuire al raggiungimento degli obiettivi di qualità previsti delle leggi vigenti (direttiva 2000/60/CE, D. Lgs. 152/06 e L.P. 8/2002). Gli interventi previsti in base al progetto devono essere realizzati entro quattro anni dall'approvazione del progetto da parte dalle amministrazioni competenti, i costi dell'opera saranno ricompresi nel programma di miglioramento e risanamento ambientale del bacino idrografico di pertinenza (Misure di miglioramento ambientale) di cui al punto 8.

Il progetto stesso è stato approvato dalla conferenza dei servizi già nel novembre 2015. Il bacino stesso è andato in funzione appena nel 2021 anche perché la ditta costruttrice è andata in fallimento ed il cantiere è rimasto bloccato dalle autorità giudiziari per molto tempo. Della storia sicuramente ne sa di più Philipp Frasnelli, figlio del concessionario: il contatto lo trovi attraverso la loro pagina web.

Me: S questa settimana ci sono stati degli eventi di hydropea-

king sulla Talvera, e mi chiedevo, come autorità, cosa può fare l'ufficio idrografico?

S: Come Autorità responsabile della qualità dei corsi d'acqua le nostre azioni sono rivolti a garantire lo stato di Buono. L'aspetto della sicurezza idraulica, nel senso che un improvviso e brusco aumento della portata defluente fa parte della sicurezza da garantire da parte del gestore. Prima che entrasse in funzione il bacino di compensazione si verificava spesso che un cittadino, che si era avventurato nel Talvera, era rimasto intrappolato nel mezzo del torrente e doveva essere salvato dai pompieri.

Me: S, con riguardo alle dimensioni delle centrali, quali sono meno ecologiche e quale sarebbe il fattore più critico per definirle così, mi ricordo che a un certo punto, in questo film, was fishe wollen, presentato dalla fischereiverband, dicevano che le grandi centrali avevano un impatto grosso sulla geologia e la resilienza del corso d'acqua, ma forse ho capito male.

S: Allora, al contrario di quello che pensi le centrali grandi non sono meno ecologiche visto che l'impatto che deriva da una derivazione non è soltanto la diminuzione della quantità defluente, ma ci sono ben altri, non meno impattanti come la gestione dei sedimenti (spurgo dei dissabbiatori), l'interruzione del continuum fluviale, l'interruzione della migrazione dei pesci, hydro-peaking a valle delle centrali con un bacino di raccolta a monte, l'aumento della temperatura dell'acqua nel tratto derivato con possibile ripercussione sulla popolazione ittica (meno ossigeno disiolto, cambiamento della composizione ittica – meno salmonidi più ciprinidi), ripercussioni sul quadro paesaggistico – il fiume / corso d'acqua è elemento centrale di un paesaggio – , ripercussioni sulla fruibilità di un corso d'acqua.

Ovvio allora che più derivazioni sono presenti in un corso d'acqua (e non solo per la produzione dell'energia elettrica, ma anche per l'irrigazione, neve programmata, usi termici, pescicoltura) maggiori sono questi effetti di cui sopra. Rimanendo però

sull'idroelettrico, le grandi centrali hanno sicuramente anche loro un enorme impatto, però a differenza delle piccole e piccolissime centrali, le grandi producono un'enorme quantità di energia. Il 3% degli impianti producono l'80% della somma dell'energia prodotta in Alto Adige.

Me: Tornando al deflusso della Talvera, la portata che si può vedere nella stazione idrometrica è lo stesso deflusso minimo vitale? E come viene calcolato?

