

Echoes of Tomorrow

Or, how to think present on the basis of the assumptions of the future

Ali kako misliti sedanjost glede na domnevanja o prihodnosti

Milano Design Week
2024

Odmevi jutrišnjega dne

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40 Years of Design Education at the University of Ljubljana, Academy of Fine Arts and Design

40 let oblikovanja na Univerzi v Ljubljani, Akademiji za likovno umetnost in oblikovanje

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As a consequence of two centuries of industrial development and exponential growth, we have found ourselves dangerously close to the thresholds of the planetary boundaries. This despite the fact that it is only staying within the planetary boundaries that can ensure suitable conditions for keeping the biological diversity of our planet at a healthy equilibrium. The repercussions of overstepping these boundaries are already tangible today. The average atmospheric temperatures are steeply increasing, the oceans are acidifying, biodiversity is falling, natural disasters are on the increase—and the truly dire consequences are yet to come. How, then, to think the present? By finally beginning to recognise that the *zeitgeist* transcends our present, meaning that in our dealing with the problems of the present we must also address the problems of the future. That is why today's design must go beyond the *zeitgeist* and start looking into the future.

Today, to work in the present, we need to design artefacts of the future.

Odmevi jutrišnjega dne

Z razvojem industrije preteklih stoletij in posledic razvoja eksponentne rasti v prejšnjem stoletju smo se radikalno približali vzdržnosti planetarnih meja. In to čeprav le gibanje znotraj meja planetarnih mej zagotavlja ustrezne razmere za vzdrževanje pestrega in zdravega ravnovesja življenja našega planeta. Posledice prekoračitev meja so otipljivo vidne že danes. Povprečne temperature ozračja strmo naraščajo, oceani se kisajo, upada biotska raznovrstnost, drastično se povečuje število naravnih katastrof – pri čemer pa nas prave posledice dejansko še čakajo. Kako torej misliti sedanost? Zgolj tako, da končno začnemo razumeti, da *zeitgeist* oz. duh časa presega našo sedanost, kar pomeni, da se mora naše spopadanje s trenutnimi problemi hkrati spopadati s prihodnjimi. Prav zato mora oblikovanje našega časa presegati *zeitgeist* in začeti gledati v prihodnost.

Danes je treba oblikovati artefakte prihodnosti za delovanje v sedanosti.

Building Conviviality

The call WE WILL DESIGN 2024 BASE of Milan is born out of the observation of the increasing disintegration of social networks and the breakdown in solidarity between people. The call seeks to foster design based on universal mutual kindness, or conviviality. As the authors of the programme explain, in our times we are collectively in need of *conviviality*—which is based on cooperation, mutual care and solidarity. In the field of design, this can be understood as a tool of communication that strives towards inclusive design free of hierarchical tendencies. **How can we ensure autonomy for communities and place solidarity at the very centre of the designed environment?** The answer to this question, they argue, is that it is only through addressing social dialogue that is resilient to changing environmental and social factors that a sustainable and inclusive environment can be made possible. **A revolution and a shift in social relations certainly seem necessary, but even more important is a widespread kindness and empathy towards fellow human beings and addressing their plight as soon as possible. Indeed, it is the latter that is itself the most revolutionary act.**

The presentation by the Academy of Fine Arts and Design of the University of Ljubljana fits the given context of solidarity and empathy by examining the role of water. It is water, or more precisely its availability, that is the key factor establishing the interdependence of the social and the environmental. Moreover, the issue of water availability is contingent on social morality, which determines who is entitled to access water and who gets to manage that access, as well as where and to what degree we allow water sources to be polluted. These issues are typically sorted out without regard for the wishes of the local population, with the decisions dictated by the capitalist tendencies of the industry. Due to the water systems' complex webs of interconnections, any pollution permitted locally often ends up having a global effect. The human need for clean drinking water, meanwhile, remains the same, regardless of GDP fluctuations. Our exhibition project, accordingly, asks the question: how do we address inequalities in access to drinking water and in the process prioritise the needs of global communities over the interests of capital?

These two types of threats—ecological, on the one hand, and economic, social, political, and moral, on the other—are closely intertwined and mutually reinforcing. All of them, in one way or another, are linked to the global explosion of inequalities. Let us remember: forty people possess as much wealth as four billion people.

Conviviality Manifesto

Gradnja prijaznosti

Milanski poziv z naslovom »WE WILL DESIGN 2024 BASE« raste iz ugotovitve o vedno bolj razkrajajočih se socialnih mrežah in razpadu solidarnosti med ljudmi. Poziv želi spodbujati oblikovanje, ki temelji na vsesplošni vzajemni prijaznosti (angl. *conviviality*). Kot pojasnijo snovalci programa, je *conviviality* kolektivna potreba sodobnega časa, ki temelji na sodelovanju, vzajemni skrbi in solidarnosti. V oblikovanju jo lahko razumemo kot komunikacijsko orodje, ki stremi k inkluzivnemu oblikovanju brez hierarhičnih teženj. Pri čemer na vprašanje **Kako skupnostim zagotoviti avtonomijo in umestiti solidarnost v sam center oblikovanega okolja?** odgovarjajo z napotkom, da lahko trajnostno in inkluzivno okolje omogočimo zgolj skozi naslavljanje družbenega dialoga, ki bo odporno proti spreminjajočim se okoljskim in družbenim dejavnikom. **Zdi se, da sta revolucija in sprememba družbenih razmerij vsekakor potrebni, še pomembnejši pa so vsesplošna prijaznost in empatija do sočloveka in čimprejšnje naslavljanje stisk. Še več, ravno zadnje je najbolj revolucionarno dejanje.**

Predstavitve Akademije za likovno umetnost in oblikovanje Univerze v Ljubljani se v dani kontekst solidarnosti in empatije umešča s preizpraševanjem o vlogi vode. Voda oziroma njena dostopnost je namreč ključni dejavnik, ki vzpostavlja medsebojno soodvisnost družbenega in okoljskega. Še več, vprašanje dostopnosti vode pogojuje družbena morala, saj ta določa, kdo je do dostopa upravičen in kdo ga lahko upravlja, kot tudi, kje dovoljujemo onesnaževanje vodnih virov in do kakšne mere. Ta vprašanja se navadno sprejemajo mimo želja lokalnega prebivalstva pod diktatom kapitalističnih teženj industrije. Lokalno dopuščeno onesnaževanje ima zaradi kompleksne mreže povezav vodnih sistemov pogosto tudi globalni učinek, pri čemer pa človeška potreba po dostopu do čiste pitne vode vedno ostaja enaka ne glede na rast ali padec BDP-ja. Posledično smo si z razstavnim projektom zastavili vprašanje, kako nasloviti neenakost dostopa do pitne vode, upoštevajoč potrebe globalnih skupnosti mimo interesov kapitala.

