

## Il miglior caffè di Venezia: Quali collaborazioni architettoniche per il “nuovo regime climatico”?

### Keywords

Venice Biennale, Diller Scofidio + Renfro (DS+R), Collaborations, Canal Café, Climatic Regime

### Abstract

The 19th edition of the Venice Biennale of Architecture encouraged collaborations between disciplines that are commonly perceived as unlikely companions. A key task of the curatorial team was to facilitate connections among a range of scientists and designers — from fields as varied as physics, forestry, microbiology, data science, AI, nanoscience, network science, anthropology, and naval engineering — so they could embark on a shared creative process. In this article I discuss one noteworthy installation that exemplifies this approach: the Canal Café project by Diller Scofidio + Renfro (DS+R) studio, a collaboration between architects, water engineers, and purification experts. To trace the partnerships that proved so essential for the project's realisation, I shadowed the curatorial team, interviewed architects from DS+R and followed the installation's development from December 2024 until the vernissage in May 2025. By examining their work together and the concentration of collaborative processes, I argue that this case compels us to rethink the scenography of work of designers in the “new climatic regime”.

### Biography

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# The Best Espresso in Town: What Collaborations in Architecture Does the “New Climatic Regime” Require?

Often interpreted as an epiphenomenon of late capitalism embedded in the logic of mass culture, Venice Biennales have occupied a central place in architectural discourse<sup>1</sup>. Although the Biennale Architettura has long played a pivotal role in steering the discipline in new directions, scholarly work on this event is scarce, and the existing literature commonly engages mainly with its transformative cultural agency and the curatorial themes – even only after the dust has settled<sup>2</sup>.

Shifting the focus away from the Biennale as a set of works on display and toward the complexity of its making, I engaged in an ethnographic observation of the work of a wide range of protagonists involved in the process of curating, planning, and staging the 19th edition of the famed event. Directing my attention to the conceptual and technical work performed behind the scenes, I was confronted with a large and magical crowd: from curatorial assistants, exhibition and graphic designers, and participants to editors, production and public program coordinators, and Biennale staff to the many local entities in Venice, all striving to make this world-class event a reality.

Shadowing and documenting the relational networks of various stakeholders entailed browsing large sets of data – not just official press releases and the catalogue, but volumes of correspondence; numerous partner and sponsor dossiers; proposals, agendas, and minutes; a series of revised design briefs, images, and prototypes; and other related documents. The study, which employed an ethnographic methodology inspired by actor-network theory<sup>3</sup>, also incorporated interviews with many of the protagonists over a period of 11 months, from July 2024 through May 2025.

To fully embrace the diversity implied in the staging of the Biennale, I expanded the analysis beyond the discourse of curators, designers, and participants, instead prioritising the pragmatic content of a multitude of actions by following the mundane routines and technical decisions, and by tracing the unfolding spontaneity of countless exchanges. Exploring the wider networks of stakeholders, even across the confines of institutional boundaries, and unpacking all the little steps – mistakes, challenges, and achievements alike – offered a window into how the Biennale comes into being.

The 19th edition of Biennale Architettura, curated by Carlo Ratti, moved away from the symbolic and artistic gesture – the layering and articulating of figurative and aesthetic meanings over existing architectural and structural objects – and instead adopted a focus on research. This curatorial approach encouraged solutions and devices that are not just architectural but rather draw on

<sup>1</sup> See: Aaron Levy, and William Menking, *Four Conversations on the Architecture of Discourse* (Architectural Association, 2012).

<sup>2</sup> See: Lawrence Alloway, *The Venice Biennale 1895-1968: From Salon to Goldfish Bowl* (New York Graphic Society, 1968); Marco Biraghi, and Silvia Micheli, *Storia dell'architettura italiana 1985-2015* (Einaudi, 2013); Rute Figueiredo, “Exhibiting Disciplinarity: The Venice Biennale of Architecture 1980-2012,” PhD Diss. (ETH Zürich, 2018); Aaron Levy, and William Menking, eds. *Architecture on Display: On the History of the Venice Biennale of Architecture* (Architectural Association, 2010); Federica Martini, and Vittoria Martini, *Just Another Exhibition: Histories and Politics of Biennials* (Postmedia Books, 2011); Paola Somma, *Mercanti in fiera: la Biennale di architettura di Venezia: progetti in vetrina o città in vendita?* (Corte del Fontego, 2014); Léa-Catherine Szacka, *Exhibiting the Postmodern: The 1980 Venice Architecture Biennale* (Marsilio, 2016); Léa-Catherine Szacka, *Biennials/Triennials: Conversations on the Geography of Itinerant Display* (Columbia University Press, 2019).