S: Quello che viene misurato presso le stazioni di misura dell'ufficio idrografico sono le quantità di acqua espressi in  $m^3/s$  ( $1 m^3/s = 1.000 l/s$ ) – il deflusso istantaneo presso le loro stazioni, non il deflusso minimo vitale. Quest'ultimo viene calcolato secondo la tabella 19 del Piano generale dell'utilizzazione delle acque pubbliche PGUAP dove le portate minime del deflusso minimo vitale sono indicate in  $l/s/km^2$ : cioè, si fa un calcolo secondo le dimensioni di tutto bacino imbrifero. Per esempio: se una derivazione che ha un bacino imbrifero di  $50 km^2$  è chiesta una portata minima di  $3 l/s/km^2$ , alla presa devono defluire una quantità di  $150 l/s$  e una quota variabile di 15% del deflusso naturale. La quantità espressa in  $l/s/km^2$  è una misura unitaria, riferita al bacino imbrifero, cioè al bacino da quale scola tutta l'acqua in quel punto.

Me: Allora, se ho capito bene la portata minima del deflusso della Talvera, che ha un bacino imbrifero di  $429 km^2$  secondo i valori di riferimento della tabella, verrebbe definito così:  $2.7 l/s/km^2 * 429 km^2: 1158,3 l/s$  alla presa, più una quota variabile del 10%. Mi ricordo che avevi detto che visto che la centrale S. Antonio produce più di 3000 Kw, la regola potrebbe variare (si considererebbe la misura minima di  $2 l/s/km^2$ ?). Poi, quando dici alla presa, intendi un registro in momento istantaneo, come quello registrato alle stazioni? E così, si potrebbe dire che oggi, essendo le 19:30, la stazione al talvera, che mostra una portata di  $7.9 m^3/s$ , cioè  $7.900 l/s$ , registra un deflusso sopra il livello minimo di 1158,3?

S: Allora, non è tanto corretto. Il bacino imbrifero è sempre riferito al Bacino drenante fino alla presa. Dunque: la presa sul torrente Talvera deriva da un bacino imbrifero di 278,5 km<sup>2</sup>. Secondo i valori della tabella 19 dovrebbero essere dotati 2,6 l/s/km<sup>2</sup>, cioè 723 l/s + una portata variabile di 9,22% del deflusso naturale. In base alla delibera ed ai monitoraggi che si sono eseguiti la definizione del DMV è un po' diversa, ma comunque segue la logica del PGUAP (diverse quantità in diverse stagioni dell'anno – v sotto) Oltre alla Talvera sono derivati anche il Rio Danza (20 km<sup>2</sup>), il Rio della Madonnina (10 km<sup>2</sup>) e Rio D'Auna (14,4 km<sup>2</sup>). Siccome la potenza nominale della centrale è superiore a 3.000 kW la quantificazione del DMV segue un po' un altro iter come detto prima, regolamentato con Delibera della Giunta Provinciale numero 893/2011 allegata, però non più in vigore, e sostituita dall'articolo. 39 del PGUAP.

La stazione dell'ufficio idrografico registra il deflusso della Talvera a valle della restituzione delle acque dell'impianto di S. Antonio, dunque non registra il deflusso naturale, ma il deflusso indotto dalla centrale quando questa produce energia elettrica, cioè, la portata, in questo caso elevata, corrisponde alla quantità turbinata più il deflusso residuo (deflusso che viene rilasciato alle diverse prese più il deflusso del bacino imbrifero residuo); per altra parte, quando non si produce energia, la portata misurata alla stazione corrisponde alla quantità del deflusso che viene rilasciato alle diverse prese più deflusso del bacino imbrifero residuo, se osservi il grafico della portata sul sito web della provincia si può vedere che le punte corrispondono alle portate rilasciate dalla centrale di San Antonio.

Me: Allora, l'informazione che riguarda ai livelli fisici della Talvera, disponibili sia online che in situ riguarda principalmente alle variazioni della portata del fiume come conseguenze della attività produttiva della centrale idroelettrica e non il deflusso minimo o altre misure che costringono il prelievo dell'acqua.

S: Esatto.

# A talk with HD

## *Member of Climate action Bolzano*

The meeting took place in a bar of the city, where H, an important activist and leader of Climate Action in the region of Bolzano shared with me his insights on water issues in the local context.

Me: H, I am very curious of which kind of actions you might have undertaken when it comes to safeguard water in the region.