The Nine Planetary Boundaries and Water

One of the Nine Planetary Boundaries, which were proposed by Stockholm Resilience Centre and which need to be taken into account to safeguard the future of humanity, is the consumption of fresh water. Among the repercussions of the development of modern society (agricultural and industrial pollution, climate change and population growth) is that the water cycle indicators are approaching their limits. At the same time, **according to the World Wide Fund for Nature, 1.1 billion people still lack access to water and 2.7 billion people face water scarcity for at least one month a year.** The future is not overly promising either. According to the Fund's projections, more than half a billion people will suffer due to water-related catastrophes by 2050.

The growth of the global economy, which is directly proportional to excess production, is also having an extremely negative impact on water resources and is already causing severe harm to the world's population. Stockholm Resilience Centre's calculations indicate that we have already exceeded the planetary boundary for fresh water due to the emergence of new types of contaminants in the water—mainly plastic particles. The contradictory dogma stating that economic growth is linked to human welfare has thus once again proved to be an oxymoron. The dogmatic perception of economic growth as the indicator of a society's success, which originated in the Chicago school of economic thought has been shown time and time again—and increasingly so—to be a global blunder of cataclysmic proportions.

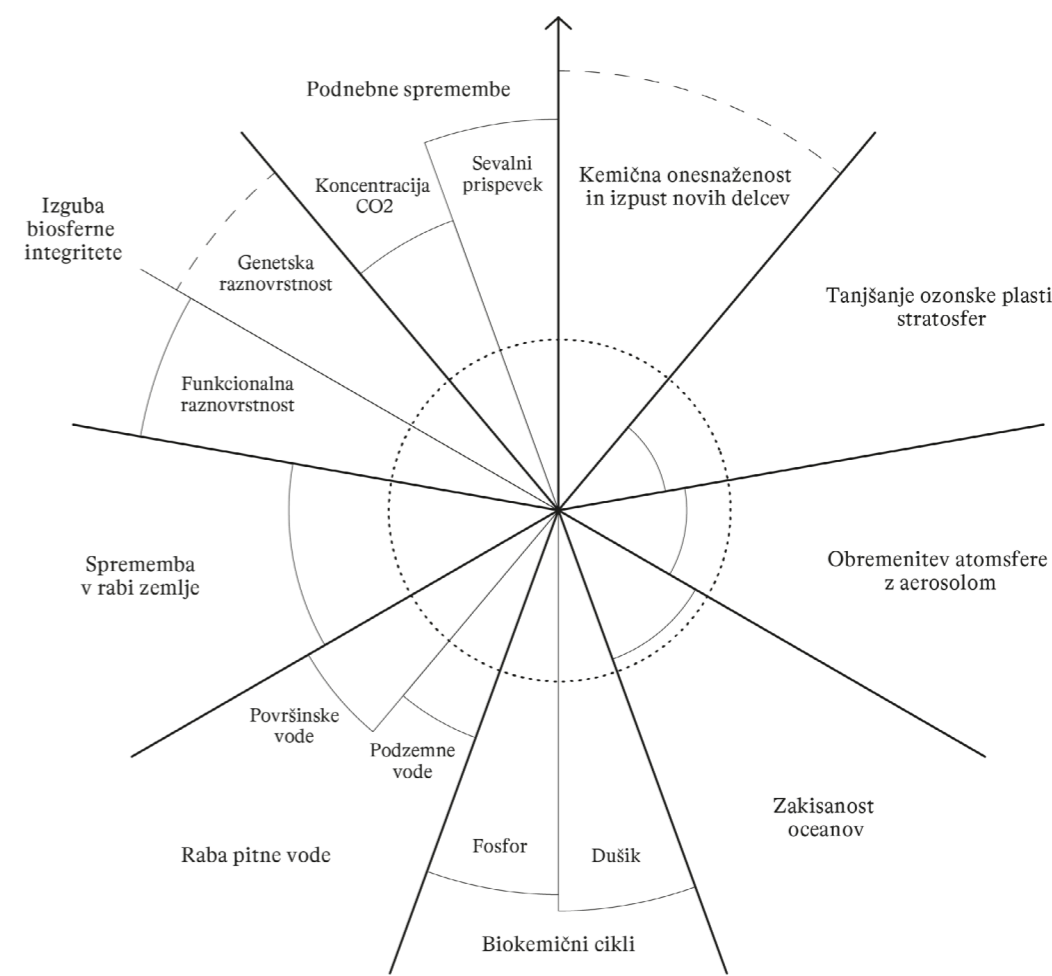


Planetary Boundaries: 6 crossed.
Licenced under CC BY-NC-ND 3.0. (Credit: Azote for Stockholm Resilience Centre, Stockholm University. Based on Richardson et al. 2023, Steffen et al. 2015, and Rockström et al. 2009.)

Devet planetarnih meja in voda

Med devetimi planetarnimi mejami, ki jih je osnoval Stockholm Resilience Center (Stockholmski center za odpornost) in katerih vzdržnost je nujna za varno delovanje človeštva, je poraba sladke vode. Zaradi posledic razvoja sodobne družbe (agrikolturnega in industrijskega onesnaževanja, podnebni sprememb in rasti populacije) se vodni krog približuje mejnim kazalnikom. Hkrati, **po podatkih Svetovnega sklada za naravo, 1,1 milijarde ljudi še vedno nima dostopa do vode, 2,7 milijarde ljudi pa se srečuje s pomanjkanjem vode vsaj en mesec letno.** Tudi prihodnost ni nič kaj obetavna. Do leta 2050 bo po napovedih Sklada več kot pol milijarde ljudi po svetu trpelo zaradi katastrof, povezanih z vodo.

Izjemno negativne učinke na vodne vire pa ima tudi rast globalne ekonomije, ki je premo sorazmerna s čezmerno produkcijo, saj ta že intenzivno škoduje svetovnemu prebivalstvu. Po izračunu omenjenega Stockholmskega centra za odpornost smo planetarno mejo sladke vode zaradi pojava novih onesnaževalcev v vodi – pretežno plastičnih delcev – že presegli. Oksimoronska dogma o povezavi med gospodarsko rastjo in človeško dobrobitjo se je tako znova izkazala za ravno to – oksimoron. Dogmatično dojemanje gospodarske rasti kot kazalnika uspeha družbe, posledica čikaške šole ekonomskega mišljenja, se vsakič znova in vedno bolj kaže kot svetovni lapsus kataklizmičnih razsežnosti.



Planetarne meje: 6 prekoračenih.
Licenca CC BY-NC-ND 3.0. (Vir: Azote za Stockholmski center za odpornost, Univerza v Stockholmu. Na podlagi Richardson et al. 2023, Steffen et al. 2015 in Rockström et al. 2009.)