<sup>3</sup> See: Bruno Latour, and Albena Yaneva, “Give me a Gun and I will Make All Buildings Move: An ANT’s View of Architecture,” in *Explorations in Architecture: Teaching, Design, Research*, ed. R. Geiser (Birkhäuser, 2008); Latour and Yaneva 2008; Albena Yaneva, *The Making of a Building: A Pragmatist Approach to Architecture* (Peter Lang, 2009).

design skills, thus reviving opportunities that had been hindered by the traditional divide between art and science. The “special projects” in particular inspired partnerships between architects and other professionals, as architects were asked “to do something new, not just to celebrate old knowledge developed years ago”<sup>4</sup>.

With terms like “research,” “scientist,” and “collaboration” elevated to dominant keywords of the process, prevalent discussions on a conceptual level eschewed such questions as “What does it look like?” and instead addressed those such as “What is the research behind the project?” and “Is it scientifically rigorous?” Pseudoscientific interpretations were not welcomed. Given that most Biennale participants are architects, however, limitations existed around what research could mean and what scientific collaborations could generate. As the aesthetic receded, the “laboratory” metaphor became omnipresent. The special projects fostered experimentation that reinforced a vital message: Architecture today is connected more than ever to research and science.

Most important, and relevant to the theme of this issue of *Studi e ricerche*, the 19th Venice Biennale encouraged collaborations between disciplines that are commonly perceived as unlikely companions. A key task of the curatorial team was to facilitate connections among a range of scientists and designers – from fields as varied as physics, forestry, microbiology, data science, AI, nanoscience, network science, anthropology, and naval engineering – so they could embark on a shared creative process. With such a variety of participants, what counted in the end was the solutions they created. Engaging in enquiries<sup>5</sup> and working together around a specific issue, for which none of these disciplines had ready answers or tools, generated a certain sensitivity to new perspectives as the participants crafted interdisciplinary answers.

In what follows, I discuss one noteworthy installation that exemplifies this approach: the Canal Café project by Diller Scofidio + Renfro (DS+R) studio, a collaboration between architects, water engineers, and purification experts. To trace the partnerships that proved so essential for the project’s realisation, I interviewed the curatorial team and architects from DS+R – Liz Diller (partner), David Allin (principal architect for the project), and Sean Gallagher (sustainability director) – and followed the installation’s development from December 2024 until the vernissage in May 2025.

### The History of Canal Café

The project draws from DS+R’s pH project, presented at the 2008 Biennale and vigorously endorsed by then-curator Aaron Betsky. Addressing issues of resource depletion, the architects of the earlier undertaking abandoned the modernist idea of nature as distant, passive, and capable of being dominated or preserved, and instead proposed an installation that embraced the need to live within an “ever-thickening web of interconnected natural and technological systems”<sup>6</sup>. Their ambition was to expose the process behind the purification of water.

Although the 2008 project was advanced to a reasonable level of technical development, and DS+R worked with a local water purification company to develop an effective system, due to the “city’s unwillingness to authorise it, it was put on hold”<sup>7</sup>. Upon receiving the invitation to participate in the 19th Biennale in 2025, the DS+R architects decided to rethink the pH project. Biennale

<sup>4</sup> Interview with Carlo Ratti, Teams, August 23, 2024.

<sup>5</sup> See: John Dewey, “The Theory of Inquiry. Common Sense and Scientific inquiry,” in *The Later Works*, 1925-1953, Volume 12: 1928 (Southern Illinois University Press, 1986).

<sup>6</sup> See: <https://dsny.com/>, last accessed 17/02/2025

<sup>7</sup> Interview with David Allin, NYC, February 5, 2025.

<sup>8</sup> Reminiscent to a metabolic process, see: Hannah Landecker, “Food as Exposure: Nutritional Epigenetics and the New Metabolism,” *Biosocieties* 6, no. 2 (2011): 167-94.

