



Živeti z vodo

Južni rob Ljubljane

Living with water

Southern Fringe of Ljubljana



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ALI CENITE VODO?

Kako skrbimo za naše reke, jezera in podzemne vode? Znamo urediti odvajanje odpadnih voda? Kako vzdržujemo vodne vire? Tako imenovani razvoj – industrializacija, intenzivno kmetijstvo, urbanizacija in rast prebivalstva – zelo vpliva na onesnaženost voda. Krivci za onesnaženja so večinoma znani, a le redko kaznovani.

Onesnaževanje se s časom spreminja. Danes so v vodi najbolj kritični motilci endokrinega sistema, mutagene in rakotvorne snovi, mikro- in nanoplastika ter tujerodni organizmi. Nimamo razčiščenih načel v zvezi s stekleničenjem vode, ki lahko resno zniža raven podzemne vode. Kdaj gre za interes države in kdaj zgolj za kapitalski interes posameznika ali podjetja? Se zavedamo, da so vodni viri s čezmernim črpanjem ogroženi? Nam potemtakem pravica do vode, zapisana v ustavo, še lahko pomaga?

Skozi tisočletja se narava spreminja. V zadnjih 650 000 letih se je na Zemlji zgodilo več poledenitev in več otoplitev. Naši daljni predniki so se morali temu prilagajati. Življenje človeka je v primerjavi z obstojem Zemlje neznatno in posameznik v času svojega bivanja ni sposoben zaznati velikih podnebnih sprememb – za razliko

od znanosti, ki te spremembe zaznava in ugotavlja, da je človeštvo začelo bistveno vplivati na naravo. Antropocen bo kmalu uradno razglašeno geološko obdobje.

Človek enaindvajsetega stoletja ima možnost natančneje oceniti dolgoročne posledice svojih dejanj. Če kdaj, nas dandanes ne bi več smele presenečati »katastrofalne poplave«. Primerjava geografskih kart pozidanih delov Ljubljanskega barja iz devetnajstega stoletja z današnjimi nam kaže, da so kolonizatorji Barja pred 150 leti gradili svoja bivališča v ozkem pasu ob glavni poti, na skrajnem, najbolj osušenem robu parcele. Glavnina parcele je bila namenjena obdelovanju in občasno poplavljanje polj je bilo samoumeven, poplavljanje hiš pa sicer izjemen, a tudi pričakovan dogodek. Poznejše gradnje so se vse bolj širile v poplavni pas. Ironija je, da so legalizirane črne gradnje med poplavno najbolj izpostavljenimi bivališči.

Ko je človek prenehal biti del narave in jo je začel čezmerno izkoriščati, se je postavil v nadrejeni položaj. Večina človeštva živi v mestih, v velikanskih skupnostih, ki ne dopuščajo individualnega samooskrbnega ravnanja. Odvisni smo

od infrastrukturnih sistemov. Vodovodni sistemi morajo zadostiti vedno večjemu številu Zemljanov. Posameznikov odnos in odgovornost do narave sta skrita v množici. In tu nekje se izgubi tudi zavest, da vode ne moremo proizvesti, ampak nam jo še vedno priskrbi narava. Tudi če kupimo ustekleničeno vodo v trgovini, ta voda ni proizvedena, temveč načrpana iz podzemlja.

Ljubljana se je tako kot mnoga druga mesta razvila ob reki. Ljubljanica s svojim porečjem je bila prometna žila, obrambni jarek, pogonska moč, socialni prostor. Ker je odvod Ljubljanskega barja in z njim tvori neločljivo povezano celoto, je bila in je še vedno osrednji predmet mnogih regulacij ter posledično urbanistično-arhitekturni izziv.

Dvojnost narave in mesta, ki sta tukaj simbolično zastopana z Ljubljanskim barjem in Ljubljanico, moramo obravnavati kot neločljivo celoto, v kateri ima voda nosilno vlogo. Ne moremo je ignorirati ne kot naravni pojav, katerega skrajnosti so suše in poplave, še manj pa kot vir življenja – pitne vode.

Ali smo pripravljeni s to zavestjo, izkušnjami in znanjem vzpostaviti nov

način sobivanja, pri katerem bo človek deloval z naravo in za naravo? Življenje, kakršno živimo, ni sonaravno, ampak se podreja predvsem ekonomiji, kar je politiki v prid. Vsaka stroka sama zase se težko spopada s tem začaranim krogom. Potrebne bo veliko volje, sodelovanja in podpore strokovnih in civilnih iniciativ.

So rešitve sploh še mogoče? Smo ljudje sposobni stopiti korak nazaj in dati naravi spet glavno besedo? Arhitekti, ki sodelujejo na evropski platformi Future Architecture, so ponudili nekaj predlogov za vprašanja, ki jih odpira ta razstava.

DO YOU APPRECIATE WATER?

How do we take care of our rivers, lakes and ground water? Do we know how to regulate wastewater discharge? How do we protect and maintain water sources? So-called development – industrialisation, intensive agriculture, urbanisation and population growth – represents a significant burden that has a huge impact on water pollution. Although we often know who the polluting culprits are, they are all too rarely punished.

Pollution changes through time. Today, the most critical water pollutants are endocrine disruptors, mutagenic and carcinogenic substances, micro- and nanoplastics, and alien organisms. We still haven't decided what we want to do in terms of water bottling, which can seriously compromise groundwater levels. When is something in the national interest, and when is it simply in the interest of capital, be it personal or corporate? Are we aware just how threatened our water resources are by excessive exploitation? In this context, does having the right to water enshrined in the constitution really provide any good at all?

Nature has changed through millennia. In the last 650,000 years the Earth has seen several ice ages and warm periods. Our

early ancestors had to adapt to those changes. In the grand scheme of life on Earth humankind's life on it is largely insignificant, and it is virtually impossible to perceive major climate changes over the course of one's lifetime. Science, on the other hand, can, and science has already determined that the human impact on nature is so significant that the Anthropocene is soon to become an official geological epoch.

The 21st-century man has the means to determine the long-term impact of his/her doings more accurately. If ever, today we should no longer be taken aback by "catastrophic floods". A comparison of geographic maps of built-up areas of the 19th-century Ljubljana Marshes with the Marshes of today reveals that colonialists on the Marshes 150 years ago built their homes along a narrow strip of land flanking the main road, on the outermost, driest edge of the land. The majority of the land was dedicated to cultivation, and while periodic flooding of the fields was something people knew how to live with, the flooding of houses was an extraordinary yet not entirely unexpected occurrence. Subsequent developments expanded deeper and

deeper into the flood area. Ironically, legalised illegal buildings are among the most exposed to floods.