Humankind Embedded Into the Web of Life and the Search for the Role of Design

Due to the increasing hyperproduction of greenwashing, sustainability has become a deceptive word that is often stripped of its own original meaning of referring to something with zero environmental impact. In our age, even the latter is no longer sufficient. What we are looking for is regenerativity. Regenerative design is one that takes a holistic view of sustainability as not just the optimisation of production processes to minimise environmental impact. Such design actively seeks to contribute to a better future for a humanity that is dependent on natural systems. Or, as Pamela Mang and Ben Haggard explain in their book *Regenerative Development and Design: A Framework for Evolving Sustainability*:

In [regenerative design], nature works as a dynamic organic web, within which interdependent entities organize and maintain themselves, exchange information and energy, and evolve in harmony with their local environments. This model is biocentric, based on the principle that all life forms have intrinsic value and the right to exist. Humans are simply one species among many, equal rather than superior.

At the Academy of Fine Arts and Design, critical thinking about the environmental and social consequences of economic assumptions is strongly embedded in the curriculum. The issue of how to educate critical individuals in various disciplines of art and design is repeatedly addressed in the internal discourse.

This emphasis, as well as encouragement of student research, ends up reflected in many of the results of the study process. Among them is the master's programme project *Dodola*, developed by the Pjorkkala team as part of the 27th Biennial of Design (BIO27). It perfectly illustrates how knowledge accumulated through the study process is woven into the ability to identify and analyse serious social and environmental problems with the aim of creating clever solutions that combine modern technologies with vernacular knowledge—a foundation wonderfully explained by curator Jane Withers, curator of BIO27: **“In contrast to our extractive ‘take make waste’ economy, these vernacular traditions are rooted in regenerative systems and cultures that live with the earth rather than from it.”**

Človek vpet v mrežo življenja in iskanja vloge oblikovanja

Trajnost je skozi pospešeno hiperprodukcijo zelenega zavajanja postala varljiva beseda, ki pogosto ne premore več lastnega pomena – to je ničelnega vpliva na okolje. Pri čemer zadnje v današnji dobi ni več dovolj. To, kar iščemo, je regenerativnost. Regenerativno oblikovanje je oblikovanje, ki trajnost dojema celostno – ne zgolj kot optimizacijo proizvodnih procesov za čim manjši okoljski vpliv, temveč oblikovanje, ki aktivno želi prispevati k boljši prihodnosti za človeštvo, odvisno od naravnih sistemov. Ali kot slednje pojasnita Pamela Mang in Ben Haggard v knjigi *Regenerative Development and Design: A Framework for Evolving Sustainability*:

V [regenerativnem oblikovanju] narava deluje kot dinamična organska mreža, v kateri se medsebojno odvisne entitete organizirajo in vzdržujejo, izmenjujejo informacije in energijo ter se razvijajo v harmoniji s svojim lokalnim okoljem. Ta model je biocentričen in temelji na načelu, da imajo vse oblike življenja notranjo vrednost in pravico do obstoja. Ljudje so le ena izmed mnogih vrst, ki je enakovredna, in ne nadrejena.

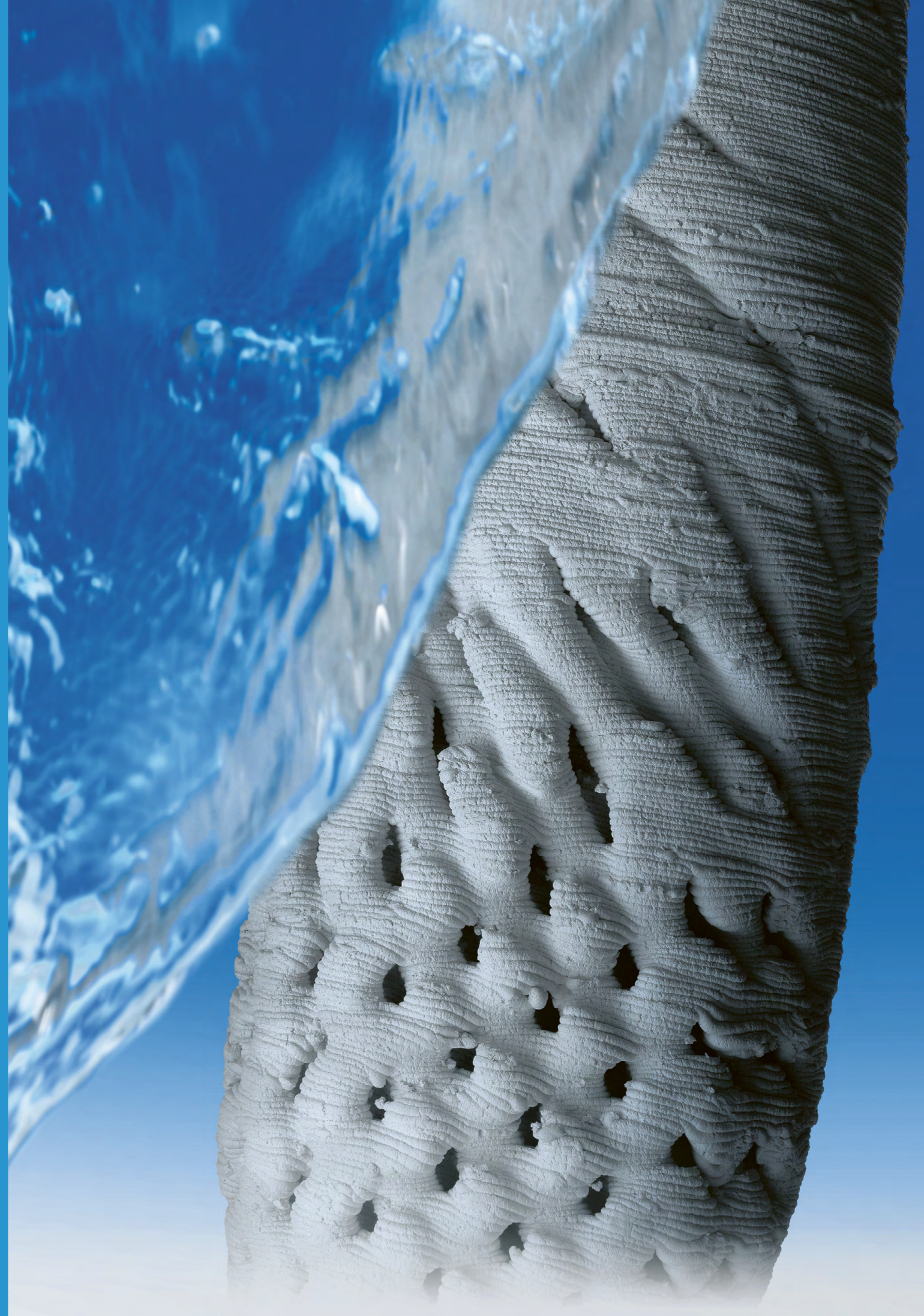
Na Akademiji za likovno umetnost in oblikovanje je kritično mišljenje o okoljskih in družbenih posledicah ekonomskih predpostavk močno zasidrano v kurikulum. Vprašanje, kako izobraževati kritične posameznike znotraj posameznih disciplin umetnosti in oblikovanja, se vedno znova naslavlja v internem diskurzu.

