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Surface Tension: Venice and the Undercurrents of Mediation

How to move through a city that comes from the water as privileged frame of reference, that thinks every aspect of itself through the waterfront as access point, that has agreed on liquid grounds of supply and disposal, of spatial scarcity and temporal submergence. A city that has challenged its inhabitants and visitors to move and to sense otherwise while undeniably and irreversibly turning itself into everything that comes and goes with being one of the top destinations of globalized tourism. Who lives here, who walks here, who dares to swim, who needs to be carried?

Luce Irigaray famously challenged Martin Heidegger's notion of dwelling as critically reiterated toward aerial matter.[1] *Echoing Astrida Neimanis and their queering of Irigaray's elemental conversations, Venice urges me to ask what is at stake when dwelling on and with the liquid element.*[2] *The city facilitates water in its omnipresence as an infrastructural preset and as a resource. But not only in terms of it being the vital factor for carbon-based life, but rather of it being the solvent for an imaginary. That is the resource of water in contemporary Venice. A figuration of a picture opportunity and a brief but riskless adventure in getting lost in the lagoon maze. The cruise ships have been banned—so, fingers crossed, that at least Piazza San Marco is flooded while we are here.*

This is how my field notes from October 2021 during the Anthropocene Campus in Venice themed "Water Politics in the Age of the Anthropocene" began.[3] I would like to take

1 See Luce Irigaray, *The Forgetting of Air in Martin Heidegger* (Austin: University of Texas Press, 2001); See Martin Heidegger, "Building Dwelling Thinking," in *Poetry, Language, Thought*, ed. and trans. Albert Hofsdater (New York: Harper & Row, 1971), 145–61.

2 See Astrida Neimanis, *Bodies of Water: Posthuman Feminist Phenomenology* (London: Bloomsbury Academic, 2017).

3 The Anthropocene Campus Venice was organized by the Center for the Humanities and Social Change, Ca' Foscari University of Venice and the Max Planck Partner Group "The Water City" within the framework of the Anthropocene Curriculum by Haus der Kulturen der Welt (Berlin) and Max Planck Institute for the History of Science (Berlin), supported by the Federal Foreign Office of Germany. I would like to thank the organizers Cristina Baldacci, Shaul Bassi, and Pietro Daniel Omodeo for hosting a thought-provoking program in Venice and for gathering a vast variety of researchers, artists and practitioners. I remain utterly grateful for Heather Contant, L. Sasha Gora, and Ifor Duncan, the instructors of the seminar "Venice is Leaking: Interventions in the Lagoon-City Continuum" for providing a truly unique, engaging, and critical space of embodied research and exchange and for the generosity to make us participants part of their Lagoon ecosystem for a week that exceeded in many ways what one could wish for in any academic context. I would also like to thank the Cluster of Excellence "Matters of Activity" for the support and funding of my research stay in Venice by the German Research Foundation. After eighteen months of remote work and online conferencing due to the ongoing global COVID-19 pandemic, I followed the invitation to an in-person attendance in Venice that came with both

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them as a starting point to contextualize some broader questions when it comes to tipping points—a notion to indicate a critical and oftentimes irreversible change in a process, system, or network (choose your preferred relational vernacular) that brings about an unprecedented loss of stability. The following is an attempt to rephrase such tipping points through the frictions they engender and how we might conceive of the waters of Venice as a particular mediator of said frictions. As I will show, they allow me to tackle some aspects of the aquatic specificity of the Venetian lagoon as a matter of surface tensions and in terms of a logic I call compromised abundance.

Compromised Abundance

As epitome of the heteronormative romantic getaway, Venice provides a vast imaginary of what lovers can do on or by the water in order to make their trip worthwhile. The city has in fact capitalized on the liquid element by turning it into an asset that allows for yet another photo opportunity couples will take in gondolas, on bridges, during sunsets, and at outdoor dinners.[4]

While in Venice, I was in search of another coupling—the coupling of processes that bring about a complicated and troubling surplus, which I would like to introduce as "compromised abundance." Being one of the most visited tourist destinations in the world, Venice engenders such abundance on conflicting terms. Yet, it is responsible for a particular, commodified experience of the lagoon environment. What allows one to float? In the case of water, the properties that play out at the interface of two phases—liquid and gaseous—cause the water to minimize its surface area and prevent light objects with a higher density than water from submerging. This molecular phenomenon is called surface tension. While minimizing something (the surface), something else that allows for the stability and integrity of this surface (the tension) is increased. In tandem with the macroscopic principle of buoyancy that indicates that the upward force on a (completely or partially) submerged body is equal to the weight of the liquid displaced, floating is made possible.[5]

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the convenience and environmental impact of taking a flight from Berlin to Venice, renting an Airbnb and using vaporetti, the motorized water vehicles for getting around in the city as well as other touristic commodities. I decided to come to Venice because of the number of site-specific activities on, through, and with the water planned by the seminar instructors and co-conducted by Venetian residents and seminar participants.