Once humankind was no longer considered part of nature and started to exploit it excessively, it assumed the dominant position. Most people now live in cities, in huge communities that make no room for one's tendencies towards self-sufficiency. We largely depend on infrastructural systems. Water supply systems have to serve the needs of increasingly larger numbers of people here on Earth. One's attitude and responsibility towards nature reside somewhere in the crowd. And it's here somewhere that the awareness that we rely on nature for water is lost. Even when we buy bottled water in a store, this water has not been manufactured, but pumped out from underground.

Like many other cities, Ljubljana developed alongside a river. The Ljubljana with its river basin was a traffic artery, a moat, a driving force and social space. As an intrinsic part of the Ljubljana Marshes and a drainage vessel for the wetland it was and remains at the centre of many regulations and as such presents a challenge for urban

planners and architects alike. The duality of nature and town, symbolically represented by the Ljubljana Marshes and the Ljubljana, should be treated as an indivisible whole, where water plays the lead role. It can't be ignored, neither as a natural phenomenon with extreme droughts and floods nor, and even less so, as a source of life – drinking water.

With this awareness, experience and knowledge, are we ready to establish a new way of co-existence, one in which man works with and for nature? The life we are living is anything but close to nature; it has given in to economy, and politics only benefits from this. It is anything but easy for the water management profession to fight this vicious circle on its own. It will take a great deal of effort, cooperation and support of both professional and civil society initiatives.

Is there anything that can still be done? Are people able to take a step back and give the floor to nature again? The architects participating in the European platform Future Architecture have offered several proposals as a response to the issues opened up by this exhibition.



Življenje z vodo in ob njej je že od pradavnine nuja, blagoslov in nadloga. Brez nje ni preživetja. Pomembna je tudi za kulturni, duhovni in gospodarski razvoj družbe. Zaradi naseljevanja ob njej se je moral človek kaj hitro spopasti z njenimi muhami. Izsuševanje, regulacija in zaščita pred poplavami so tako postali del misli vsakokratne družbe in časa. Če je človek želel jesti, je moral spremeniti zemljo v obdelovalne površine, če je želel potovati in trgovati, je moral izrabljati reke in ostale vodne površine, če je želel obstati, se je moral zaščititi pred poplavami. Po koliščarjih in staroselcih Ljubljanskega barja, ki so z naravo sobivali, se je pri Rimljanih že kazala potreba po upravljanju vodnih virov in poti za vojaške in transportne potrebe ter po pridobivanju obdelovalnih površin. Po zatišju srednjega veka so se novi poskusi reguliranja reke in Barja znova pojavili v 16. stoletju. Do njihovega uspešnega uresničevanja pa je s Francem Andrejem Zornom in Gabrielom Gruberjem prišlo šele v drugi polovici 18. stoletja. Krajino Barja je močno zaznamoval čas industrijske revolucije 19. stoletja. Izkopavanje šote za potrebe industrije in železnic, opuščanje kmetovanja in skrbi za kanale ter sočasno veliko načrtno poseljevanje območja so vprašanje poplav in zamočvirjenosti Barja spet postavili v ospredje. S problemom se tako odločevalci kot tudi samoorganizirane lokalne skupnosti spopadajo še danes. Pri tem pa je vse bolj jasno, da se rešitev skriva v sodelovanju. Sodelovanju med različnimi občinami in organi, pa tudi v sodelovanju z naravo – in ne v njenem nadvladovanju s strani človeka.

Since time immemorial, living with and along water has been a must, a blessing and a curse. Water means survival. It drives the cultural, spiritual and economic development of society. Having settled by the water, people had to deal with its whims. Drainage, regulation and flood protection thus insistently preoccupied every society and age. If they wanted to eat, they had to make land arable, if they wanted to travel and trade, they had to exploit rivers and other waterways, and if they wanted to subsist, they had to protect themselves against floods. While pile dwellers and indigenous settlers of the Ljubljana Marshes lived with nature, the Romans already displayed ambitions to employ water resources and waterways to accommodate their military and transportation needs as well as to obtain arable land. After some period of inactivity in the Middle Ages, new aspirations and attempts to regulate the river and the marshes emerged in the 16th century, but it was not until Franc Andrej Zorn and Gabriel Gruber in the second half of the 18th century that they were finally realised. The landscape of the Ljubljana Marshes was importantly defined by the industrial revolution of the 19th century. Excavation of peat for industry and locomotives, the abandoning of farming and the maintenance of canals as well as the simultaneous systematic colonisation of the area once again pushed forward the question of floods and expansion of the marshes. Both decision-makers and self-organised local communities still struggle with possible solutions to these problems. It has become clear now that the solution lies in cooperation; not only cooperation between different municipalities and authorities, but also cooperation between people and nature, rather than the one dominating the other.





Južni rob Ljubljane je nekdanje močvirje in dom več kot 30.000 prebivalcev, ki živijo v nenehnem strahu pred poplavami. Začetki **POSELITVE** Ljubljanskega barja in človekovih posegov, ki so preobrazili njegovo pokrajino, segajo v 19. stoletje. V tem času so sistematično preučevali možnosti poselitve, nova naselja pa so zaradi poplav in mehkih barjanskih tal nastajala na višjih območjih. Danes smo priča drugačnemu razvoju. Čeprav je Barje zaščiten naravni rezervat in območje kulturne dediščine, se sooča z nenehnimi pritiski za vse večjo urbanizacijo. To pa ustvarja velika ekonomska, okoljska in družbena protislovja. Še več, togi predpisi, ki prepovedujejo vsakršno urbanizacijo na poplavnih območjih, onemogočajo celostni pristop k urbanizaciji in zaščiti. Izvajajo se *ad hoc* ukrepi za protipoplavno zaščito, nenačrtna gradnja infrastrukture in postopna privatizacija. Prebivalci svoja domovanja proti vsem predpisom zidajo vse bolj v notranjosti poplavnih območij. Barje ima velik razvojni potencial, saj je zaradi bližine središča mesta in zaradi svojega edinstvenega ekosistema privlačna lokacija za domovanje.