H: Well, that is a very intricate topic, of course, irrigation schemes are responsible for the highest consumption of water in the region apart from the fact that fields practically reduced the vital space of rivers in the bottom valleys. But talking to farmers about this is very difficult cause it entails to mess with their livelihood and heritage. Yet, crops in the region do not follow an scheme of self-sufficient, they feed a large monoculture scheme that exploits the land to meet large chains of consumption. This surely has to change.

When it comes to action, as a collective we have developed some activities in public spaces such as flashmobs to ask for more regulation on this matter. But currently we do not have an agenda on this matter.

Me: What is your perspective on hydropower production and the recent project presented by the Südtiroler Energieverband?

H: Thank you for asking, as organization we were very disappointed with this announcement, especially because we collaborate with the local energy cooperative Ötzi Strom that is part of the

Südtiroler Energieverband, and this was something that we did not know before it came to light. Of course, this project was rejected because there were many environmental concerns, but this is not new, every now and then these projects pop up.

In this regard we believe that we do not need to build more hydropower stations, because we need to take care of our rivers. Instead, we propose that the existent stations become more efficient to have a better offer of energy. We have also stated in many occasions the need to rely more on solar energy given the fact that we have an incredible sunny weather in these mountains. This for sure would help to give rivers a break from water abstractions. Especially now that scarcity is knocking the door every year.

Me: So, the solution is to allocate the demand from one source to another one? What about reflecting on the actual exponential demand of energy within the framework of energy transition?

H: Of course, I am very fond of solar energy, but we also have to keep in mind a degrowth mindset, otherwise we will deplete ecosystems in a myriad of ways. I think this is very important to avoid approaches where only a technical perspective is considered, which leads to projects such as one that I recently heard about engineers talking about covering with solar panels the artificial lake created by a dam. I am not sure about this, but it does not sound very appealing and good for the environment.

# Workshop and performance

## *Semiotics of the river*

the river with the artist Herwig Turk, who also participates of such project, and shared with me his insight on how a river is perceived, portrayed and shown to a broader public. In short, after trying to portray the Tagliamento river, one of the last wild rivers in Europe, Herwig conceived this water course as a stream with diverse flows, nuances and realities. According to him, synchronizing with this character is really important to think of its positive aspects without denying a fear or a bad perception.

Following an exercise of understanding the perception of the rivers of Bolzano as well as the stories and characters they harbor, I participated in a workshop called Semiotics of the river, organized by the social cooperative Lungomare in collaboration with the artists Tiina Sööt and Dorothea Zeyringer. This activity, which intended to collect the personal relation of six citizens with the rivers, resulted in a performance where these perceptions were portrayed at the riverside. Surprisingly, an uncanny character of the rivers was very present when they were narrated, especially when experienced at night.

During the performance, I embodied, among others, the figure of a monster that not only embedded the mysterious characters the river harbors at night, but a roaring sound that sparkled memories of sudden overflows that could not be foreseen and controlled.

This activity made me learn some other concerning aspects of the rivers such as harassment and drug trafficking, which shape a disregarding relation with them and go beyond a fearful memory of their flows and presence of homeless people. Yet, these perceptions may vary in space and in time, given the dynamic nature of the river that always brings with it a liminal space where there is also room for positive perceptions.

In this regard, within the framework of the Flux project, in which the workshop and performance Semiotics of the river took place, I had the opportunity to discuss the uncanny character of

## **5.2 Recordings**

*River livers' voices*



Mi piace molto stare vicino al fiume, è molto rilassante, poi anche a casa, io abito vicino a un fiume, quando sono molto stressata, apro la finestra e c'è il fiume fuori, e quindi mi rilasso tanto, e d'estate è anche tanto bello che è molto rinfrescante, e bella la natura.

**A teenager**



Ich mag es hier neben dem Fluss zu sein, weil es sehr entspannend ist, den Geräuschen zu zuhören, wie das Wasser fließt und auch wenn die Sonne scheint, dann sieht das Wasser sehr schön aus und (äh) auch mit den Füßen im Sommer hineinzugehen ist ein sehr entspannendes Gefühl und ich mag es sehr.