<sup>9</sup> Interview with Sean Gallagher, Teams, February 14, 2025.



12.1

Canal Café, photo of Pietro Merlo and Riccardo Covino.

management and chief curator Carlo Ratti believed the city would now be more open to approving the installation, and the DS+R team welcomed this challenge, reconceptualising the project from a design and engineering perspective.

12.1 In practical terms, the installation contains a water purification system that converts the notoriously filthy water of Venice's canals into espresso that Biennale visitors can drink<sup>8</sup>. The installation draws water from the canal and channels it through a purification system that removes sludge, sewage, and toxins. The water then enters a glass holding tank divided into a series of compartments containing progressively finer filters, to eliminate remaining solids, microorganisms, and dissolved inorganic and organic substances. Reminiscent of a laboratory, the installation permits visitors to observe the process and technologies involved in water purification and delivers clean, safe water that produces a special espresso steeped in the flavour of Venice.

What drives the Canal Café project is the desire to demonstrate that it is possible to combine natural and artificial systems to treat and reuse water on-site rather than importing it from elsewhere. The installation relies on two parallel methods of water purification: one that uses a natural, plant-based process and retains salt and minerals, and another that purifies the water using an artificial process. By uniting the two, the installation allowed architects to experiment with the creation of new typologies of infrastructure that combine biological and mechanical power. As DS+R's Sean Gallagher puts it, the whole installation is about learning "how our built environment is going to work in the future"<sup>9</sup>, when keeping water local will be essential.

Given the tremendous change in perceptions around water purification since 2008, confidence is high that this project will be better received in today's environment. Seventeen years ago, "the technology to treat blackwater [sewage wastewater] and polluted water was not sufficiently developed"<sup>10</sup>, and even decontaminated water was not used for consumption or as a potable supply. Water purification technologies have advanced considerably, kindling the architects' interest in thinking about purification in relationship with natural and artificial systems. Several key questions guided the DS+R team's enquiry: "How can this installation embody both the way nature cleans water on its own and [how] it is part of the ecology of the globe? How can we accelerate those natural effects and natural systems?"<sup>11</sup> The architects focussed not only on how to optimise the purifying effects of plants, bacteria, and biological processes, but also on working with other types of filtration systems and supplementing these with engineering systems and water purification devices.

<sup>10</sup> Interview with Sean Gallagher, Teams, February 14, 2025.

<sup>11</sup> Interview with David Allin, NYC, February 5, 2025.

<sup>12</sup> See: Bruno Latour, *Facing Gaia. Eight Lectures on the New*

Water is constantly changing, uneven, fluctuating – making it difficult to control and master. The DS+R team faced distinct challenges in designing *with* and *according to* an “element” that can hardly be stabilised, and its complexity and volatility prompted them to engage in specific collaborations with other professionals. In what follows, I examine their work together – what these collaborations implied, and how they signal an altered scenography of work for designers in the “new climatic regime”<sup>12</sup> – in order to argue that what made the Canal Café project successful is not a new paradigm of working, but a concentration of collaborative processes.

### Water as an “Element” of Architecture

Water plays an essential role in the Canal Café project and concept, starting with its symbolic aspect as a distinctive and memorable feature of the city of Venice<sup>13</sup>. Reflecting on water’s volatile nature, Liz Diller acknowledges that with all the health and safety issues involved in ingesting canal water, DS+R “took a big leap of faith.” She compares the project to the studio’s previous work in the Blur Building (2002), where visitors to the installation breathed the atomised water in the air. In such cases, she points out, “it’s beyond the normal building, where you are thinking about health and safety in terms of a building falling down or anybody hurting themselves on the stairs. This is, in fact, all about bringing the building into the body, or [bringing] the purpose of the architecture into the body itself<sup>14</sup>. And so, it is far more complex than the average architectural project”<sup>15</sup>. Both the Blur Building and Canal Café factor the variability of “elements” like weather, water and air. In the Blur Building, a weather station recorded temperature, humidity, and dew point, and took into account changing weather and tides. In Canal Café, the water quality constantly varies.

The importance of honouring the unique aspects of working with water manifested itself in a number of ways.