*The southern fringe of Ljubljana is a former marsh area home to more than 30,000 inhabitants who live in immediate danger of flooding. The **COLONISATION** of the Ljubljansko Barje area and its man-made transformation began back in the 19th century. Back then the colonisation process was systematically studied and new settlements appeared on higher ground in accordance with the flooding cycles and the soft composition of the soil there. However, today we see a different trend. On the one hand Barje is a protected nature reserve and a cultural heritage site, while on the other it faces constant pressure aimed at further development and urbanisation. This creates significant economic, environmental and societal contradictions. Furthermore, the rigidity of the regulations that prohibit any urbanisation on flood land, prevents a holistic approach to urbanisation and the implementation of any protection measures, and resulting in ad-hoc flood protection measures, haphazard infrastructure and the gradual privatisation of land. Residents there bypass the regulations by building informal settlements further out in the flooded areas. The Barje area has great potential for development, since it is a desirable residential location owing to its proximity to the city centre and its unique ecosystem.*





Poplava na Ljubljanskem barju / Floods in the Marshes, 2010, Matija Zorn

Prebivalci Barja že od nekdaj živijo s **POPLAVAMI**, a danes so te spregledano dejstvo. V preteklosti pa so ljudje na tem območju znali živeti z vodo. Ob visokih vodah, na primer, so bili otroci navajeni hoditi v šolo v gumijastih škornjih. Prebivalci so skrbeli za kanale, svoje hiše pa so gradili na višjih območjih, kjer je bila možnost poplav manjša. Do zadnjih velikih poplav je prišlo leta 2010, sistemskih rešitev za ta problem pa še danes ni ponudil nihče. Več strokovnih študij je predlagalo blažilne ukrepe ali manjše izboljšave splošne protipoplavne infrastrukture. Ti ukrepi segajo od čiščenja in širjenja drenažnih kanalov do gradnje zaščitnih zidov

Historically, **FLOODS** have always been a reality for the residents of Barje, but today they have become a neglected fact. Traditionally, the inhabitants knew how to live with water. For example, it was usual practice for the children to go to school in rubber boots when water levels were high. They maintained the canals and built their houses on higher ground that was less prone to flooding. The last big flooding event occurred back in 2010, and systemic solutions to such have not yet appeared. Many specialised studies propose ameliorative measures or small improvements to the overall infrastructure for flood protection. These range from the cleaning and widening of drainage canals to the building of protective walls around

okrog stanovanjskih naselij, podan pa je bil celo predlog za izkop tunela pod Golovcem. Z nadaljnjo širitvijo nenadzorovane urbanizacije bodo prebivalci gradili še dlje od glavnih cest, še globlje v poplavna območja, to pa bo imelo katastrofalne posledice. Namesto da bi se vode bali in se ukvarjali s posledicami naravnih nesreč, lahko poiščemo boljši način sobivanja in se pri nadaljnjem razvoju opremo na naravne cikle. Za primerjavo, zgolj 3 % proračuna za čiščenje posledic naravnih nesreč bi zadoščalo za protipoplavne ukrepe z enakim učinkom.

housing settlements, and even a proposal to dig a tunnel under Golovec hill. With the further spread of uncontrolled urbanisation, the inhabitants build further away from the main roads and deep into the flooded areas, which results in catastrophic consequences. Instead of fearing water and cleaning up after a disaster is it possible to find a better way to coexist and use nature's own cycles for further development? As a reference, just 3% of the budget for post-disaster clean-up would be enough to implement flood prevention measures with the same effect.

Mehka barjanska tla so sestavljena iz več plasti in območje v ciklih zajemajo redne poplave. Ta dva parametra sta glavna izziva pri načrtovanju in gradnji kakršnekoli **INFRASTRUKTURE**. V preteklosti so prebivalci hiše gradili na pilotih, ceste pa na fašinah, da so jih prilagodili nihanju vodne gladine in mehkim tlom. Največja infrastrukturna projekta doslej sta bila izkop mreže kanalov za izsuševanje Barja in odvajanje odvečne vode v Ljubljano. Drugače kot v mestu, kjer se načrtovanja lotevajo celostno in sistematično, je razvoj Barja večinoma prepuščen strokovnjakom z različnih področij, ki imajo vsak svojo vizijo glede

njegove prihodnosti. In kot da to še ne bi bilo dovolj, pristojni vsakič, ko prebivalce Barja udari poplava, predlagajo nove ukrepe in gradnjo dragih infrastrukturnih projektov, kot so zaščitni zidovi, ki problem rešujejo le deloma. Ti ukrepi se izvajajo za nazaj in kažejo na našo trenutno paradigmo ravnanja z naravo kot ekosistemom, ki obstaja vzporedno z našim grajenim okoljem. Po tej razlagi je treba naravo regulirati, saj pomeni nevarnost našim naseljem. Si lahko zamislimo infrastrukturo v širšem smislu, takšno, ki skladno sobiva z naravnimi cikli?

Barje's ground consists of soft layers of soil and its land is flooded regularly, in cycles. These two parameters are the main challenge for planning and building of any kind of **INFRASTRUCTURE**. Historically, the inhabitants built houses on piles and their streets with fascines, which was done with respect to the changing water levels and the soft soil. The largest infrastructural projects to date involve digging a network of canals to dry out the Barje area and directing the excess water into the Ljubljanica River. In contrast to the city centre, where planning is done in a systematic and comprehensive manner, development of the Barje area is left largely to experts from various departments with contradictory visions of its future. To exacerbate the situation further, each time a flood hits the residents of Barje the authorities propose new measures and costly infrastructural projects, like building a series of protection walls that only partially solve the problem. These measures are only implemented in retrospect, and point to our current paradigm that treats nature as an ecosystem that only exists in parallel with our built environment. According to this scheme, nature poses a danger to our settlements and should be regulated. Can we think of infrastructure in broader terms that coexist in tune with nature's own cycles?