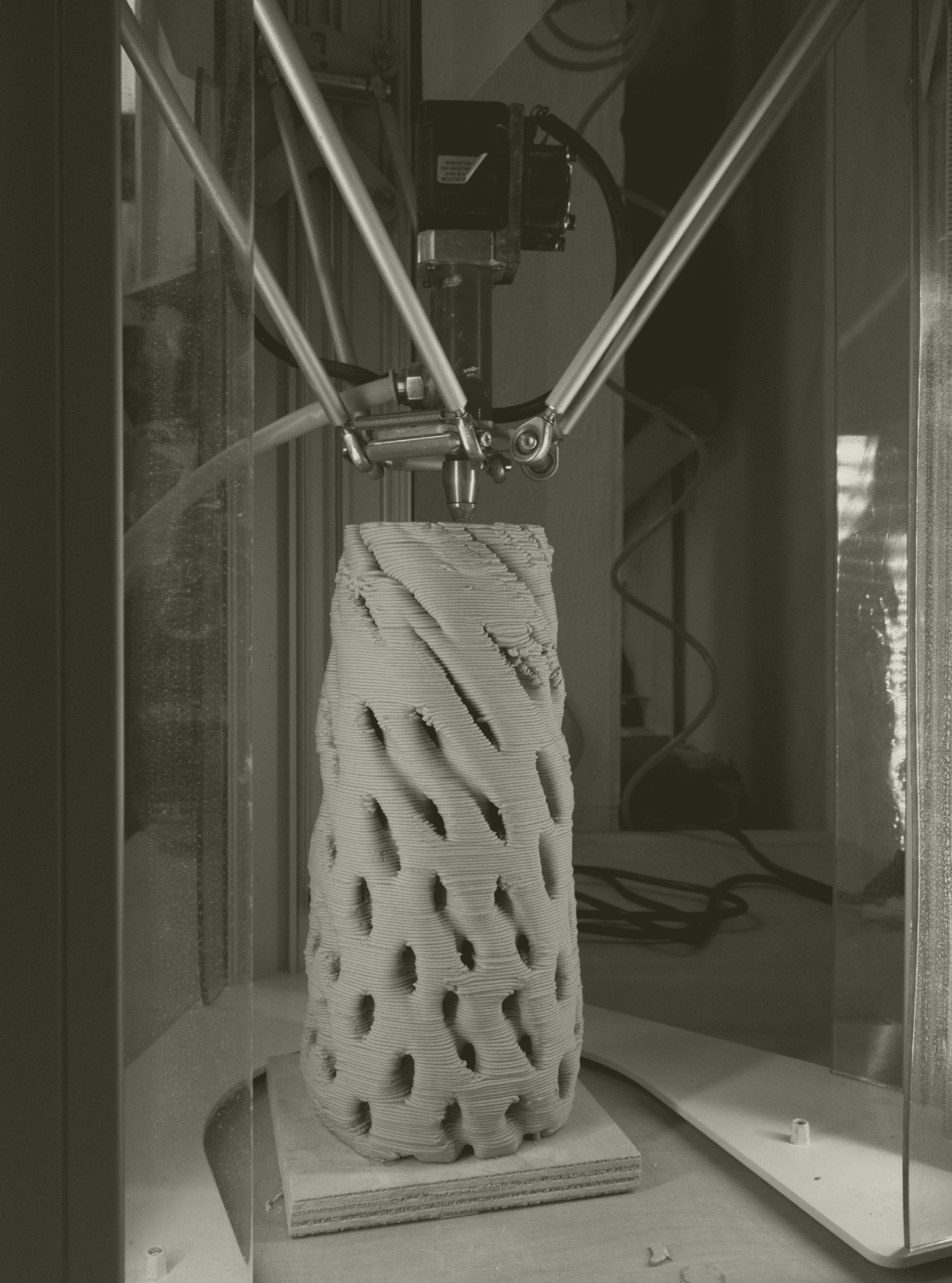
Poudarek na opisanih temah in spodbujanje študentskih raziskav se kaže v številnih rezultatih študijskega procesa. Mednje se uvršča tudi magistrski projekt *Dodola* skupine Pjorkkala, ki je bil razvit na 27. bienalu oblikovanja (BIO27). Slednji namreč odlično ilustrira način, kako se prek študijskega procesa akumulirano znanje preplete v zmožnost prepoznavanja in analiziranja resnih družbenih in okoljskih problemov, s ciljem spretnega tvorjenja rešitev na povezovanju sodobnih tehnologij z vernakularnimi znanji. Torej temelju, ki ga je na BIO27 odlično pojasnila kuratorica Jane Withers: **»V nasprotju z ekstraktivnim modelom gospodarstva ‘vzemi, izdelaj, zavrz’ so vernakularni pristopi osnovani na regenerativnih sistemih in kulturah, ki se ozirajo k regenerativnim sistemom ter ne črpajo iz zemlje, temveč z njo sobivajo.«**



Dodola I: example of a vernacular approach to water treatment enhanced by modern technology

Dodola I: primer vernakularnega načina čiščenja vode, nadgrajenega s sodobno tehnologijo





Dodola I: Sustainable water filtration product produced using 3D printing technology, containing principles of gyroidal structure and Archimedean screw

Dodola I: Trajnostni izdelek za filtriranje vode, proizveden s pomočjo 3D-tehnologije, ki upošteva načela giroidne strukture in Arhimedovega vijaka

Dodola, or How to Address Water Supply in the Future by Looking Back

Meditations on Water: Thinking Globally, Acting Locally

Access to drinking water is an increasing global problem. Even in Slovenia, as many as 20% of the population lives in areas that are not part of the public water supply system, which means that the water catchments do not undergo regular sampling. Field research on the topic led the authors from the Pjorkkala group to study a global issue in the local environment of Triglav National Park in Slovenia. At first glance, the countless idyllic photographs showing the pristine nature and enchanting bodies of water in the forest give the impression of untouched purity. However, analyses of water samples from the forest streams have revealed the worrisome presence of *E. coli*, which poses a serious health risk if ingested. One of the key findings of the research was therefore that pollution can be present even in unexpected places, where it is imperceptible to the naked eye and consequently escapes our awareness.