First, water is constantly on the move. It is an active agent in the Canal Café installation, and it must meet municipal standards for drinking water before being converted into steam and forced through coffee grounds to result in espresso. Baristas can serve the public only if the water quality regularly passes inspection at the testing station. Thus, the installation perpetuates a constant, simultaneous process of refining and moving water, keeping the necessary plants alive, and blending in real time to achieve the perfect composition of water for an espresso.

Yet all this activity is unpredictable, because water quality varies every time it is pulled from the canal. As DS+R’s Sean explains, “We are becoming more aware of how elements move around the built environment from the outside and how elements move through it. We now have the ability to hyper-analyse this and make it part of the process”<sup>16</sup>. This requires real-time operation, not just maintenance. Moreover, all the Biennale visitors drinking coffee are able to witness how the elements of this installation move through the process, to see where the water for their coffee is coming from – directly from the canal – and to understand it as part of the cycle of regeneration. As DS+R’s David Allin explains, “We cannot just imagine water coming clean from a mysterious place. You will see *that* process of purification and how much work it takes to produce clean wa-

<sup>13</sup> *Climatic Regime*, trans. Catherine Porter (Polity Press, 2017).

<sup>14</sup> On the connections of water and architecture, see the recent seminar on Palladio and Water at Palladio Museum: [https://www.palladiomuseum.org/it/corsi/palladio\\_acqua](https://www.palladiomuseum.org/it/corsi/palladio_acqua), last accessed 17/06/2025.

<sup>15</sup> See: Giovanna Borasi, and Mirco Zardini, *Imperfect Health: The Medicalisation of Architecture* (CCA and Lars Mueller, 2012); <https://www.cca.qc.ca/en/events/3178/imperfect-health-the-medicalization-of-architecture>, last accessed 17/06/2025.

<sup>16</sup> Interview with Liz Diller, New York, February 5, 2025.

<sup>16</sup> Interview with Sean Gallagher, Teams, February 14, 2025.

<sup>17</sup> Interview with David Allin, NYC, February 5, 2025.

ter”<sup>17</sup>. Furthermore, because espresso requires a very small amount of water, the installation also communicates the sense of its profound worth. Every drop matters.

Second, water is complex and multidimensional, not compact or straightforward. As with air, it is impossible to address water as a distinct concept and treat it with unrealistic simplicity. Reflecting on the multifaceted aspect of water, Allin argues, “It is fascinating in that we are used to thinking of water as a thing ‘in itself’. The word ‘water’ implies it is something that exists as such. Obviously, air doesn’t exist as a thing. Rather, it is a complicated mix of chemicals, gases, solids, and so on. Of course, we all know that water is a complex system, but to have to deal with that complexity as part of the process is quite interesting and enlightening”<sup>18</sup>.

As a mix of chemicals that are constantly on the move, water is characterised by intricacy and granularity that require continuous monitoring. Checking the composition of the canal water therefore became a parameter of the architectural project, and the infrastructure has to be continually adjusted accordingly. Water pulled from the canal at low tide comprises starkly different content from water at high tide. Fine-tuning the chemical composition involves removing nitrogen and certain other elements, and inspecting the drip’s functionality in order to blend the water and the coffee grounds perfectly.

The complexity and versatility of water made it an even more recalcitrant element in the framework of the installation’s monitoring system – a technology that is also complex and continually changing. As Diller states, building a successful installation was about having “a thinking system that is actually making decisions. It’s not on its own; it knows the clock, it knows the tides”.<sup>19</sup> The valiant effort to achieve the impossible task of fully stabilising and controlling the natural, technological, and architecture variables affects the cultural component: the taste of the espresso produced in the end.

Third, water cannot be stagnant but should instead circulate, which makes storing water difficult. The limited scale of the installation site and the restricted number of tanks were noteworthy constraints. The system had to be designed to recognise when a tank is full, so that tank can send water back into the loop, circulating it through the plants to keep them alive. Shutting down a tank was impossible, as the water could become stagnant. “The plants would not like that,” Gallagher elaborates, “and they are doing our cleaning, so we need to keep them healthy and happy”<sup>20</sup>. Thus, when a tank switches over, it pulls in new water and recirculates it through the treatment process. When that tank is low enough, it starts to drop water into one of the two “day tanks” on rotation within this “smart” system.