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Posedanje ceste v trgovskem centru na Rudniku / Subsiding road at the shopping centre in Rudnik, Roman Šipič, Delo



Tovarno pristanišče na Bregu, konec 18. stoletja / Cargo port at Breg embankment, late 18th century, MGML

Ljubljanica je od nekdaj služila kot plovna pot. Skozi stoletja je njena **PLOVNOST** navdihovala gospodarska in politična prizadevanja, pa tudi kulturni imaginarij. To se kaže v več ikonografskih prikazih plovnosti Ljubljanice na jedkanih, zemljevidih in freskah. V rimski dobi so reko uporabljali za prevažanje kamnitih blokov v mesto Emona. Načrti za ponovno plovbo po Ljubljanici so postali velikopotezni v novejšem času, s študijo Maksa Fabianija. V njej je arhitekt predlagal vodno pot, ki bi potekala prek Ljubljane in povezala Donavo z Jadranskim morjem. Novejše študije so te zamisli dopolnile z

The Ljubljanica River has been used for water transport since ancient times. The **NAVIGABILITY** of the river has been engraved in the region's economic and political aspirations throughout the centuries, as well as in the cultural imaginary. This is present in many iconographic representations that showcase the navigability of the Ljubljanica in etchings, maps and frescoes. In Roman times, the river was used to transport stone to the city of Emona. Plans to make the Ljubljanica navigable grew in scope considerably in modern times with a study by Max Fabiani. He proposed connecting the Danube and the Adriatic Sea on a route that would pass through,

upoštevanjem turističnih potencialov. Predlagajo nize infrastrukturnih posegov, mostov, pomolov in plavajočih ploščadi, ki podaljšujejo plovnost reke proti Barju in naprej. Danes moramo v kontekstu okolju prijaznega razvoja o plovnosti govoriti več kot kadarkoli prej. Čeprav so potenciali Barja za turizem in pristočasne dejavnosti večinoma še neizkoriščeni, bi plovnost lahko postala poglavito gonilo takšnega razvoja.

indeed along, the Ljubljanica River. Recent studies have developed these ideas even further, and incorporate the potentials of tourism. They propose a series of infrastructural interventions – bridges, piers and floating platforms – which extend the navigability of the river towards Barje and further. Now, more than ever debates on navigability are becoming increasingly important in the context of environmental concerns and conscientious development. Although Barje's potential for tourism and leisure remains largely untapped, navigability could become the main foundation on which to develop such a scheme.

Zaradi **IZSUŠEVANJA** Barja se je povečal pretok vode skozi Ljubljanico, zato je bilo treba reko **REGULIRATI**. To je bil eden največjih infrastrukturnih projektov v središču Ljubljane. Gruberjev kanal je bil zgrajen leta 1780, da bi odvečno vodo z Barja speljali mimo mestnega središča. Vzporedno z gradnjo Gruberjevega kanala so razširili, očistili in tlakovali rečno strugo v središču mesta. Tako so reko ukrotili in si jo pokorili ter jo preobrazili v infrastrukturno čudo in kulturno dediščino, ki jo je s svojimi ureditvami najbolj zaznamoval Jože Plečnik. Predlogi za širitev kanalov kot protipoplavne zaščite so aktualni še danes. V 19. stoletju so Barje sprva izsuševali za potrebe **KMETIJSTVA**, kasneje pa so začeli intenzivno izkopavati šoto, kar se je razvilo v pravo industrijo, to pa je še dodatno pospešilo nastanek poplav. Mnogi **INDUSTRIJSKI OBRATI** v Ljubljani so nastali prav ob začetku izkopavanja

The **DRYING OUT** of the Barje area increased the water flow through the Ljubljanica river, therefore the river had to be **REGULATED**. This effort became one of the largest infrastructural projects ever realised in the city centre. The Gruber Canal was built in 1780 in order to re-direct the overflow from Barje and bypass the city centre. Similarly, the riverbed in the centre was simultaneously widened, cleaned and paved in parallel with the building of the Gruber Canal. In a way this served to cultivate and tame the river, turning it into an infrastructural marvel and an object of cultural heritage, designed most notably by architect Jože Plečnik. Proposals aimed at widening the canals are still being discussed today as a flood protection measure. During the 19th century, the Barje area was first drained for **AGRICULTURE** purposes, and again later to facilitate the excavation of peat on an industrial scale, which only served to increase the flooding.

šote na Barju, ko je ta služila kot kurivo. Vsi ti človekovi posegi, ki so preobrazili Barje, skupaj z netrajnostno urbanizacijo dodatno prispevajo k večjim težavam zaradi poplav. Barje ostaja košček, ujet med izkoriščanje virov, kmetijstvo, varstvo narave, kulturno dediščino in vlogo vira pitne vode, povrhu vsega pa je tudi prenaseljeno. Politične in gospodarske elite so ta protislovja dolga leta s pridom izkoriščale. Posledično se območje danes sooča s pritiski za nadaljnjo urbanizacijo. Če so poplave nekaj, čemur se na Barju ni moč izogniti, bi morda morali ustvariti nove sisteme razvoja, ki bodo skladni z naravo. To pa zahteva premik v naši miselnosti, s katerim bomo naravo prepoznali kot del našega življenjskega okolja in razširili pojmovanje, v okviru katerega jo dojemamo bodisi kot vir bodisi kot grožnjo. Tako bi lahko v celoti izkoristili vodne potencialne **V KORIST NAŠE DRUŽBE, GOSPODARSTVA IN OKOLJA**.

To a large extent **INDUSTRY** in Ljubljana began to develop rapidly when they began excavating the peat from Barje, which was used for fuel. These interventions and transformations, many of them related to and contributing to the unsustainable urbanisation of the Barje area, only served to exacerbate the flooding problems. Barje remains a unique fragment caught between the interests of resource extraction, agriculture, nature conservation, cultural heritage and sourced drinking water – and on top of all that it is heavily inhabited. These contrasts and contradictions have been widely exploited by political, commercial and financial elites for years. As a result, it is subject to considerable pressures for further urbanisation. If flooding is a reality in Barje, we might have to create new systems and development schemes that better coexist with nature. This, however, requires a shift in our thinking – one that recognises nature as a part of our own living environment and expands our notion of nature beyond the conventional resource-or-threat approach and understanding of the issue. Such a shift might allow us to use the water's full potential to our **SOCIETAL, ECONOMIC AND ENVIRONMENTAL BENEFIT**.





Bregovi Ljubljanice med Špico in Črno vasjo / Banks of the Ljubljanica between Špica and Črna Vas, 2018, Milan Dinevski



Danes so rečni bregovi v središču mesta namenjeni predvsem **PROSTEMU ČASU IN TURIZMU**. Reka je življenjskega pomena za mesto in je tudi močno regulirana, plavanje pa je zaradi onesnaženja prepovedano. Na podlagi pobud meščanov so nastale umetniške intervencije, ki na bregovih ponujajo nove programe in predlagajo bolj neposreden stik z vodo. A še ne tako daleč nazaj so meščani v Ljubljani plavali in uživali v telesnem stiku z vodo. V tem pogledu je južni rob Ljubljane ob Ljubljanici, zunaj središča mesta, še **NEIZKORIŠČEN ZAKLAD**. Rečni bregovi niso dostopni javnosti, okoliška zemljišča pa so bodisi privatizirana, zapuščena