**A teenager**



Noi veniamo spesso nei fiumi, non solo qua anche in altri fiumi, soprattutto dove sono cascate, ed è molto bello perché l'acqua ti rilassa, i bambini si divertono, possono giocare con i sassi, la sabbia, si buttano dentro, nuotano, poi è bella fresca, quando torno a casa dal fiume mi sento più fresca! più rilassata, più contenta, più stanca per andare a dormire anche

**A parent and her daughter**



Quando la temperatura lo consente noi veniamo sempre al fiume perché è un luogo di tranquillità in mezzo al caos, siamo circondati da un sacco di persone, siamo in mezzo a città, siamo circondati di persone che giocano, che gridano, e bello così, però qui c'è quel momento in cui si può ascoltare solo il rumore del fiume, quel rumore bianco continuo di sottofondo che comunque è rilassante, i bambini si divertono facendo finta di pescare, quando pescano oppure possono scavare una piccola spiaggia, e ci veniamo spesso, almeno una volta alla settimana.

Non sono originario di Bolzano ma veniamo con i bambini sempre, io sono nato in un piccolo paese vicino a Como e vivevo a fianco a un piccolo fiume, dove da bambino ho giocato tantissimo con l'acqua e vicino all'acqua, ci costruivamo la capanna sull'albero vicino all'acqua, quindi mi piace stare vicino al fiume.

**A parent with his children**

We live in (a city in germany) and we enjoy the river there as much as we can. The rhine. Every second day if I have time. I like to go there because it is a place that my girlfriend and I like, but secondly I like water, I am from greece, and there we have water around us, and I am like a water child, I like the sound of water, like the waves, I like the life in it, I have also a lots of respect for the river and the ocean because it is deep, strong, immensely powerful and it makes me feel little and loved if I am in it.

Even though it is usually cold, I feel warm, because it is devouring me, like an arma, like a clock. This feeling is like someone else can describe my body, because it is floating around me, you know what I mean, I want to describe this emotion, but it might be a bit difficult to describe that.

We found the river randomly, cause we were enjoying the architecture and warning again, and then we saw, nearby the river, usually if we have it in a city, the land is going up and we knew instantly there was a river, but we didn't hear it so we came up the hill and we saw the river and we were interested instantly, we saw a bunch of people here, and then stayed here. We stayed the first day around 20 minutes, and so it was today.

This river is different from the Rhin because the river there is I do not know how much, ten feet deep, and it is more powerful than here but it is calmer here and here I can put my feet, in cologne I could not do that, there are some beaches but they are not like beaches in Italy or south tyrol, it is really cold there. The Rhin might be more dangerous, I am sure if I dare swimming there, the current will take me. You can jump there but if you do not have the swimming abilities, the current will pull you.

**A couple of visitors from Germany**



Io non sono di bolzano, sono venuto a bolzano solo una volta perché di solito andavo allo skatepark che c'era qua, infatti non mi ricordavo niente, e sono arrivato proprio in questa città che mi ha suscitato subito grande ammirazione per il popolo tedesco, che per stereotipi mi stanno un po' antipatici però sono molto brave persone, e adesso sono venuto al fiume con la mia amica perché volevamo goderci la natura e il fiume secondo me è un grande emblema della natura, perché con la sua voce che lei sta raccogliendo il suoni con il palloncino, con la sua voce la voce del fiume noi riusciamo ad entrare in una energia che rispecchia la felicità umana perché il fiume è l'unico collegamento dalle montagne al mare che sono delle cose molto distante, per cui, ipoteticamente come diceva un filosofo diceva nelle acque del fiume non ci si bagna mai due volte che è una grande cosa per la vita, e quindi il fiume è vita.

#### A couple of teenagers

Allora io vengo qua soprattutto per rilassarmi il fiume mi trasmette calma, ieri, io gioco pallacanestro, ieri è stata una brutta partita, ho bisogno di venire qua per capire un po' cosa posso fare, cosa non posso fare, sono venuta qui con una le mie amiche, loro sono in grado di trasmettermi un po' di serenità, di quello che magari riesco a fare da sola e nulla, il rumore dell'acqua mi consola, mi trasmette molta calma e mi aiuta a rallentare un po' la mia tendenza che ho di pensare oltre a quello che dovrei fare, e niente.