For Canal Café to succeed, in addition to monitoring water in real time, the DS+R team had to prove to the authorities that the purification system was working. Thus, the installation resembles in function a power plant, where continuous readouts calculate emissions from the stacks and flues. The architects collect two batches of water for testing, with that constant rotation to allow time for city authorities to check them so the water can be used for coffee the next day.

By making these adjustments, the architects discovered the complexities of storing water in a safe way: Slightly cooling the water prevented stagnation so microorganisms would not grow. Adding

<sup>18</sup> Interview with David Allin, Teams, February 27, 2025.

<sup>19</sup> Interview with Liz Diller, NYC, February 5, 2025.

<sup>20</sup> Interview with Sean Gallagher, Teams, February 14, 2025.

<sup>21</sup> Interview with David Allin, Teams, February 27, 2025.

a UV filter helped recirculate water at one point in the process. As the design evolved and was revised in more detail, correcting the design and adding new components to the system became a daily routine.

Fourth, water is precious. In Venice, potable water is a huge issue. The canal water has a degree of pollution from the combined sewer overflows, and the city's infrastructure is very old. Indeed, potable water is a scarce resource for countless cities and industries that cannot accept the risk of running out. Contemporary cities demand more efficient use of their resources, such as converting blackwater into a supply suitable for agriculture and industry while retaining a potable supply for human consumption. This reality has made Italy very receptive to new ideas around sustainability. Milan, for example, is in the midst of transforming one of its wastewater treatment plants into a water reuse facility.

In the past twenty years, companies have developed membrane bioreactor technology to purify water, including in the United States: In New York, Battery Park City was the first development to incorporate waste treatment plants on-site, processing and treating blackwater within its buildings for reuse as flush water. This localised, smaller-scale technology has spread around the world. Authorities in Venice who were not familiar with this technology in 2008 may now recognise the extent to which it has developed, leaving Canal Café's purified water cleaner than the reservoir water that city residents get from the tap.

### **Collaborations for Water, on Behalf of Water**

Due to the peculiarity of water as an element of this architectural project, designers from DS+R wrestled with numerous questions they had never confronted before and engaged in new collaborations. In tackling the intricacy of this aspect of the design, architects had the chance "to talk to people who understand water's own world of complexity, who intuitively know the difference between a particular compound being at 10 versus 13, and that has a meaning to them"<sup>21</sup>. They consulted water analysis documentation which accounts for every component of water – a reminder of its scalar reality. As Allin puts it, "You can take one thing, then zoom into it, and then find another world inside it. Normally, you have to abstract things to understand them, to keep them simple"<sup>22</sup>. Zooming in on water, architects discovered an entire world.

The project revealed its complexity both at the micro scale and as a time-based system, fluctuating according to tidal changes, seasons, and population variations within Venice. Dealing with these factors uncovered aspects of the work that the architects had never considered before: How much does water change seasonally as the temperature fluctuates and biological life grows in a different way? What different kinds of pollutants exist, and how are they also variable? "We are making assumptions based on historical data and new testing," Allin explains, "but ultimately, the water is not a predictable system"<sup>23</sup>. Through the Canal Café project, architects witnessed the interplay among ecological and climatic complexities at the microscopic scale of water.

Collaboration is nothing new for DS+R; the studio has explored partnerships with scientists in previous projects. Diller has developed numerous collaborations with professionals outside the realm of architecture – artists, robot manufacturers, and fashion designers, among others. As Gal-

<sup>22</sup> Interview with David Allin, Teams, February 27, 2025.

<sup>23</sup> Interview with David Allin, Teams, February 27, 2025.

<sup>24</sup> Interview with Sean Gallagher, Teams, February 14, 2025.

lagher explains, “Architecture, no matter what type of project you are tackling, is never something you figure out on your own. We are more like the quarterback, and we need the rest of the team in order to pull off what we are doing”<sup>24</sup>. Yet collaborating with experts capable of turning dirty water into consumable water was a new challenge.

Paradoxically, collaborations are rare with professionals in the disciplines of civil and structural engineering, and indeed the DS+R architects originally were looking for water scientists. It is unusual, however, for scientists of the calibre featured in *Scientific American* to collaborate with architects. Moreover, water scientists analyse how water exists in our universe – how it reacts to things, dissolves mediums, changes states. So whilst they can advise whether water is healthy to drink, engineers are the ones who can turn unhealthy water into drinkable water, and who master the science of refining and reprocessing water and other materials. Thus, the DS+R studio began looking for top engineering experts – an effort which led them to engage in a collaboration that is exceptional in the field of architecture.