Dodola as a tribute to the vernacular

Drawing upon the research and guided by the needs of local communities, the authors set out to develop a water filtration solution for use in remote locations that would be based on vernacular principles while using new technologies. In order to keep the cost of filtration as low as possible for remote communities, one of the key starting points in the development of the filtration system was that the product should offer maximum functional autonomy with minimal maintenance requirements. The resulting solution, *Dodola*, is exceptionally easy to use, as it does not require electricity—it is powered by the water flow itself—and only needs occasional cleaning, which can be performed without specialised tools. Developed on the basis of regenerative design principles, *Dodola* employs mechanical filtration to filter water by passing it through a porous ceramic matrix. In this process, microscopic contaminants the size of *E. coli* bacteria are removed from the water, as they cannot penetrate the microscopic pore structure formed by the residual organic material in the clay that burns off during firing in the kiln. With the help of 3D-printing technology, the clay is formed into a complex gyroid structure, which yields a larger surface area and consequently increases the flow rate of water through the filter. In addition to the gyroid structure, *Dodola* ensures optimal water flow by using the principle of the Archimedes' screw to push water through the walls towards the upper opening. The modular design of the filtration system allows for upgrades (*Dodola II* and *Dodola III*) according to the requirements of particular environments and the needs of the local community.



Dodola ali kako s pogledom nazaj lahko rešujemo vodno oskrbo v prihodnosti

Meditacije o vodi: misliti globalno, delovati lokalno

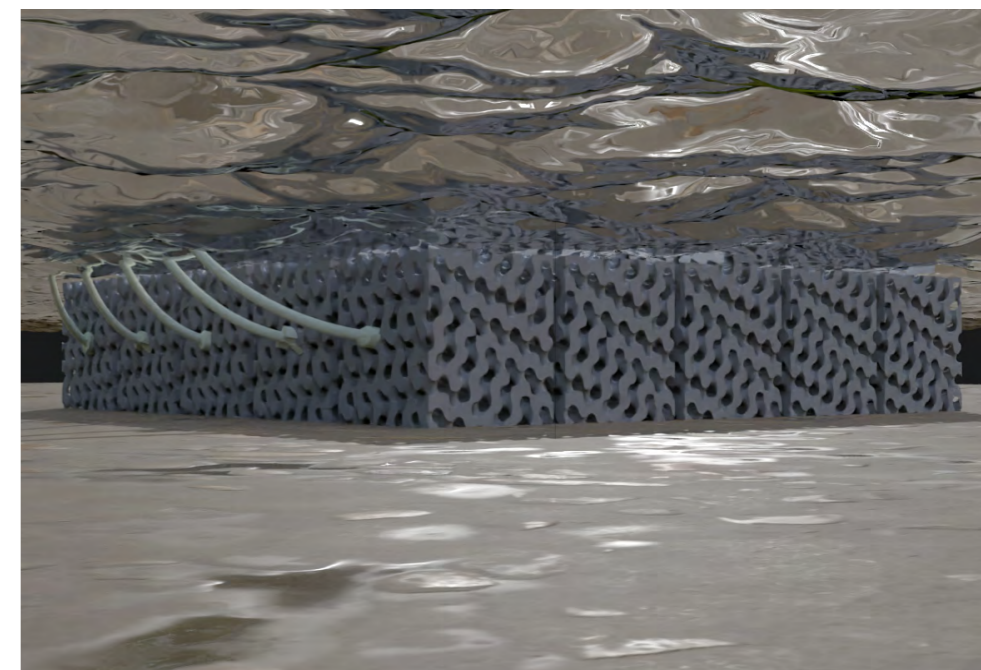
Problem dostopa do pitne vode je globalni problem v porastu. Tudi v Sloveniji kar 20 % Slovencev živi na področjih, ki niso del javnega vodovodnega sistema in posledično vodna zajetja niso redno vzorčena. Terensko raziskovalno delo na izbrano temo je avtorje iz skupine Pjorkkala popeljalo v proučevanje globalnih problemov v lokalnem okolju Triglavskega narodnega parka v Sloveniji. Številne idilične fotografije neokrnjene narave in očarljivosti vodnih teles v gozdovih na prvi pogled dajejo občutek čistosti in nedotaknjenosti. Analize vzorcev vode iz gozdnih potočkov pa so razkrile skrb vzbujajočo prisotnost bakterije *E. coli*, ki ob zaužitju pomeni resno nevarnost zdravju. Eno od ključnih spoznanj raziskave je zato bilo, da je onesnaženje lahko prisotno tudi tam, kjer ga primarno ne pričakujemo, se ga ne zavedamo in ne zaznamo s prostim očesom.

Dodola kot poklon vernakularnosti

Izhajajoč iz raziskave in potreb lokalnih skupnosti so si avtorji za cilj zadali razvoj rešitve, ki bi po vzoru vernakularnih principov in s pomočjo novih tehnologij omogočala filtracijo vode na odročnih lokacijah. Zato da bi ohranili stroške filtriranja čim nižje za odročne skupnosti, je bilo eno od ključnih izhodišč filtracijskega sistema tudi funkcionalna avtonomija izdelka z minimalno zahtevo po vzdrževanju. Nastala rešitev, *Dodola*, je izjemno enostavna za uporabo, saj ne potrebuje električne energije, ampak za pogon uporablja kar vodni tok in zahteva le občasno čiščenje brez specializiranih orodij. Zasnova *Dodole* temelji na regenerativnem oblikovanju, ki vodo filtrira na principu mehanske filtracije skozi porasto matrico keramičnega materiala. Pri tem skozi stene iz vode odstranjuje onesnažila v mikroskopski velikosti bakterij *E. coli*, saj se te ne morejo prebiti skozi mikroskopsko strukturo por – ostanki organskega materiala v glini, ki med žganjem v peči pogori. Kompleksna giroidna struktura je izdelana iz gline s pomočjo tehnologije 3D-tiska in omogoča večjo površino in posledično poveča pretočnost vode skozi filter. Poleg giroidne strukture za optimalen pretok vode *Dodola* izkorišča princip Arhimedovega vijaka, ki vodo poriva skozi stene proti zgornji odprtini. Modularna zasnova filtracijskega sistema omogoča nadgradnje (*Dodola II* in *Dodola III*) glede na vsakokratne specifične zahteve okolja in potrebe lokalne skupnosti.

Dodola II: modified for easier transport and suitable for drawing water from various natural sources (rivers, lakes, water wells)

Dodola II: prilagojena za lažji transport z možnostjo črpanja vode iz različnih vodnih virov (reke, jezera, vodnjaki)





Dodola III: in this upgrade, the water filtering process is supported by a human-powered pump. This version was developed in collaboration with the Floating University of Berlin for the Tbilisi Triennial of modern art in Georgia.