Today, the riverbanks in the city centre are used mainly for **LEISURE AND TOURISM**. The river is the city's lifeline, but it is also heavily regulated, and swimming remains prohibited owing to pollution concerns. Citizens' initiatives develop artistic interventions that offer new programs for the riverbanks and propose more immediate contact-schemes with the water. In recent history however, the city's inhabitants did use the Ljubljanica for swimming, and enjoyed physical, bodily contact with the water. The southern fringe of Ljubljana along the Ljubljanica River, outside the city centre, is in this respect an **UNTAPPED TREASURE**. The riverbanks are publicly inaccessible, and the

ali pa kmetijska, brez kakršnegakoli družbenega programa. Združevanje predlogov glede protipoplavne zaščite z razvojem, usmerjenim v ustvarjanje urbanih mokrišč, ki ob reki ponujajo bogat družbeni program, bi lahko postalo pomembna pobuda za ponovni premislek o tem območju. Si lahko predstavljate scenarij razvoja urbanizacije Barja, ki bi bil odporen proti poplavam, okolju prijazen in družbeno inkluziven?

surrounding land is private, abandoned or cultivated for agriculture, while societal programs remain sorely absent. Coupling flood protection proposals with development aimed at creating urban wetlands with a rich cultural/societal program along the river could well serve as a major incentive for rethinking this area. Can we imagine a development scenario for the urbanisation of Barje that is flood resilient, environmentally conscious, and societally inclusive?

FUTURE ARCHITECTURE

Udeleženci / Participants

SET-Architects

Phi

Maite Borjabad

SKREI

Miruna Dunu

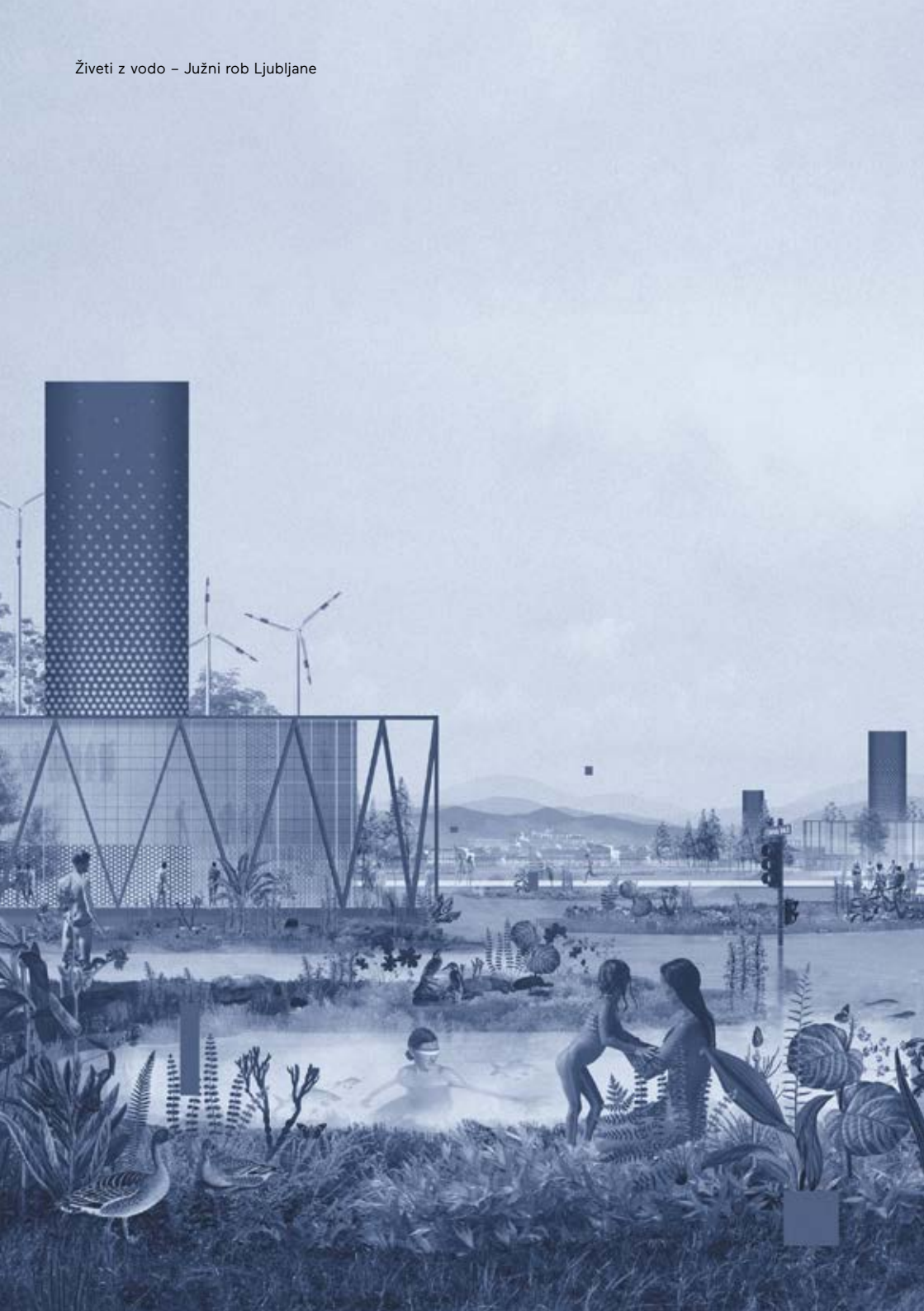
SET believes in an essential architecture based on simplicity as a response to the complexity of the functional program. SET has won several awards, including the Dedalo Minosse and NIB New Italian Blood award, and was selected for the BigMat'17, Architizer A+, Archdaily – Building of the year. The office has lectured at various universities and cultural events, including the University of Florence, Polytechnic School of Palermo, University of Roma Tre, Biennial of Public Space, and the New Generations Festival.

The collective founders participated in an interdisciplinary think tank at the Strelka Institute in Moscow. So far, Phi have developed a proof-of-concept web simulation environment (phi.zone) based on the remote Russian community of Ust-Karsk, which was intended to help people in Russia imagine new ways of dealing with energy. Their goal is to establish Phi as a social enterprise, to and build a test case that can be scaled to other remote off-grid communities.

Maite is a Spanish architect, researcher and curator working in Chicago and New York. She is currently the Assistant Curator of Architecture and Design at the Art Institute of Chicago. Previously, she worked at the Metropolitan Museum, and the Arthur Ross Architecture Gallery, and has developed projects at the Emily Harvey Foundation, the New Museum Incubator (NY) and La Casa Encendida (Madrid) among others. Her work revolves around architecture, art, politics and diverse forms of critical spatial practices.