4 In the following, I will focus on particular experiences of contemporary Venice that are engendered by touristic imaginaries and spatial circumstances that are site specific to the current anthropocenic lagoon environment. Therefore, I will not further investigate, e. g., the historical dimensions of power, trade, and the challenges of building a city on water nor elaborate on the multispecies communities of the lagoon. Nevertheless, they are as well matters of surface tension.

5 "Surface tension," *Encyclopedia Britannica,* https://www.britannica.com/science/surface-tension; "Archimedes' principle," *Encyclopedia Britannica*, https://www.britannica.com/science/Archimedes-principle.

This brief digression into fluid dynamics is far from being a mere metaphor for the waters of Venice. It allows me to trace how floatability is granted through displacement and how it prioritizes the neatness of a surface and while doing so, causes tensions to maximize and unfold as compromised abundance. In attuning to the material multitudes that make up Venice, this exercise of tracing floatability spells out a practice of care that intends to perceive of care as something beyond maintenance in that it lets go of the idea of material integrity.[6] In that sense, compromised abundance is both the diagnosis of a harmful dynamic bearing witness in the Anthropocene as well as a motive to unlearn predominant paradigms of materiality. Caring as brought forth by María Puig de la Bellacasa is a non-normative form of material engagement.[7] It entails acknowledging our complicity in the status quo but also the commitment to embrace unruliness, vulnerabilities, and impurities in an attempt at aspirational solidarity as Alexis Shotwell insists.[8]

At this point, a closer look into another imaginary of contemporary Venice is indicated—an imaginary that feeds from climate crisis and the realization of planetary urgency: tropes of globalized tourism, extinction, and ecocide, and consequently the attempt to defeat the elements through geo-engineering. Some of them can be subsumed under the denominator "toxic sublime," a term proposed by Jennifer Peeples in that they illustrate the contaminated yet visually conflicted sites of the Anthropocene: polluted waters, damaged landscapes, scenes of ecological disasters.[9] What should be added here and what also seems crucial in terms of toxicity is that these tropes are brought forth by a highly invasive and harmful—in that sense toxic—understanding of occupying and defining spaces through reinforcing the privileged modes and motives of the passivated materials of modernity. They themselves urge us to critically address our own research practices and their institutionalized presets as questions of extraction.

Critical theory work has come to terms with these definitory practices of Western universalism and how they attribute activity and passivity to matter, to bodies, and environments and the way they prioritize ways of worldmaking by operations of ignoring, displacing, and erasing other practices and knowledges. Kathryn Yusoff insists that "extractable matter must be both passive (awaiting extraction and possessing of prop-

6 Together with Gina Caison, I have argued elsewhere for such a practice of care as related to the waters of Venice through a site-specific walkshop intervention. See Gina Caison, Léa Perraudin, "To Carry Water: An Invitation to Move and Sense Otherwise," in *Venice and the Anthropocene: An Ecocritical Guide* ed. Lucio De Capitani et al. (Venice: Wetlands Books, 2022).

7 See María Puig de la Bellacasa, *Matters* of *Care in Technoscience: Speculative Ethics in More Than Human Worlds* (Minneapolis: University of Minnesota Press, 2017).

8 See Alexis Shotwell, "Complexity and Complicity: An Introduction to Constitutive Impurity," in *Against Purity: Living Ethically in Compromised Times* (Minneapolis: University of Minnesota Press, 2016), 1–20.

9 See Jennifer Peeples, "Toxic Sublime: Imaging Contaminated Landscapes," *Environmental Communication* 5, no. 4 (2011): 373–92.

erties) and able to be activated through the mastery of white men."[10] Emphasizing the obscuring operations of such acts of passivation, Macarena Gómez-Barris exposes the extractive view as facilitator of the "reorganization of territories, populations, and plant and animal life into extractible data and natural resources for material and immaterial accumulation."[11]

The following three vignettes on the aquatic specificity of the lagoon city are characterized by surface tensions that allow me to further operationalize what I mean by compromised abundance: they capitalize on an experience of flow and floating I am inclined to remain suspicious of.