Dodola III: nadgradnja omogoča filtriranje vode s pomočjo črpalke na človeško moč. Različica je bila razvita za Triennale sodobne umetnosti v Gruziji v sodelovanju s Floating University Berlin.

About the Installation

The process of designing the exhibition was undertaken by a diverse group of under- and post-graduate students of industrial design and visual communications design under the mentorship of professors from both of the design departments at the Academy of Fine Arts and Design of the University of Ljubljana. The research portion of the process was carried out by master's students in the 2022/2023 academic year. The design work was taken over in the next academic year, 2023/2024, by a group of undergraduate students along with a smaller number of master's students whose involvement was otherwise primarily in research.

The chosen installation design plays around with the concepts of echoes and reflections created by the movement of water. In order to evoke the notion of play, the reflections are trapped within a lightweight circular installation formed by fabric curtains that is based on and inspired by sustainability. The shadow play serves as a subtle invitation to visitors to interact with and develop their own interpretation of the pavilion. The circular design of the pavilion suggests the cycling of water and the interdependence of seemingly non-related factors; the play of reflections and the sounds of water, meanwhile, create a meditative atmosphere that encourages the visitors to immerse themselves in the content. The materiality of the pavilion combines the softness and permeability of the fabric with the resistance, strength and lightness of the sheet metal. The central island where the product is exhibited is a water "fountain"—the focal and starting point of the pavilion that is intended to create a sense of mutual belonging.

In designing the pavilion, we chose approaches that minimise the environmental impact. The pavilion features a modular design that reduces the carbon footprint of its transport and extends the lifetime of the installation. The pavilion can be exhibited in a wide variety of spatial contexts without major alterations. With this as the premise, we consciously used durable materials in the design of the pavilion that will withstand installation in high-traffic exhibition spaces. At the end of its lifetime, all the elements of the pavilion can be reused or recycled.

The design of the exhibition project *Echoes of Tomorrow* is based on a play of reflections, captured within a lightweight and sustainably grounded circular installation design.

Zasnova razstavnega projekta *Odmevi jutrišnjega dne* temelji na igri odsevov, ujetih v lahkotni in na trajnosti utemeljeni krožni postavitvi.

O postavitvi

Oblikovanje razstave je potekalo v pestri zasedbi dodiplomskih in podiplomskih študentov industrijskega oblikovanja in oblikovanja vizualnih komunikacij pod mentorstvom profesorjev obeh oblikovalskih oddelkov na Akademiji za likovno umetnost in oblikovanje Univerze v Ljubljani. Raziskovalni del procesa so opravili študentje magistrske stopnje v študijskem letu 2022/2023, oblikovalski del procesa pa je v naslednjem študijskem letu, 2023/2024, prevzela skupina študentov dodiplomskega študija in manjšega dela magistrskih študentov, ki so primarno pripravljali raziskavo.

Izbrana postavitev se igra s koncepti odmevov in odsevov, ki jih ustvarja gibanje vode. Z namenom ustvarjanja igre so odsevi ujeti v lahkotni in na trajnosti utemeljeni krožni postavitvi, sestavljeni iz tekstilnih zastorov. Igra senc obiskovalce subtilno vabi k interakciji in svojstvenemu branju paviljona. Krožna zasnova paviljona sporoča kroženje vode in medsebojno povezanost na videz nepovezanih dejavnikov; igra odsevov in zvokov vode pa ustvarja meditativno vzdušje, ki obiskovalce spodbuja k poglobljanju v vsebino. Materialnost paviljona prepletata mehko in vpojnost tkanine z odbojnostjo, trdnostjo in lahkotnostjo pločevine. Osrednji otok z razstavljenim produktom je vodna »fontana« – zbirališče in izhodišče paviljona, katerega namen je ustvarjanje občutka vzajemne pripadnosti.

Pri oblikovanju paviljona smo sledili pristopom s čim manjšim vplivom na okolje. Paviljon je zasnovan modularno, kar omogoča transport z manjšim ogljičnim odtisom, prav tako pa taka zasnova podaljša življenjsko dobo paviljona. Paviljon se lahko vedno znova brez večjih posegov postavlja v najrazličnejše prostorske kontekste. Na tej osnovi smo pri snovanju paviljona zavestno uporabljali trpežne materiale, ki bodo prenesli postavitev v visoko obljudenih razstavnih prostorih. Po zaključku življenjske dobe paviljona bo vse razstavne elemente mogoče znova uporabiti ali reciklirati.



On the Authors and Organisations

Pjorkkala

Pjorkkala consists of Žan Giradon, Pia Groleger and Luka Pleskovič. All three obtained their master's degree from the Academy of Fine Arts and Design of the University of Ljubljana with their project *Dodola*. Since forming the collective three years ago (in 2021), they have become solidly established as designers committed to sustainability with an experimental approach. Their approach to design is characterised by social and environmental engagement and a research emphasis on natural materials and traditional skills, both of which they continuously combine with modern technologies. Their work has received many accolades, which include the main international prize in the Project Excellence category at the Distributed Design Awards 2022; first place in the social innovation category at Zagreb Design Week; placement among the top ten at the international competition by DesignWanted: design trends and innovations; an award by Zavod BiG in the *Perspektivni* category and the *Daljnogled* award by the Designers' Society of Slovenia.

Četrtek X Čira Čara

The task of designing the Milan exhibition was given to the Četrtek collective, which consists of final year students of industrial design, in collaboration with the final year students of Graphic Design Hana Jelovšek and Gal Šnajder, who work under the name Čira Čara. *Četrtek* (meaning Thursday) is a collective that tackles design challenges in the field of the climate and social crisis at sessions that usually take place on Thursdays. They began operation in June 2023, when they issued a founding manifesto. The collective's external efforts in the field of socially responsible design are complemented internally by the exploration of non-hierarchical forms of organisation and design process management with an emphasis on self-management by designers.

University of Ljubljana, Academy of Fine Arts and Design

The Academy of Fine Arts and Design is the oldest educational and research institution in Slovenia in the field of art and design, and is a member of the University of Ljubljana. Over the years, the Academy has developed advanced programmes in art and design that are committed to social and environmental justice. The programmes are developed with an emphasis on individual work with students, with the aim of maximising the transfer of knowledge and experience from the professional staff to the students. The main points of emphasis in the educational process are:

- creativity,
- innovation and practical learning,
- the broader social context,
- transdisciplinary,
- a strong emphasis on theory,
- critical and independent thinking,
- sustainability.