Skrei is a design, construction and artistic production workshop that brings together different construction professionals in an integrated professional practice so as to challenge the traditional role of architecture, and to use it as a motor for effective engagement and positive change. By combining different areas into a single professional practice, Skrei drives new ways of designing, new ways of building, and explores and develops models for a healthier, more equitable and responsive environment.

Miruna Dunu is a Romanian-born visual designer with a background in architecture. She graduated with a BA in Architecture with First Class Honours from the University of Manchester, UK, and a Master of Arts in Information Design from the Design Academy Eindhoven, Netherlands. She has worked in architecture and in theatre, with both fields greatly influencing her work. She expressed her particular passion for space and visuality through her first film "Coastland".



Razstava *Živeti z vodo – Južni rob Ljubljane* se razgleduje po scenarijih urbanega razvoja, ki raziskujejo **SINERGIJE MED ČLOVEKOVIM IN NARAVNIM OKOLJEM**. Mantra modernizacije 19. stoletja je bila nadvladati naravo s postavljanjem infrastrukture, ki božansko in divjo naravo spreobrača v udomačen in obvladljiv vir. V 20. stoletju smo bili priča grajenju jezov, regulacijam vodotokov, postavljanju mostov, zajemanju vodnih virov in drugim oblikam inženirskih podvigov kolosalnih razsežnosti. Kakšen naj bi bil model za življenje z vodo v 21. stoletju? Si lahko, namesto da bi se vode bali, predstavljamo prihodnost, v kateri bi gradili sisteme, ki so tako fleksibilni kot spremenljive ravni vode? Namesto da bi se ščitili pred okoljskimi nevarnostmi, bi lahko razvili pametnejša in bolj inkluzivna okolja ljudi in narave.

Medtem ko gladina oceanov raste in se topijo ledeniki, postaja vprašanje, kako živeti z vodo, tako lokalno kot globalno. Prepričani smo, da bi morali ta vprašanja obravnavati skupaj z državljani. Za študijo primera, v okviru katere smo testirali takšen scenarij, smo izbrali Ljubljansko barje, nekdanje močvirje ob reki Ljubljanici. Območje je polno protislovij. Čeprav gre za zaščiten naravni rezervat, mu grozi vse večja urbanizacija. Barje je bogat zbiralnik sveže pitne vode iz podtalnice, ki ji zaradi obstoječih naselij brez ustrezne kanalizacije grozi onesnaženje. Kljub vsem protislovjem pa se pristojni teh vprašanj ne lotevajo sistemsko. Naravni krog nihanja vodne gladine in človekovi posegi so v neravnovesju, situacijo pa dodatno otežuje odsotnost systemskega razmišljanja. Urad za okolje želi Barje v celoti zaščititi in

The exhibition *Living with Water – Southern Fringe of Ljubljana* looks at urban development scenarios that explore the **SYNERGETIC RELATIONSHIPS BETWEEN HUMANKIND AND THE NATURAL ENVIRONMENT**. The modern-era mantra of the 19th century called for the taming of nature by building infrastructure that turned a wild and divine nature into a controllable domestic resource. The 20th century saw the creation of dams, bridges, the capping of wells, various regulatory measures and other feats of engineering on a colossal scale. What would a 21st century model for living with water look like? Instead of fearing water, could we imagine a future where we would build systems that would be as fluid and flexible as the changing water levels? Instead of protection measures against environmental hazards, could we consider developing smarter, more inclusive human-natural living environments.

With the rising sea levels and melting icecaps of today, the question of living with water is both local and global. We believe it is an issue that should be actively discussed with the people involved. In order to test such a scenario, we look at Ljubljansko Barje, a former marshland along the Ljubljanica River, as our case study. The area is rife with contradictions. On the one hand it is a protected natural reserve, while on the other it faces ever-increasing pressure toward urbanisation. It is a rich reservoir of fresh underground drinking water that is under threat of contamination from the existing settlements that lack a proper sewage system. Despite all of the contradictions at work here the authorities do not approach the issues systematically. In a way, the natural cycles of fluctuating water levels and human intervention are out of synch, and the situation is only compounded by the lack of a strategic

popolnoma prepovedati gradnjo, medtem pa prebivalci gradijo dalje, brez formalnih soglasij. Povrhu vsega je barjanska zemlja zelo rodovitna, kar lokalni prebivalci pridno izkoriščajo.

Ob vseh teh problemih pa ima Barje še veliko neizkoriščenega **RAZVOJNEGA POTENCIALA**. Kakšne sisteme in arhitekturo si lahko zamislimo na tem območju, upoštevaje tako lokalno kot globalno problematiko? Kako naj presežemo miselnost »krizne ekonomije«, ki za kratkoročne koristi zagovarja pospravljanje po nevihti?

Predlogi platforme Future Architecture se teh problemov lotevajo z razvijanjem umetniških in arhitekturnih scenarijev, v katerih je miselnost že naredila preskok k novi družbeni paradigmi, ki predlaga radikalno sobivanje z naravo. Platforma Future Architecture se vrača k naravi, ne da bi zanikala možnosti gospodarske rasti in tehnološkega razvoja. Raziskuje nove sisteme za ljudi in naravo ter vedenjske vzorce, ki se ukvarjajo z različnimi – umetniškimi, kulturnimi, družbenimi, ekonomskimi, tehnološkimi in drugimi – vidiki življenja z vodo.

approach. Environmental interests want to protect it and ban any development entirely, while local residents continue to build “informally”. To top it all off, the area has plenty of fertile agricultural land that is actively used.

In parallel with these issues, Barje has immense **POTENTIAL FOR DEVELOPMENT**. What kind of systems and architectures could we imagine in this area, bearing in mind both local and global concerns? How can we go beyond the “economy of crisis” type of thinking that only promotes cleaning up after the storm has passed merely in order to secure short-term gains?

The Future Architecture proposals tackle these issues by developing artistic and architectural scenarios where the mindset has already shifted towards a new societal paradigm that proposes radical coexistence with nature. The Future Architecture approach takes a step back, back to nature, without denying the possibilities and opportunities for economic and technological growth. It explores new human-natural systems and behaviours that explore various facets of the issue, including an array of artistic, cultural, societal, economic and technological frameworks for living with water.

SET ARCHITECTS

Projekt *Plavajoče življenje* se ukvarja s preobrazbami obstoječih izsušenih mokrišč v dejaven sistem bivalnih in plovnih povodij, ki so nastala po zaslugi inovativnega urbanega razvoja. Ta nova sistemska strategija bo prišla do izraza ob reki Ljubljanici, na simbolnem kraju, ki obuja spomine na čas nastanka prvobitnih skupnosti.