To accomplish successful purification, DS+R architects partnered with two water engineering companies: Natural Systems Utilities in the US and Sodai in Italy<sup>25</sup>. Always interested in working outside of the disciplinary collaborations that are standard in architecture (typically with mechanical and structural engineers), the DS+R studio has a long history of engaging collaborators outside that conventional framework. Previous projects, like the Blur Building, had already required DS+R to investigate issues of plumbing and water engineering. But in the case of Canal Café, the role of architecture was somewhat minimal, so designers had “to step into the shoes of plumbers and water engineers as much as playing the role of architects”<sup>26</sup>. Also put to the test were the normal definitions around concepts like “building” and “architecture.”

Natural Systems Utilities is one of the leading infrastructure companies supporting cities in solving problems of water purification, as in 2001 for the development of Battery Park City. Gallagher, who knew the company through his brother established the contact. The tight schedule leading up to the Biennale left no time for warming up to new partners, and having an established relationship helped get the project up and running swiftly. The engineers had to demonstrate very quickly that the purification could be done, communicating and working actively with Venice authorities toward approving a project without precedent. As Gallagher notes, “Usually infrastructural systems take about four years to get approved, and approving a project in six months instead of four years is unusual”<sup>27</sup>.

Natural Systems Utilities engineers were also in charge of selecting and ordering suitable plants for the job, according to the architects’ design for “floating islands with some kind of substrate that the plants can grow into, that will sit on top of the water so the roots are doing the work in the water”<sup>28</sup>. The engineers sought indigenous species that can accomplish the task of cleaning the water, and then connected with the right nurseries and suppliers. They chose certain varieties of hydrophytes – aquatic plants that are salt-tolerant and can naturally clean the brackish water of the Venice lagoon.

Finally came a particular challenge in purifying the canal water: Unlike wastewater, which originates from potable water and has no salt content, the estuary in Venice is brackish. The team had

<sup>25</sup> Sodai is an environmental engineering and water management company operating in the purification and treatment of primary waters and process fluids sector: <https://www.sodai.com/en/about-us/company/>, last accessed 17/06/2025.

<sup>26</sup> Interview with David Allin, NYC, February 5, 2025.

<sup>27</sup> Interview with Sean Gallagher, Teams, February 14, 2025.

<sup>28</sup> Interview with David Allin, Teams, March 20, 2025.

<sup>29</sup> Interview with David Allin, Teams, March 20, 2025.

to comply with the safety requirements for drinking water, and putting everything “through a reverse osmosis machine and cleaning the water that way”<sup>29</sup> would have been easier. Yet the DS+R architects decided to maintain the project’s natural-artificial balance—which, as it turned out, only further complicated the challenge.

Unlike in naturally filtered water, where the contaminants are removed but some minerals and the salt contents remain untouched, the Canal Café installation took all the salt out of the water and produced distilled water, which is not suitable for coffee; a higher amount of salt is necessary for an espresso to taste good. The two strings—natural and artificial—had to be balanced in order to free the water from excess salinity, retain certain minerals, and remove other minerals that do not make for a good cup of coffee. As only simple black espresso is served at Canal Café, the taste of the water mattered a great deal.

Thus, the need for another collaboration emerged, to adjust and carefully craft the special taste of espresso. Architects needed “someone at the final stretch to come in and put the final spices into the mix”<sup>30</sup>. Upon Ratti’s invitation, renowned chef Davide Oldani, who had collaborated with the Lavazza coffee brand, joined the effort.

Water is far from generic. Only the right combination of water and coffee could generate a specially crafted taste of Venice – a flavour that “has a slightly local taste of the seawater of the canal, removed of all its pollution, but still retaining something that is local and different from just a nice espresso that you would normally have”<sup>31</sup>. Although the taste of espresso is by nature local, as it relies on the use of municipal water coming from a region’s supply, the peculiarity of the Canal Café espresso derived from the fact that the water came from the urban centre. Oldani’s input was paramount in calibrating the salt contents and in returning minerals and other compounds to the water source before brewing.