It is in the latter area of sustainability that the Academy of Fine Arts and Design of the University of Ljubljana has made a deliberate commitment to actively address climate and environmental emergencies. It was the first Slovenian educational institution to join the global initiative of universities for transitioning towards a zero-carbon world, initiated by the Alliance for Sustainability Leadership in Education. We are actively participating in 12 research projects that directly address sustainability issues. In two of them we are the lead organisation. The key projects include those managed and implemented within the programme *UL for a Sustainable Society – ULTRA* and funded by the Ministry of Higher Education, Science and Innovation of the Republic of Slovenia and the European Union – NextGenerationEU:

- Green Nudge within the framework of the pilot project Lifelong Learning and Micro-credentials (led by UL ALUO)
- Urban agriculture for a green transition to a smart and sustainable society and inclusive growth
- Promoting innovative learning environments for teaching engineering students on the topics of green transition
- Digital study programme for Mechanical Engineering
- Open Laboratory
- Optimised study environment in Society 5.0: developing a model for measuring environmental parameters and their effects on the participants of the study process with the aim of supporting the transition to a green and sustainable academic society
- Additive digital technologies for the fabrication of composite elements
- Developing (future) educators' competences to promote green transition, sustainable development and environmental literacy in early childhood
- An educational ecosystem for achieving digital competences for educators and students

In addition to the ULTRA programme, we are also involved in two basic research projects in the field of sustainability, which are co-funded by the Slovenian Research and Innovation Agency (ARIS):

- Heritage for Inclusive Sustainable Transformation – HEI-TRANSFORM
- Stucco marble altars in Slovenia: materials, conservation, and meaning

Without doubt, one of the outstanding successes of scientific and artistic research in 2023 is the establishment of the first research programme at UL ALUO, *Visual Literacy*. It is the first research programme at the University of Ljubljana to combine scientific and artistic research on an equal footing, and will also focus on visual literacy in the field of sustainability. Research programme (P5-0452) co-financed by the Slovenian Research and Innovation Agency (ARIS).

The Team of the
Echoes of Tomorrow Project



O avtoricah, avtorjih in organizacijah

Pjorkkala

Pjorkkala so Žan Giradon, Pia Groleger in Luka Pleskovič. Vsi trije so s projektom *Dodola* magistrirali na Akademiji za likovno umetnost in oblikovanje Univerze v Ljubljani. V treh letih od ustanovitve društva (leta 2021) so se dodobra uveljavili kot oblikovalci, zavezani trajnosti z eksperimentalnim pristopom. K oblikovanju pristopajo z družbeno in okoljsko angažiranostjo, s poudarkom na raziskovanju naravnih materialov in tradicionalnih znanj, oboje pa ves čas prepletajo s sodobnimi tehnologijami. Za svoje delo so med drugim prejeli glavno mednarodno nagrado Distributed Design Awards 2022 v kategoriji Project Excellence; 1. mesto v kategoriji socialnih inovacij na zagrebškem tednu oblikovanja; uvrščeni so bili med top 10 konceptov na mednarodnem natečaju DesignWanted: design trends and innovations; prejeli so nagrado Zavoda BiG: perspektivni in nagrado Društva oblikovalcev Slovenije: daljnogled.

Četrtek X Čira Čara

Oblikovanje razstave v Milanu je prevzel kolektiv Četrtek, sestavljen iz absolventov industrijskega oblikovanja, v sodelovanju z absolventoma grafičnega oblikovanja Hano Jelovšek in Galom Šnajderjem pod imenom Čira Čara. Četrtek je kolektiv, ki se večinoma ob četrtkih posveča oblikovalskemu izzivu na področju podnebne in socialne krize. Delovati so začeli junija 2023, ko so izdali manifest ob ustanovitvi. Kolektiv poleg družbeno odgovornega oblikovanja navzven navznoter preizkuša nehierarhične oblike organizacije in vodenja oblikovalskega procesa s poudarkom na samoupravljanju oblikovalcev.

Univerza v Ljubljani, Akademija za likovno umetnost in oblikovanje

Akademija za likovno umetnost in oblikovanje je najstarejša izobraževalna in raziskovalna ustanova v Sloveniji na področju umetnosti in oblikovanja in je članica Univerze v Ljubljani. Skozi leta so se na Akademiji izoblikovali napredni programi v umetnosti in oblikovanju, ki so zavezani družbeni in okoljski pravičnosti. Programi so oblikovani s poudarkom na individualnem delu s študenti v želji po čim večjem prenosu znanja in izkušenj strokovnega izobraževalnega kadra na študente. Glavni poudarki izobraževalnega procesa so:

- ustvarjalnost,
- inovativnost in praktično učenje,
- širši družbeni kontekst,
- transdisciplinarnost,
- izjemen poudarek na teoriji,
- kritično in samostojno mišljenje ter
- trajnostni pristop.

Prav pri trajnosti se je Akademija za likovno umetnost in oblikovanje Univerze v Ljubljani načrtno zavezala aktivni obravnavi podnebnih in okoljskih izrednih razmer. Kot prva slovenska izobraževalna institucija se je priključila h globalni iniciativi Univerz za delovanje k prehodu v brezogljivi svet, katere pobudnica je Zveza za trajnostno vodenje v izobraževanju. Aktivno sodelujemo v 12 raziskovalnih projektih, ki neposredno obravnavajo trajnostne tematike, od tega smo pri dveh nosilna organizacija. Med ključne se uvrščajo projekti, ki jih vodimo in izvajamo v programu *UL za trajnostno družbo – ULTRA* in jih financirajo Republika Slovenija, Ministrstvo za visoko šolstvo, znanost in inovacije ter Evropska unija - NextGenerationEU:

- Zeleni dregljaj v pilotu Vseživljenjsko učenje in mikro dokazila (nosilnost na UL ALUO),
- Urbano kmetijstvo za zeleni prehod v družbo pametne, trajnostne in vključujoče rasti,
- Spodbujanje inovativnih učnih okolij pri učenju in poučevanju študentov tehnike o tematikah zelenega prehoda,
- Digitalni študijski program strojništva,
- Odprti laboratorij,
- Optimizirano študijsko okolje v Družbi 5.0: Razvoj modela merjenja okoljskih parametrov in njihovih učinkov na udeležence študijskega procesa za podporo prehodu v zeleno in trajnostno akademsko družbo,
- Dodajalne digitalne tehnologije za gradnjo kompozitnih elementov,
- Razvoj kompetenc (prihodnjih) vzgojiteljev za spodbujanje zelenega prehoda, trajnostnega razvoja in okoljske pismenosti v zgodnjem otroštvu,
- Izobraževalni ekosistem za pridobivanje digitalnih kompetenc pedagogov in študentov.

Poleg programa ULTRA na področju trajnosti sodelujemo tudi v dveh temeljnih raziskovalnih projektih, ki jih sofinancira Javna agencija za znanstvenoraziskovalno in inovacijsko dejavnost Republike Slovenije (ARIS):

- Dediščina za vključujočo trajnostno preobrazbo – HEI-TRANSFORM,
- Štukmarmorni oltarji v Sloveniji: materiali, ohranjanje, pomen.