Io pure gioco pallacanestro ed ieri è stata una brutta partita, e quindi siamo venute tutto insieme per staccare un po' il cervello della mentalità del basket e stare un po' in compagnia divertendoci insieme, e questo ci sembra del posto migliore, perché comunque trasmette tranquillità, all'aria aperta, stare tutte insieme, quindi, abbiamo passato tutto questo pomeriggio in tranquillità in serenità.

#### A couple of young friends



Sono nata qui a bolzano, quindi il fiume l'ho vissuto da quando ero piccola, venivo a giocare al fiume anche quando ero piccola perché mi sono divertita sui sassi con i miei compagni di classe o con i miei amici quando ci ho passato la mia infanzia e devo ammettere che il suono del fiume mi da una sorta di tranquillità, mi rilassa, e adesso ci porto mia figlia e comunque ho portato gli altri miei figli, il cane, perché spesso lo faccio nuotare qua nel fiume, e comunque diventa una sorta di appuntamento nel periodo più caldo, sicuramente in inverno no, e in montagna la uso come sorgente perché spesso mi ha capitato di bere l'acqua del fiume quando sono in montagna.

**A woman with her dog**

Si vengo qui al fiume, solo esclusivamente quando vengo per il cane, perché è il posto migliore per portare il mio cane, lui è un labrador, lui ha costantemente bisogno dell'acqua e poi la cosa particolare di questo fiume è che quando piove poco l'acqua è talmente bassa che si potrebbe anche volentieri camminare in mezzo, praticamente oggi c'è poca acqua quindi si potrebbe camminare, e allora porto qui il mio cane, visto che a lui piace entrare nell'acqua e farsi lanciare oggetti come sassi e bastoni e insomma e quasi la sua passione del mio cane, e quindi regolarmente vengo qui soprattutto d'estate perché visto che è un labrador ha molto pelo e grasso e quindi soffre molto più il caldo di noi, e ha più bisogno di rinfrescarsi, poi dopo esser stato qui al fiume , al talvera mi sento quasi come rinfrescato, ho preso almeno delle non lo so, l'aria fresca e sono anche contento che il mio cane si sia divertito e rinfrescato.

**A man with his dog**

اذه ىل! ئي جملاب بحأ ، بائىتاكالاب رعشأ و آدج أراح وجلا نوكى امدنع  
ان أف ، ئودملاب ين حنمى وەف ، آعىار أروعش ين حنمى هن آل ليمجلاب رهنلاب  
امدنعو ، لمعلل موي لك ون از لوب ىل! يىتا ئين كلو ىرخا ئن يدم يف شىع  
لادىملا لىبىسلىع يىدىلا ليمجلاب وي ران يسلا اذه ئرآل تئىچ بعص موي  
نكل ستارف او قلجد رهن ان يدل. تىتا ثيچ ، دادغب يف ان يدل سيل ،  
لما جلا اذه مهيدل سيل.

**A man on his own.**

Sono arrivato a Bolzano 30 anni fa, e da quel momento il fiume lo tengo sempre vicino. All'inizio non come volevo. Quando sono arrivato non avevo un tetto e allora ho dovuto dormire nelle rive del fiume dove nessuno mi potesse vedere. Adesso le sponde sono più aperte, ma una volta sembrava proprio una foresta. Menomale era estate, così, non faceva tanto freddo. Il fiume mi portava sempre delle cose, con un mio amico sempre trovavamo qualcosa nelle sue acque, cose che venivano buttate. Poi ci serviva come frigo naturale. sempre che volevamo berci una birra, le mettevamo nel fiume e dopo cinque minuti era già fredda! Dopo un mese ho trovato casa, ma io sempre torno al fiume, mi rilassa, mi fa connettere con la natura, mi fa sentire parte di questa città e tira via i brutti pensieri.