Surface Tension: Displacement

As the world kept pouring visitors into Venice by docking cruise ships in the city center over the last decades, the conflicting scales that have been reinforcing the vulnerabilities of the water-land continuum became increasingly apparent. In pre-pandemic times, the city witnessed over twenty million visitors annually. On busy days the 50,000 permanent residents share the historical city center with up to 120,000 tourists who are roaming the squares, narrow streets and canals.[12] Through their presence, their gaze and their action they largely define how the urban space is used and navigated, creating a spatial matrix that intersects pollution and preservation, (material) exhaustion and prosperity. Consequently, the cruise ship and its wider infrastructural complex is a matter of surface tension. With the ultimate ban of larger cruise ships entering the city area as of August 2021 as well as the pandemic lockdowns that made global tourism come to a halt, the waters of Venice cleared up and temporarily looked different. Clear water in this case is not necessarily a sign of better water quality, it is rather due to the lack of water traffic that would usually cause the sediments to whirl up. Movement causes turbidity—and stagnation makes things surface in a particular way: The deserted streets, abandoned hotels, Airbnbs, and Biennale venues during lockdown unmistakably revealed that the city, by turning itself into a place that accommodates twice as many tourists than residents, had ultimately encouraged gentrification and privileged the use of space toward touristic needs while tolerating displacement of various other bodies.[13] The lack of touristic influx during the COVID-19 pandemic

10 Kathryn Yusoff, *A Billion Black Anthropocenes or None* (Minneapolis: University of Minnesota Press, 2019), 14.

11 Macarena Gómez-Barris, *The Extractive Zone: Social Ecologies and Decolonial Perspectives* (Durham, NC: Duke University Press, 2017), 5.

12 In comparison to a population of approximately 175,000 residents in 1951 and approximately 93,000 in 1981.

13 This kind of displacement equally applies to the transformation of local business spaces into temporal venues for the Venice Biennale and collateral events. Recently, the Austrian Pavilion of the 18th International Venice Architecture Biennale 2023 has critically commented on these processes of

due to global travel restrictions didn't cause much ease for the living situation of residents. As Venice's tourism dependent economic infrastructure stagnated, the strategically overlooked labor at the heart of making the lagoon city a consumable experience —cleaning, maintenance, and other services for tourist sites, transport, restaurants, and accommodation—revealed the presets of its invisibilization. COVID-19 reinforced precarious conditions of dwelling and working in Venice, with residents losing jobs and facing the threat of becoming unhoused while touristic accommodations remained abandoned during lockdown.[14] Due to the particular circumstances of the strict lockdowns that required residents to shelter in place and consequently caused a steady use of the domestic water piping system while the piping in restaurants and touristic accommodations remained mostly unused, a significant disturbance in the infrastructure of supply and disposal appeared.[15]

Another cause of displacement obviously is the liquid element itself that puts crucial challenges at the organization of residential and public spaces through increasing land scarcity and effects of climate gentrification. At the same time, the water carries with it the conflicting temporalities of these vulnerabilities. "Time" and "tide" have a shared linguistic history, the German *Gezeiten* (tide) is a remnant to this etymological proximity. An electronic display in the front window of Farmacia Morelli in Campo San Bartolomeo keeps track of the total amount of permanent residents in the historical city center. The constantly decreasing number is eerily connected to the slow creep of sea level rise and the steady touristic influx that caters to the logic of short-term stays, day trippers, Bienniale visitors, historic architecture appreciators, and weekend honeymooners.[16] At the end of May 2022, leaflets with nothing but the number 49,999 printed on them appeared in highly frequented areas of Venice. They served as an anonymously invoked warning sign for the decline in number of permanent residents

urban displacement and exclusion instigated by touristic monoculture and the spatial demands of Bienniale infrastructures. See AKT and Hermann Czech, *Partezipazione* (Vienna: Luftschacht, 2023).