Urbani model *Plavajočega življenja* temelji na tehnološki koordinatni mreži, ki opredeljuje digitalne tokove od ene točke skupnosti k drugi: vmesnik, ki omogoča samozadostnost platform in mrežo za izmenjavo digitalnih informacij. Na tej mreži stojijo amfibijske hibridne stavbe, postavljene po sistemu plavajočih ploščadi, povezanih z osrednjim zbiralnikom, ki je tehnološko jedro celotnega sistema in zagotavlja čisto pitno vodo za vse.

Fizične povezave so vzpostavljene s plavajočimi skupnimi prostori, kot so kolesarske steze in terase za pešce, ki potekajo med vodo in ploščadjo, oblikovane pa so kot prostori za druženje in opazovanje narave in njene raznovrstnosti.

Projekt *Plavajoče življenje* se ne želi vsiljevati kot tradicionalen urbani projekt, pač pa želi vzpostaviti dialog, ki bo aktiviral ideje in razmisleke. Vsekakor pa ne želi manipulirati z naravo. Ponuja ji podporo v obliki pametnih stavb in aktivnih krajin, ki se lahko prilagajajo različnim razmeram v naravnem okolju.

The “Floating Life” project involves the transformation of the existing dried-out wetlands into active system of livable and navigable basins thanks to an innovative urban development. This new systemic strategy will take shape along the river Ljubljanica; a symbolic place that recalls the dawn of the primordial communities.

The urban model of “Floating Life” is characterized by a technological grid defining the digital flows from one point of the community to another: an interface that allows the self-sufficiency of the platforms and a digital information sharing network. Above this grid are placed amphibious-hybrid buildings characterized by a system of floating platforms connected to a central tank, becoming the technological heart of the whole system and providing pure and drinkable water for everyone.

Physical connections are guaranteed by floating common spaces like cyclable paths and pedestrian terraces located between the water and the platforms, designed not just as places for socializing but also to observe nature and biodiversity.

The “Floating Life” project does not presume to impose itself as a traditional urban project but wants to start a dialogue for activating ideas and reflections. Indeed, it does not try to manipulate nature. The project aims to support it using smart buildings and active landscapes able to adapt to different conditions of the natural environment.

PHI

Projektni kolektiv Phi se osredotoča na prototipiranje rešitev za pospeševanje energetskega prehoda, ki v središče procesa odločanja postavlja državljane. Kolektiv s svojimi deli vabi k razmisleku o tem, kako bi lahko trenutne družbeno-ekonomske sisteme prilagodili, da bi se bolje odzivali na izzive antropocena, tako na globalni kot na lokalni ravni. Za razstavo *Živeti z vodo* Phi svoja prizadevanja razširja na vodne vire in se pri tem osredotoča na alternativno družbeno-ekonomsko organizacijo območja Ljubljanskega barja.

Na Barju ima voda protislovno vlogo, saj ni zgolj pomemben vir, temveč tudi grožnja, ki lahko med poplavami povzroči ogromno škode in celo smrt. Poglavitna naloga je torej najti način, kako skrbeti za pitno vodo in sobivati z nevarnostjo naravnih nesreč. Phi v odgovor predlaga digitalno pristojnost, s katero bi prebivalce Ljubljanskega barja spodbudili k večjemu sodelovanju pri upravljanju njihovih voda ter tako prispevali k miroljubnemu sobivanju z vodo. Ta konceptualni okvir se bo udeležil v simuliranem okolju za raziskovanje scenarijev prihodnjega razvoja Barja. Kolektiv Phi s svojim delom vabi obiskovalce k razmisleku o definiciji trajnosti in decentralizacije ter o tem, kakšne posledice bi lahko imeli družbeni, ekonomski in politični odzivi na omenjena pojma.

Phi is a project-based collective which main focus is on prototyping solutions for accelerating energy transition putting citizens in the centre of the decision making process. With their works, Phi invites to think about how current socio-economic systems could be tweaked to answer the challenges posed by Anthropocene in a more meaningful way at both global and local scales. For the *Living with Water* exhibition, Phi extends their concerns to water resources speculating on an alternative socio-economic organization of the Barje area in Ljubljana.

In Barje, water presents a paradox of being an important resource but also it is a threat that can cause impactful damage and even death during the floods. Therefore, an important question is how to find a way to both take care of drinking water and coexist with the natural hazards. To answer this question, Phi proposes a digital jurisdiction to encourage the residents of Barje to become more active in their water management achieving a peaceful neighbourhood with water. This conceptual framework will be materialized in a simulation environment to investigate possible scenarios for the future development of Barje. With their work, Phi invites the visitors to think about the definition of sustainability and decentralization and what social, economic and political reaction these concepts might lead to.

MAITE BORJABAD LOPEZ–PASTOR

Mednarodne vode, močvirja, poplavna območja, telesne tekočine, higienizacija, mokre sanje, zbiralniki, kanalizacijski sistemi. Vsa vodna telesa. Vsi mokri koncepti. Vse, kar sodi k regulaciji. Vsi zapisani zakoni. Vsi sistemi moči. Vsa politična in družbena orodja. Vse, kar enako zadeva naravo in kulturo. Vsi mokri protokoli.

Ta nenehno razvijajoči se projekt oporeka razumevanju vode kot nečesa, kar je v različnih oblikah predmet regulacij in političnih dogovorov, ter predstavlja, kako lahko nastanejo različni modeli sobivanja z vodo. Udejanja se v obliki glosarja za dvoživke s širokim naborom pojmov, ki prehajajo skozi različna merila, od telesa do infrastrukture, od kultur in zgodovin ljudi, ki so živeli v intimnem odnosu z vodnimi telesi, do zakonskih in zdravstvenih zgodb o procesih urbane komunalne ureditve. Primerjava med njimi zajema široko področje izrazov, protokolov, pojmov in idej, ki ponujajo novo razumevanje o tem, kako si lahko zamislimo prihodnje strategije sobivanja z vodo ter jo hkrati obravnavamo kot naravno in kulturno dobrino.

International waters, swamps, flood zones, body fluids, hygienic processes, liquid dreams, pools, sewage systems. All bodies of water. All wet concepts. All subjects of regulation. All written laws. All power systems. All political and social tools. All equally natural and cultural matters. All wet protocols.