**A man on his own**



Sono qui oggi nel fiume perché sono venuto a studiare inglese, e vengo raramente, principalmente quando ci sono materie difficili da studiare e sono venuto anche perché c'è una bella giornata con il sole e mi piace sentire il rumore del fiume.

Il rumore del fiume mi porta tranquillità e serenità e poi un ulteriore tranquillità nello studio visto che a casa c'è sempre rumore tra magari, mia mamma che cucina o la lavatrice, e invece qua da solo le uniche persone che possono passare sono quelle col cane. che si fanno un tuffo per rinfrescarsi.

**A teenager with a classmate**



Al fiume si fanno tante cose, era da tanto tempo che non venivamo, però è un posto che conosciamo, è un po' il nostro posto segreto, e al fiume ci si sporca le mani, ci si bagna i piedi, ci si fanno un sacco di avventure, si trovano dei sassi con le forme strane e si lasciano andare via i pensieri, quando fa bene ai piccoli e anche ai grandi.

Io sono di Bolzano, il fiume lo conosco da sempre, però non avevo mai frequentato le spiaggette del fiume, e solo da un paio di anni che le conosco, prima non le conoscevo anche se sono andata qui, sono venuta in questo parco, ma proprio nelle spiaggette del fiume non ero mai stata. Il fiume mi prende via i pensieri brutti e mi ricarica, come pulire via.

**A woman with her daughter**



Per me, io sempre spesso qua perché mi piace un sacco la tranquillità che c'è come una piccola isola di rumori per uscire della città anche se bolzano e comunque molto verde, e mi da una pace una tranquillità, anche tutto il movimento dell'acqua alla fine è una sorta di mindfulness e anche è bello poter passeggiare con il cane, vedere gli animaletti, e vedere come cambia il fiume ogni giorno. perché ogni giorno è un po' diverso.

Dall'altra parte aiuta a pensare un po' sulla giornata che sta per venire o quella che è finita, e da un'altra parte ci sono questi cambiamenti che ci ricordano anche di non essere sempre statici, che il fiume si va adattando ogni giorno alle sue situazioni, da dove è più facile portare giù l'acqua e noi dobbiamo un po' non dimenticare che dobbiamo imparare di questo, perciò sì, è un po' un riassunto di quello che credo sia un po' la vita.

#### A man with two friends



Also was mir gefällt in der Nähe vom Fluss zu sein (mh) ist glaube ich ist am meisten das Rauschen, äh die Geräusche die sind einfach sehr (ja) beruhigend und auch der Geruch, gerade weil, an dieser Stelle sind wir im Park und da ist man so sehr weit weg von Straßen... und ja dieser frische Geruch und man kann so die Hände und Füße ins Wasser tun und ist auch so eine Abkühlung im Sommer und ja gerade, wir kommen jetzt gerade von einem sehr großem Mittagessen und das ist jetzt einfach so ein bisschen Verdauung, Entspannung und ja einfach sehr relaxing.

#### A couple of siblings

Also ich bin sehr oft am Fluss und am Fluss. Also ich gehe auch manchmal nicht schwimmen, aber ich tauche manchmal so ein, in den Fluss.

Wenn ich am Fluss bin, dann beobachte ich manchmal, also ich höre dem Fluss zu, aber ich gehe auch, also ich schaue auch manchmal auf die Wasseroberfläche und ich finde es sehr faszinierend wie die Wasseroberfläche sich bewegt, also wie es unterschiedliche Stellen gibt, wo sich das Wasser sich kräuselt, oder wo das Wasser... Ich finde manchmal sieht das Wasser sehr intelligent aus, wie so eine Membran, die sich so den Weg bahnt.

Ich finde man kann - theoretisch - Also ich bin momentan sehr unruhig und rastlos in meiner jetzigen Situation, aber ich glaube, dass man stundenlang am Wasser sitzen kann und einfach beobachten kann und ich glaube, ja das würde ich gerne, das werde ich bestimmt auch, mir richtig die Zeit dafür nehmen.