14 Public housing is a contested subject in the residential politics of Venice. The project OCIO monitors the city's housing situation and its development since the mid 1990s. Currently, approximately two thousand public housing units are vacant, as ATER (the local government agency for residential building) reports. Most of them are deliberately left unoccupied or will be made available for tourist accommodations eventually. The complicated urban logistics of the lagoon, accompanied with high cost in maintenance and modernization in the historical city center as well as the status of Venice as UNESCO world heritage site pose a challenge at policy making. See "L'Osservatorio CIvicO sulla casa e la residenza – Venezia," OCIO, https://ocio-venezia.it/; See "Azienda Territoriale per l'Edilizia Residenziale," ATER, https://www.atervenezia.it/.

15 Many thanks to Rosella Alba for pointing that out during a conversation at the Anthropocene Campus Venice.

16 From April 1, 2024, day-trippers will have to pay a fee between 3 € and 10 € to enter the historic city center, depending on the season and crowdedness of the city. However, the introduction of this fee has been postponed several times.

that was estimated to happen during July 2022.[17] The admonitory 49,999 can be read as another tipping point for the city, that reduces the likelihood and possibility for an actual lived urban experience beyond touristic tropes.

In addition to these socio-political and spatial consequences that occur when things come to a standstill and cause displacement, surface tension in the aquatic specificity of Venice is closely tied to the phantasm of flow and frictionless transmission.

Surface Tension: Floating on Friction

Much has been said about the elemental forces of water. Hans Blumenberg's understanding of the open sea as sphere of the unreckonable and lawless, Gaston Bachelard's elemental musings on fluids as hormones of imagination, Michel Serres's philosophy of vortex and passages. They all stem from the idea of an unfathomable, yet universal aqueous space "out there" that—although being sensed and channeled—must fail to be entirely mapped and measured.[18] I share with them the sentiment that even when stagnant, water does not cease to be in transformation. However, it is neither my intention to reiterate the elemental universality of water, nor attempt to get hold of what water *is* but to seek for the frictions being carried out in the Venetian lagoon.

Most water bodies have been entangled in ongoing efforts of domestication or are at least significantly affected by human activity. These impacts include the accumulation of plastic waste in oceans, the increase of anthropogenic pollutants in oceans, the weaponization and privatization of water resources, as well as the reorganization and destruction of entire ecosystems through practices like damming, river engineering, and overfishing. One could easily make an argument about the multiple twisted naturalizations at work here.[19] It is striking, however, that it also seems to come naturally to make the connection between the ubiquity and existential dimension of water as compared to the ubiquity and existential dimension of data flow in technological infrastructure, of their supply and disposal. Scholarship has made sense of the apparent metaphorical and material connection between water and contemporary technological culture. John Durham Peters traces the cultural histories of flow and

17 See Campaign for a Living Venice, "49,999 residents: The blitz sounding the alarm about Venice," https://campaignforalivingvenice.org/2022/05/27/49999-residents-the-blitz-sounding-the-alarm-about-venice/.

18 Gaston Bachelard, *Water and Dreams: An Essay on the Imagination of Matter*, trans. Edith R. Farrell (Dallas: Dallas Institute Publications, 1983); Michel Serres, *Hermès V, Le passage du Nord-ouest* (Paris: Éditions de Minuit, 1980); Hans Blumenberg, *Schiffbruch mit Zuschauer: Paradigma einer Daseinsmetapher* (Frankfurt: Suhrkamp, 1979).

19 I have argued elsewhere for the conflicting temporal taxonomies of plastics as related to water, waste, and futurity, see Léa Perraudin, "Tales from the Great Pacific Garbage Patch: Speculative Encounters with Plastic" in *Müll: Interdisziplinäre Perspektiven auf das Übrig-Gebliebene* ed. Christiane Lewe, Tim Othold, and Nicolas Oxen (Bielefeld: transcript, 2016), 143–70, https://doi.org/10.1515/9783839433270-007.

connectivity in his philosophy of elemental media; Thomas Sutherland points out the ontologies of flux central to accelerated digital capitalism.[20] The liquid element proves to spread out evenly, self-consistent, transparent. Its materiality embodies the phantasm of absolute transmission. But things are becoming turbid as Venice itself reveals the messy backsides of the flowlike imperative of connectivity. Surface tension in tandem with buoyancy, as introduced earlier, allows for the pleasant feeling of floating. As I will show, it also constitutes a particular understanding of friction as commodity in the Venetian lagoon.