This ongoing project seeks to challenge our understanding of the ways in which water has been and continues to be the subject of regulations and political agreements through multiple forms and mechanisms, and how various modes of cohabitation with water can materialize. The project is consolidated as an amphibious glossary that brings together a vast pool of concepts that span multi-scaled lenses, from the scale of the physical body to an infrastructural one; from cultures and histories of people living in intimate proximity with bodies of water to legal and health narratives related to processes of urban hygiene and sanitation. This juxtaposition covers a vast territory of terms, protocols, concepts and ideas that suggest new interpretations of and approaches to the way we envision ways of negotiating cohabitation scenarios with water, while maintaining the claim that water is both a natural as well as a cultural asset.

SKREI

Naseljevanje človeškega telesa je raziskovalna vaja, ki poskuša razumeti, kako blizu in kako odločilen je posameznik v razmerju do mesta kot celote in obratno. Če mesto obravnavamo kot človeški organizem in njegovo sodelovalno vedenje primerjamo s tistim, ki se odvija med organi v človekovem telesu, lahko med njima potegnemo mnoge vzporednice. Če organizem razumemo kot sistem, ki je sestavljen iz organov, si lahko človeško telo predstavljamo kot neločljiv del mesta – in obratno, lahko si predstavljamo mesto, ki deluje kot podaljšek naših teles. Z upoštevanjem obeh združb in s kontinuiteto med njima se izničijo vse možne razlike, ki izhajajo iz njune velikosti. Na ta način se v naš program umešča tudi voda; od teles bomo prešli k mestu in od mesta k bivališčem ter ugotavljali, kako skozi naše žile in organe teče voda.

1—Oblikovali bomo človeško mesto in hišo v Ljubljani ter jima določili glavne in določujoče organe, ki sledijo logiki vodnega kroga (vir, oskrba, poraba, ravnanje z odpadki in obdelava). Na tem mestu se bomo znova vprašali, ali tok vode in njena usoda sodita v človeški sistem in obratno.

2—Poleg tega bomo naredili prototip dela človekovega/bivajočega telesa (v merilu 1 : 1), ki bo predstavil podobnosti med elementi in materiali, ki tvorijo človeške in bivalne konstrukcije. Te materiale bomo zbirali med ogledi, uporabili pa jih bomo za predstavitev dela telesa v veliki povečavi.

Inhabiting the human body is a research exercise which tries to understand how close and determinant is an individual to an entire city and vice-versa. Looking at the city as a human organism, analysing its cooperative behaviour between organs and comparing it to the human body we can find many similarities. Understanding an organism as a system composed of organs we can imagine the human body as an organic component of the city but also the opposite, the city working as an extension organ of our bodies. Considering both organisms compositions and the continuity between both, cancel any possible scale distinction.

In this way, water is also scales in our agenda, we will shift from body to city and from city to dwelling a find how water runs through our organs and veins.

1—We will design the human city and house of Ljubljana attributing its main and determinant organs following the logic of water circuit (source, supply, consumption, refusal, and treatment). Here we will question whether the course of water and its destiny fit within the human system and vice-versa again.

2—And we will build a 1-1 prototype of human/dwelling body section showing similarities of both human and dwelling construction components and materials. These materials will be collected during our tours and will be used as a blown up scale of human body fraction.

MIRUNA DUNU

Voda, bistveni pogoj človekovega obstoja, je bila od nekdaj neločljivo povezana s kulturami ljudstev vsega sveta. To je močno opazno v oblikovanju in njegovih raznovrstnih oblikah, od najbolj vsakdanje skodelice do projektiranja nabrežij v mestu. Voda kot osnovna potreba je od nekdaj burila človekovo domišljijo in se dotikala njegove občutljivosti; slednjo je obrnil v pravljice, mite, sprevode, spomine, rituale, verovanja, strahove, demistifikacijo, odpadke, valuto. Kulturni odnos do vode, pa tudi do ostalih virov, se kaže skozi človekovo ustvarjanje. Naj gre za načrt, ki jo obravnava kot ubogljiv element, ali pa za ustavni zakon, ki jo prepoznava kot ključno za človekovo življenje, prostore bivanja neizogibno oblikujejo sistemi oskrbe z vodo in ravnanja z odpadno vodo. Zapleteno podobo dopolnjujejo subjektivne izkušnje in vzajemnost.

Projekt *Hidrotopija* raziskuje odnose do vode, ki se kažejo v subjektivnih prostorskih izkušnjah. S kartiranjem intuitivnega razumevanja življenja z vodo v središče postavlja izkustvene lastnosti naseljenih okolij in predstavlja pet različnih napovedi, v katerih voda enkrat nastopa kot skrivnostna snov, drugič pa kot nekaj, kar je bilo popolnoma oropano vsakršne skrivnostnosti. Ali poznamo način, kako obravnavati vodo spoštljivo in hkrati tako, da bo vsem v korist? Kako bi bilo v takšnem primeru oblikovano človekovo okolje?

As an essential part of human survival, water has always been an integral part cultures around the world. This is heavily reflected in design, in its various forms spanning from a banal cup to a city-scale riverside development. Water as a primary necessity captured the imagination and touched the human sensitivity, until it turned into tales, myths, processions, memories, rituals, beliefs, fears, demystification, waste, currency. The cultural attitude towards water, as any other resource, is reflected through human creations. Be it a masterplan that treats it as a mere obedient element, to a constitutional law that recognises its crucial importance to human life, spaces of habitation are inevitably shaped by systems of water supply and disposal. Subjective experiences and interactions complete a complex picture.

The project "Hydrotopia" explores various attitudes towards water reflected in subjective spatial experiences. Mapping an intuitive understanding of living with water, "Hydrotopia" places focus on the experiential qualities of inhabited environments, showcasing five different outlooks that vary from water regarded as a mysterious substance, to one where it is completely demystified. Is there a way to view water in a respectful and mutually beneficial manner? How would the human environment be designed in that instance?



Živeti z vodo

Južni rob Ljubljane

Living with water

Southern Fringe of Ljubljana

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Ta brošura je izšla ob razstavi
Živeti z vodo – Južni rob Ljubljane

This booklet is published for the exhibition
Living with Water – Southern Fringe of Ljubljana

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 RADIO
TELEVIZIJA
SLOVENIJA

 Univerza v Ljubljani
Biotekniška fakulteta



Embassy of the
Kingdom of the Netherlands

Mestna občina Ljubljana



TAMTAM



MUZEJ ZA ARHITEKTURO
IN OBLIKOVANJE
MUSEUM OF
ARCHITECTURE AND DESIGN