Genau. Und ja, erstmal soweit? Und im Sommer ist der Fluss ja auch kalt, dann kann ich mich darin abkühlen. Das finde ich auch tatsächlich, da bin ich sehr dankbar darum, dass es den Fluss gibt Und ich nutze es schon auch um mich wach zu machen. Weil der Fluss, also ich gehe manchmal auch, also ich bin jemand der auch im Winter nicht davor zurückscheut zumindest die Füße in den Fluss zu halten. Oder im Frühling schon eine so, dann schaue ich und tu ich die Füße rein und dann denke ich ok, jetzt ist es sozusagen warm genug, jetzt kann ich so komplett reingehen und danach fühlt man sich wie neugeboren.

# Ethics statement

## *Consent matters*



Hereby, I declare that every person interviewed along my contextual exploration, which includes both participants of the water talks and the experts from whom I received diverse insight about the social political and environmental nature of the local engagement with water and rivers, were informed about the fact that I was a student developing a design project about water care at the University of Bozen/Bolzano, and that, as for the case of experts, their remarks would be taken to help me frame my understanding of local management of water, cultural aspects associated to its use and the implications of hydropower production in the area. In turn their identities are protected, as their actual names are not mentioned.

On the other hand, every person that I encountered by the river Talfer/Talvera during my performative recording exercise, whose identity is not revealed to secure their privacy, verbally agreed to be recorded and share their voice for this project, as mentioned beforehand. The order of the recordings is not representative of the spatial and temporal character of the encounter by the river. In turn, every participant was informed of the nature of the project and my credentials as a student of the University of Bozen/Bolzano.

Finally, as the audio produced within the framework was publicly available inside the space Fucina Museo by the Civic Museum of Rovereto. It is important to mention that this institution was not keeping any copy of the audio and the voices included in it, once the exhibition will be closed, as among other aspects, I will take back the material brought to this space.

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### List of figures

Fig. 1 Joining watery dots  
Prepared by the author

Fig.2  
Source  
<https://www.churchofjesuschrist.org/media/image/moses-parting-red-sea-barrett-5e9264f?lang=eng>

Fig. 3 Freshwater ecosystem services  
Prepared by the author

Fig. 4 "Listening to the moment's song" Intervention at a bridge by the Talfer/Talvera River  
Prepared by the author

Fig. 5 Water, light, gravity and stones coming into play at Talfer/Talvera  
Prepared by the author

Fig.6 Performative poetry recital  
Prepared by the author

Fig. 7 "Elemente des Kreislaufs", banner at Bolzano's museum of natural science  
Prepared by the author

Fig.8 Rösler navigating the Danube on his stand-up paddle  
Source  
<https://pure-water-for-generations.com/>

Fig.9 Zamboni and Brondi navigating Tartaro Canalbianco  
Source  
<https://www.rockit.it/news/anime-galleggianti-brondi-zamboni-libro>

Fig.10 A kinstitude's member walking a river  
Source  
<https://voiceofnaturekinstitude.org/>  
Fig.11 Walk along a stream in the surroundings of Madrid  
Source  
<https://www.iagua.es/noticias/caminar-agua/caminar-agua-se-basta-que-cuidar-algo-necesitas-sentirte-identificado-ello>

Fig.12 Walk along a channeled river  
Source  
<https://walking-water.org/wp-content/uploads/sites/13/2021/07/LAWalks-TopPhoto1000.jpg>

Fig.13 Flooded street (Via Brennero) in the summer of 1957  
Source  
<https://www.altoadigeinnovazione.it/la-storia-della-bolzano-che-non-ce-piu-riaffiora-online-grazie-ad-un-incredibile-archivio-dei-ricordi/>

Fig.14 Lost objects under a bridge crossing the Talfer/Talvera  
Prepared by the author

Fig.15 Former riverbed of the Talfer/Talvera  
Source  
Local Archive of Bolzano

Fig.16 Banks of the Eisarck/Isarco  
Prepared by the author

Fig. 17 Hut by the riverbanks of Talfer/Talvera  
Prepared by the author

Fig. 18 Leftovers by the riverbanks of Talfer/Talvera  
Prepared by the author

Fig. 19 Firepit by riverbanks of Talfer/Talvera  
Prepared by the author

Fig. 20 Painted stones found by the riverbanks of Talvera  
Prepared by the author