In her seminal book on global connection, Anna Tsing sheds light on what gives grip to worldly encounter: friction. She presents frictions as the overlooked and oftentimes contingent but constitutive factors of "interconnection across difference" in globalized capitalism.[21]

> Commodities seem so familiar that we imagine them ready made for us throughout every stage of production and distribution, as they pass from hand to hand until they arrive at the consumer. Yet the closer we look at the commodity chain, the more every step – even transportation – can be seen as an arena of cultural production. Global capitalism is made in the friction in these chains as divergent cultural economies are linked, often awkwardly. Yet the commodity must emerge as if untouched by this friction.[22]

Consequently, frictions must be considered integral for any production of commodities, yet this fact remains strategically disguised. So, how do frictions and commodities meet in Venice?

Most visitors begin their journey through Venice with the visceral realization that the vast majority of transport and travel is guided by waterways; while the only feasible means of land transportation is by foot—there are no motorized vehicles, bicycles, or other means of land transportation available in the historic city center. Bridges, stairs and narrow cobblestone alleys guide the path of trolley-equipped tourists to their accommodation. Some of them are organized along the waterfront, but oftentimes they are rather intersecting with the maze of waterways. Consequently, Venice greets its visitors with the bliss of a riskless adventure, a noticeable but harmless exhaustion that differs from the comfort of other well-organized city trips and renders friction itself into a commodity. This friction is characterized by a temporary deviation of the flow that water is intrinsically linked to. It serves as the opportunity to engage in an experience of an ambiguous spectacle all over the city.

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20 John Durham Peters, *The Marvelous Clouds: Toward a Philosophy of Elemental Media* (Chicago: University of Chicago Press, 2015); Thomas Sutherland, "Liquid Networks and the Metaphysics of Flux: Ontologies of Flow in an Age of Speed and Mobility," *Theory, Culture & Society* 30, no. 5 (2013): 3–23, http://doi.org/10.1177/0263276412469670.

21 Anna Lowenhaupt Tsing, *Friction: An Ethnography of Global Connection* (Princeton, NJ: Princeton University Press, 2004), 4.

22 Ibid., 52.

Flooded plazas and alleys are a common occurrence in Venice. Moreover, they are a welcomed iteration of consumable friction for many visitors to document an "authentic" experience of Venice. Walking through the city in body contact (or at least in uncommon proximity) with what makes this city unique—its waters—grants a photo opportunity not to be missed. Being considered as adventurous activities reframes these events of climate emergency as sideshow of disaster tourism. Colorful disposable rubber boots that are sold where the *acqua alta*[23] occurs and that serve as a quirky accessory further emphasize the transactional logic of the frictions (figs. 1, 2). The gadgets used to document such experiences—predominantly smartphones—themselves are subject to the unattainable imperative of connectivity attributed to both water and digital culture.

Street signs are rare in Venice. Additionally, the narrow, mazelike alleys increase the chance of getting lost; GPS works imprecisely and leads visitors who rely on gadget-based mobile navigation oftentimes to dead-ends or uncrossable waterfronts. Consequently, going astray has become part of the "authentic" touristic experience of the city—a favorable detour, another spectacle that feeds from friction. Images, goods, bodies of flesh and of water are migrating through the city. As of July 2022, the hashtag #Venice lists 16.3 million posts on Instagram. The energy consumption and data traffic for navigating and documenting the spectacle of the lagoon on the go is directly linked to the question of what is surfacing in this city. With water being both the asset for the romantic vista cliché as well as a commodity snapshot of friction, other attunements remain overlooked.

Surface Tension: Filtering the Tide

When it comes to accounting for the highly invasive anthropogenic impacts on the planet, technological fixes are oftentimes presented as a convenient and seemingly self-evident solution. However, in many cases practices of geo-engineering follow a biased logic of scalability. As Anna Tsing argues, scalability presents the promise "to expand without distorting the framework" while at the same time "by its design, covers up and attempts to block the transformative diversity of social relations."[24]

Venice resides on instable grounds in subsidence. Due to natural subsiding of the area and anthropogenic groundwater overexploitation in the twentieth century, paired with the continuous rise of sea level, over the last century Venice has lost approximately twenty-five centimeters in elevation.[25]

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23 *Acqua alta* refers to the occurrence of unusually high tides resulting in flooding, particularly in Venice and other coastal regions along the Adriatic Sea.

24 Anna Lowenhaupt Tsing, "On Nonscalability: The Living World Is Not Amenable to Precision-Nested Scales", *Common Knowledge* 18, no. 3 (2012): 505–24, 523, https://doi.org/10.1215/0961754X-1630424.