### Conclusions: A New Scenography of Work

The Canal Café project offered insights into some of the human, ecological, and climatic complexities of water purification while demonstrating that no single “Brita-like” device can turn truly dirty water into clean. Instead, a number of processes and components had to be carefully aligned to bring typically unseen engineering systems into the public eye<sup>32</sup>. This also revealed the technical expertise that commonly goes unnoticed in such efforts. Moreover, the project served as a learning curve for the architects, engineers, and technical systems experts involved, all of whom benefited from this collaboration.

Whilst the architects learnt about the multiple trajectories of water and its complexity as an unstable, unpredictable, multi-scalar reality, the engineers had the unusual experience of exposing the mechanics behind the design – akin to making visible the mechanical rooms of a building. Making the installation’s tube transparent allows Biennale visitors to literally witness the dark, muddy water being pumped from the canal and then slowly processed through the various filtration systems, gradually getting cleaner and clearer until finally it became potable. As Diller notes, “This sort of disgust and delight was part of the idea. It’s not the most appetising thing to see, but

<sup>29</sup> Interview with David Allin, Teams, March 20, 2025.

<sup>30</sup> Interview with David Allin, Teams, February 27, 2025.

<sup>31</sup> For instance, the Battery Park City, the solar towers of the 40-story or 60-story skyscraper were given 130 square feet in the basement, and they remained fully invisible.

<sup>32</sup> Interview with Liz Diller, New York, February 5, 2025.

intellectually, you can understand that and take pleasure in the experiment”<sup>33</sup>. Experiencing that complexity, and realising how much work goes into transforming dirty water into safe drinking water, is enlightening.

We might, of course, question the installation’s tactics: Is this what is needed – a fancy espresso made from canal water – to raise awareness of the depletion of natural resources and the need to invent new water purification systems? Is this project turning Venice into a distant and abstract experimental setting for techno-engineering spectacles? Regardless of one’s opinion on this skilfully staged and technically coded espresso delivery, or on the didactic repertoire of communicating climatic issues, Canal Café convincingly pointed to ways of rethinking the working choreography of architectural practitioners at this time of climate emergency. Instead of providing a subjective interpretation of a single nature, the installation staged in full swing the “bifurcation of nature” amplified by the ecological crisis<sup>34</sup>. It demonstrated how water engineers became valuable collaborators, acted as spokespersons for local plants and water resources, and played a crucial role as skilful negotiators advocating for the project with city authorities. Thus, the collaborations initiated by Canal Café instigated not a new paradigm of working, but a concentration of collaborative processes. This example reinforced the need to assess the skills and competencies that architects will need to confront the climatic issues of tomorrow – skills that are becoming more complex, diversified, and respected.

Such projects are more relevant today than ever, as the architectural profession confronts the challenges of “the new climatic regime”<sup>35</sup>. The construction industry is coming to terms with the legacy of modernism that led to the extensive use of carbon-intensive materials based on extractivist methods, with their detrimental impact on ecological balance and communities at a global scale. Materials are becoming objects of incessant preoccupation as their harmful effects on health, well-being, and social imbalance is amplifying. Faced with the climate questions of the modern world, contemporary architectural practitioners feel the pressing need to fundamentally rethink and redesign their working methods and to remodel traditional patterns of collaboration.

The Canal Café example prompts us to investigate further: What kind of new material practices and investigatory tactics are at stake in the “laboratory” of architects in the “new climatic regime”? What fresh partnerships and collaborative dynamics need to be in place? What processes of experimentation can enable a construction based on low carbon, mobilising renewable plant and earth materials with circular life cycles? What processes of experimentation would reposition water and air, given their complexity, multidimensionality, and versatility, as full-blown elements of architectural compositions? What new role will be ascribed to architects if they are no longer consumers of off-the-shelf materials and technologies, but active agents in these self-sustaining cycles of technological experimentation? How will this fundamental change alter the relational dynamics in design practice and the wider social ecologies of the architectural and construction industries?

Approaching these questions with critical proximity, care, and respect can spare us the hazards of both climate scepticism and blatant activism while gradually paving the way to a thoughtful, responsible, and cautious reappraisal of the consequences of design in this time of climate emergency.

<sup>33</sup> See: Alfred North Whitehead, *The Concept of Nature* (Cambridge University Press, 1920).

<sup>35</sup> See again: Latour, *Facing Gaia*.