Fig. 21 Rock cairns in the vicinities of the communal Kennel  
Prepared by the author

Fig. 22 A person practicing yoga by the river Talfer/Talvera  
Prepared by the author

Fig. 23 A couple hanging out by the rocky banks of the Talfer/Talvera  
Prepared by the author

Fig. 24 Futurefarmer's water-powered artefacts  
Prepared by the author

Fig. 25 Minnesota's water bar prompts  
Source  
<https://www.minnpost.com/cityscape/2016/03/world-s-first-full-fledged-water-bar-about-open-minneapolis/>

Fig. 26 Water talk at Bar Moretti  
Prepared by the author

Fig. 27 Painting a postcard  
Prepared by the author

Fig. 28 Postcard made with watercolors  
Prepared by the author

Fig. 29 Postcard made with watercolors  
Prepared by the author

Fig. 30 Postcard made with watercolors  
Prepared by the author

Fig. 31 Low water level of the Talfer/Talvera  
Prepared by the author

Fig. 32 Hydropeaking events registered by the hydrometric station at Talfer/Talver with related flow proportions  
Prepared by the author

Fig. 33 Matters in question  
Prepared by the author

Fig. 34 Largest water reservoir for local hydropower production res-chensee after a dry summer  
Prepared by the author

Fig. 35 Performance semiotics of the river taking place at the confluence of Eisarck/Isarco and Talfer/Talvera  
Source  
<https://www.lungomare.org/projects/flux/>

Fig.36 Spatial transportation device, film La Belle Verte  
Source  
<https://www.terra.org/categorias/peliculas/planeta-libre-un-film-mayor-de-edad>

Fig. 37 Light and water coming into play on a balloon's surface  
Prepared by the author

Fig. 38 A curious person playing with the balloon by the Talfer/Talvera  
Prepared by the author

Fig. 39 Printed message on the balloon's surface  
Prepared by the author

Fig. 40 Scenarios to gather and spread people's voices  
Prepared by the author

Fig. 41 Key wandering spots by the banks of Talfer/Talvera  
Prepared by the author

Fig. 42 Carrying the balloon along the riverbanks of Talfer/Talvera  
Prepared by the author

Fig. 43 Talking to a river liver by the banks of Talfer/Talvera  
Prepared by the author

Fig. 44 Paved canals intended to be daylighted by the local municipality  
Prepared by the author

Fig. 45 Getting the balloon ready with a compressor  
Prepared by the author  
Fig. 46 Elements needed to display the artefact  
Prepared by the author

Fig. 47 Taking the balloon around the city before its set up  
Prepared by the author

Fig. 48 Artefact set up at Via Dei Cappuccini  
Prepared by the author

Fig. 49 Artefact set up at Piazza Municipio  
Prepared by the author

Fig. 50 Kids listening to Corrente above the covered canal of Parco Petrarca  
Prepared by the author

Fig. 51 Teenager listening to Corrente on the meadows area  
Prepared by the author

Fig. 52 Person listening to Corrente at Parco Petrarca  
Prepared by the author

Fig. 53 Person interacting with the artefact while listening to Corrente at Parco Petrarca  
Prepared by the author

Fig. 54 Steep dikes giving a straight shape to the Etsch/Adige River  
Prepared by the author

Fig. 55 Info point with historical facts on the Adige course  
Prepared by the author

Fig. 56 Fucina Museo project's poster  
<https://www.facebook.com/la.foresta.rovereto/photos/pb.100069884072417.-2207520000./3365705960349088/?type=3>

Fig. 57 Flyer with instructions to imagine and ask for a free flowing river  
through a river line  
Prepared by the author

Fig. 58 A person listening to Corrente at the Museo Civivo di Rovereto  
Prepared by the author

Fig. 59 A person listening to Corrente at the Museo Civivo di Rovereto  
Prepared by the author