25 Luigi Tosi, Pietro Teatini, and Tazio Strozzi, "Natural versus anthropogenic subsidence of Venice," *Scientific Reports* 3, 2710 (2013): 1–9, 1, https://doi.org/10.1038/srep02710.

Fig. 1: Posing in disposable rubber boots at Piazza San Marco.

Fig. 2: Disposable rubber boots, ten euros per pair, Piazza San Marco.

Various conceptual models in geo-engineering over the last two decades attempt to make use of the aquifers below the city, in order to "inflate" the porous sediments with up to 150 billion liters of sea water and consequently to elevate the city.[26] Other concepts include liquified carbon dioxide as the substance to be injected that would additionally create a massive carbon sink below the city to store emissions.[27] Plans like these appeared over the years but submerged again. Currently, Venice is grappling with questions of uplifting mostly by creating ad-hoc micro elevations to manage pedestrian traffic, cat walks that are set up when the *acqua alta* hits.

Venice's prime example of a long-term project in local geo-engineering is MOSE (Modulo Sperimentale Elettromeccanico), an integrated system of rows of mobile gates that are installed at three inlets of the Venetian lagoon. The system is intended to protect the city temporarily from the high tides of the Adriatic Sea. The project has been in development for almost thirty years and is considered a questionable infrastructural and ecological endeavor with conflicting bureaucratic and economic interests. Various test runs have provided poor results in reliably preventing flooding, yet after the devastating effects of the *acqua alta* and the Sirocco storm surge in late 2019 the city worked toward having the system fully implemented by the end of 2021.

MOSE allows to filter water—albeit not primarily of its components but rather a filtering of the tide itself, its distribution and possibility condition. Therefore, MOSE is a filter along the lines of chaos and order, risk and convenience. This consequently results in filtering the lagoon environment and modifying it in terms of its biome as well as the distribution and use of land. This in itself has serious implications for how the city and its surrounding area of islands and salt marshes will ultimately be challenged by the crucial question of what is above and what is below water level. In my reading, MOSE imposes a hylomorphic understanding of matter while at the same time disregarding the fact of being exposed to the elemental force in its capacity to take and change form. With it being in the making for three decades, MOSE appears to be a sluggish symbol of the ecological crisis that needs to be accounted for. It presents practices of separation as enablers of change and understands them through the imposed action of the hand, as the story of Moses itself is framed in Exodus:

"Then Moses stretched out his hand over the sea, and all that night the Lord drove the sea back with a strong east wind and turned it into dry land. The waters were divided, and the Israelites went through the sea on dry ground, with a wall of water on their right and on their left."[28] What does such an understanding of the imposed action of the hand imply?

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26 Giuseppe Gambolati and Pietro Teatini, "Anthropogenic Uplift of Venice by Using Seawater," *Venice Shall Rise Again*, ed. Giuseppe Gambolati and Pietro Teatini (Amsterdam: Elsevier, 2014), 57–77, https://doi.org/10.1016/B978-0-12-420144-6.00005–4.

27 See Bernhard Schrefler and Bonacina, Cesare, "Possible CO2 Injection in Aquifers below Venice," *Revue européenne de génie civil* 9 (2005): 809–16, https://doi.org/10.1080/17747120.2005.9692785.

28 Exodus 14: 21–22.

Hands In and Against the Anthropocene

Throughout the three vignettes I have traced some aspects of the aquatic specificity of the Venetian lagoon as matters of surface tension. All three of them also present a particular understanding of conceptual and actual hands responsible for creating, maintaining, or resisting such surface tensions. The invisible labor that lies at the core of the infrastructural complex of globalized tourism is carried out by actual hands that clean, serve, care, repair, distribute, and transport all across the city. While taking snapshots and performing acts of navigating and documenting their surroundings through technological devices, visitors rely mostly on their actual hands to perform the task, engaging with conceptual hands in an exercise of deixis. Whereas geo-engineering and attempts at defying the elements heavily rely on the conceptual hand as a means of problem solving and mastery.