Med izjemne uspehe znanstvenega in umetniškega raziskovanja v letu 2023 pa se nedvomno uvršča pridobitev prvega raziskovalnega programa *Vizualna pismenost* z nosilnostjo na UL ALUO. Gre za prvi raziskovalni program na Univerzi v Ljubljani, ki enakovredno povezuje znanstveno in umetniško raziskovanje ter se bo med drugim ukvarjal z vizualno pismenostjo v polju trajnosti. Raziskovalni program (P5-0452) sofinancira Javna agencija za znanstvenoraziskovalno in inovacijsko dejavnost Republike Slovenije (ARIS).

Ekipo projekta
Odmevi jutrišnjega dne



Echoes of Tomorrow
Project for the Milano Design Week 2024
40 Years of Design Education at the University of Ljubljana,
Academy of Fine Arts and Design

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Exhibition organisation:
University of Ljubljana, Academy of Fine Arts and Design

The exhibition show *Echoes of Tomorrow* accompanies the celebra-
tion of 40 Years of Design Education at the University of Ljubljana,
Academy of Fine Arts and Design.

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First e-edition.

Ljubljana 2024

The exhibition project *Echoes of Tomorrow* also included the
promotion of the ULTRA research projects and the Green Nudge
international summer school, which UL ALUO, together with
partners from UL FF, UL PEF and UL FE, is running as part of
the pilot project Lifelong Learning and Micro-credentials that is
part of UL's programme for a sustainable society – ULTRA, and
which are funded by the Ministry of Higher Education, Science and
Innovation of the Republic of Slovenia and the European Union –
NextGenerationEU.

Odmevi jutrišnjega dne
Projekt za Milano Design Week 2024
40 let oblikovanja na Univerzi v Ljubljani,
Akademiji za likovno umetnost in oblikovanje

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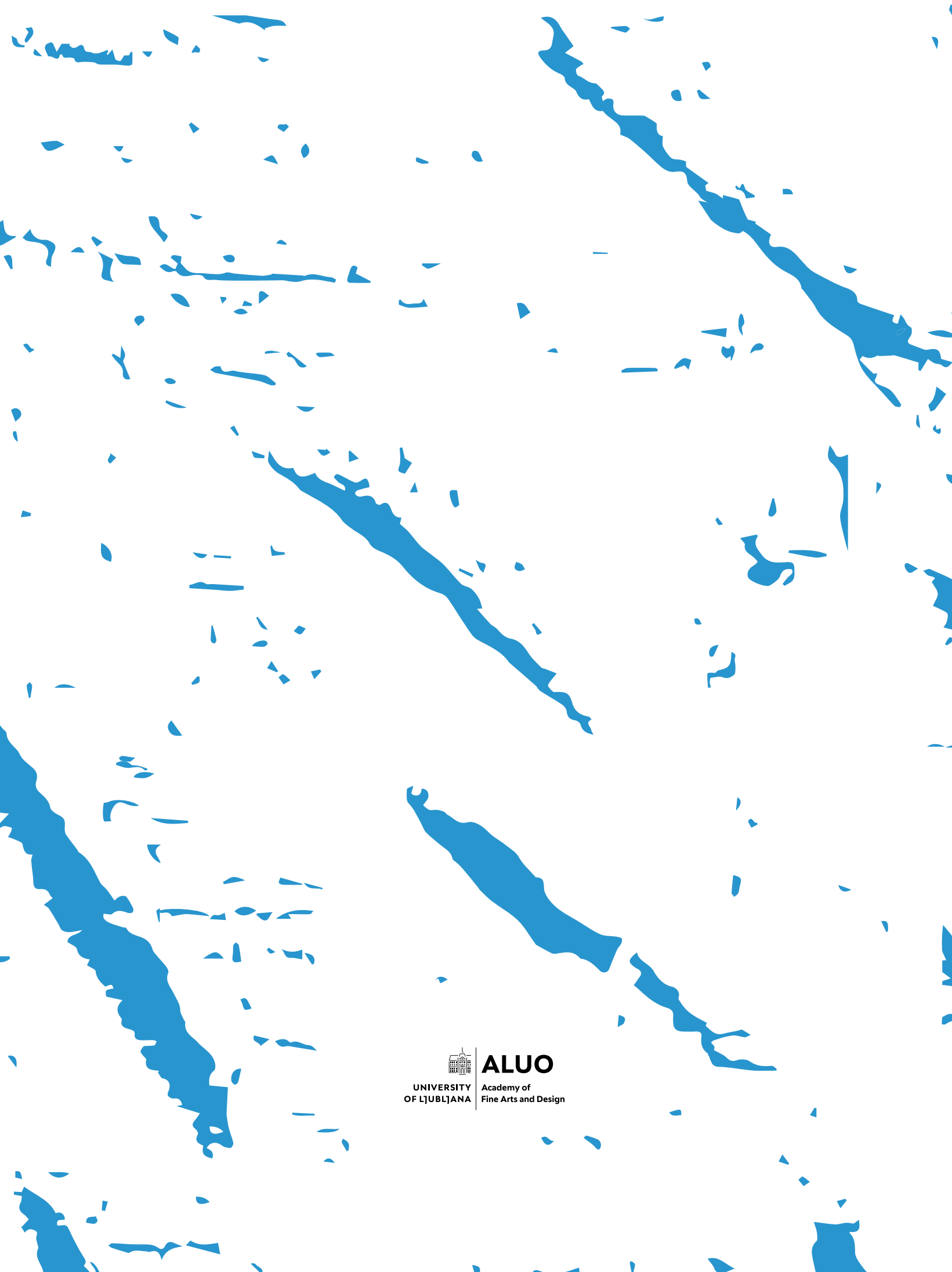
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Razstavni dogodek *Odmevi jutrišnjega dne* spremlja praznovanje 40.
obletnice visokošolskega izobraževanja na področju oblikovanja na
Univerzi v Ljubljani, Akademiji za likovno umetnost in oblikovanje.

Brezplačni izvod
Prva e-zidaja.

Ljubljana 2024

V razstavnem projektu *Odmevi jutrišnjega dne* je potekala tudi
promocija raziskovalnih projektov ULTRA in mednarodne poletne
šole Zeleni dregljaj, ki jo na UL ALUO skupaj s partnerji z UL FF, UL
PEF in UL FE vodimo v pilotu Vseživljenjsko učenje in mikrodokazila,
programu UL za trajnostno družbo – ULTRA in jih financirajo
Republika Slovenija, Ministrstvo za visoko šolstvo, znanost
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