Manipulation, maintenance, handling—these terms are etymologically derived from the Latin, French, or English word for the upper extremity. They are intrinsically linked to a particular framing of technological evolution of the human species through tool use and the skilled deployment of the hand as brought forth by Ernst Kapp in 1877 in his early accounts of a philosophy of technology.[29] As paleoanthropologist André Leroi-Gourhan pointed out, technologies themselves can be understood as mechanisms of hominization. They occur through the liberation of the hand from being merely a means of transportation into one of grasping and manipulation and the liberation of the mouth from a means of grasping and manipulation into one of expression. By Leroi-Gourhan's account, in tandem they give rise to stabilized practices of shaping, handling, translating, and categorizing the surroundings and bring forth increasingly complex systems and conventions of language, knowledge, and archival.[30]

If we think of technology-environment-human relations in this particular way, we come about multiple practices of sensing, making, and dwelling in order to make a hostile place intelligible, stabilized, profitable—livable in the broadest sense. Livable for whom though? Critical research on the Anthropocene has tackled this conflicted story of proto-promethean control and mastery attached to a universalist understanding of humankind paired with an evolutionary and therefore oftentimes teleological understanding of technology.[31] It is deeply inscribed in the colonial-imperialist complex to apply a vocabulary of terrestrial-infrastructural progress that engendered the technological advancements of modernity. This vocabulary is then utilized in order to dis-

29 See Ernst Kapp, *Grundlinien einer Philosophie der Technik: Zur Entstehungsgeschichte der Cultur aus neuen Gesichtspunkten* (Braunschweig: G. Westermann, 1877).

30 See André Leroi-Gourhan, *Gesture and Speech*, trans. Anna Bostock Berger (Cambridge, MA: MIT Press, 1993).

31 See Jason W. Moore, *Anthropocene or Capitalocene? Nature, History and the Crisis of Capitalism* (Oakland: PM Press, 2016); Joni Adamson, "We Have Never Been Anthropos: From Environmental Justice to Cosmopolitics," in *Environmental Humanities: Voices from the Anthropocene*, ed. Serpil Oppermann and Serenella Iovino (New York: Rowman & Littlefield, 2016), 155–73.

guise the highly invasive and violent appropriation and exploitation of territories, bodies, and materials. The ongoing neo-colonial technocapitalist logic of extractivism reinforces these asymmetries, while *anthropos* appears as the well-trained planetary engineer whose success is granted by a vast tableau of system stabilizers at the cost of other bodies (and their labor, oftentimes conducted through hands).[32] But what about stability after all? There is in fact leaking all over the place. In that sense, many accounts of these histories of technology can be reframed as a historiography of cosmetics, in which a particular narrative of human mastery is accentuated. But the shortcomings of this kind of manipulation usually remain disguised, superficially concealed in yet another achievement of either skillful engineering or technological epiphany and therefore remain insensitive to other kinds of openings.

Liquid Handshake

Stacy Alaimo vigorously claims: "The Anthropocene is no time to set things straight."[33] What she calls "the impermeability of the western human subject"[34] directly feeds into the narrative of alleged detached mastery and its respective practices of stabilization. Being exposed and exposing oneself through other mediums and multitudes consequently entails a queering of these presupposed fixed and stable set-ups toward acknowledging environmentally embodied vulnerabilities in action. Think of leaking not as a threat but as occurring, as watery digits that might be reached out to (fig. 3). So, what does it take to engage in that kind of liquid handshake? That is, to think of the relation of surrounding and surrounded in a novel way. The troubling surplus in and along the Venetian waters that I have introduced as "compromised abundance" equally operates as a means of Anthropocene diagnostics as well as a motive to challenge the paradigm of passivated materiality. That also entails a perspective on care that emphasizes caring as, through, and for exposure and wetness. Obviously, this takes more than just showing open palms and taking action by applying quick solutions that reproduce the very same mode of operating that has caused the surface tensions in the first place. Obviously, this takes more than assuming the universal validity of other practices and departure points as they themselves are by definition activities in precarity and don't reside on stable grounds.

What could a hand do instead? Let's start with the willingness and commitment to carry. Together with Gina Caison, Maud Canisius, Camilla Bertolini, and Ifor Duncan, I

32 See Anna Tsing, "Earth Stalked by Man," *The Cambridge Journal of Anthropology* 34, no. 1 (2016): 2–16; Donna J. Haraway, "Tentacular Thinking: Anthropocene, Capitalocene, Chthulucene," *e-flux Journal* #75 (2016): 1–17, http://www.eflux.com/journal/75/67125/tentacular-thinking-anthropocenecapitalocene-chthulucene/.

33 Stacy Alaimo, *Exposed: Environmental Politics and Pleasures in Posthuman Times* (Minneapolis: University of Minnesota Press, 2016), 1.

34 Ibid., 5.

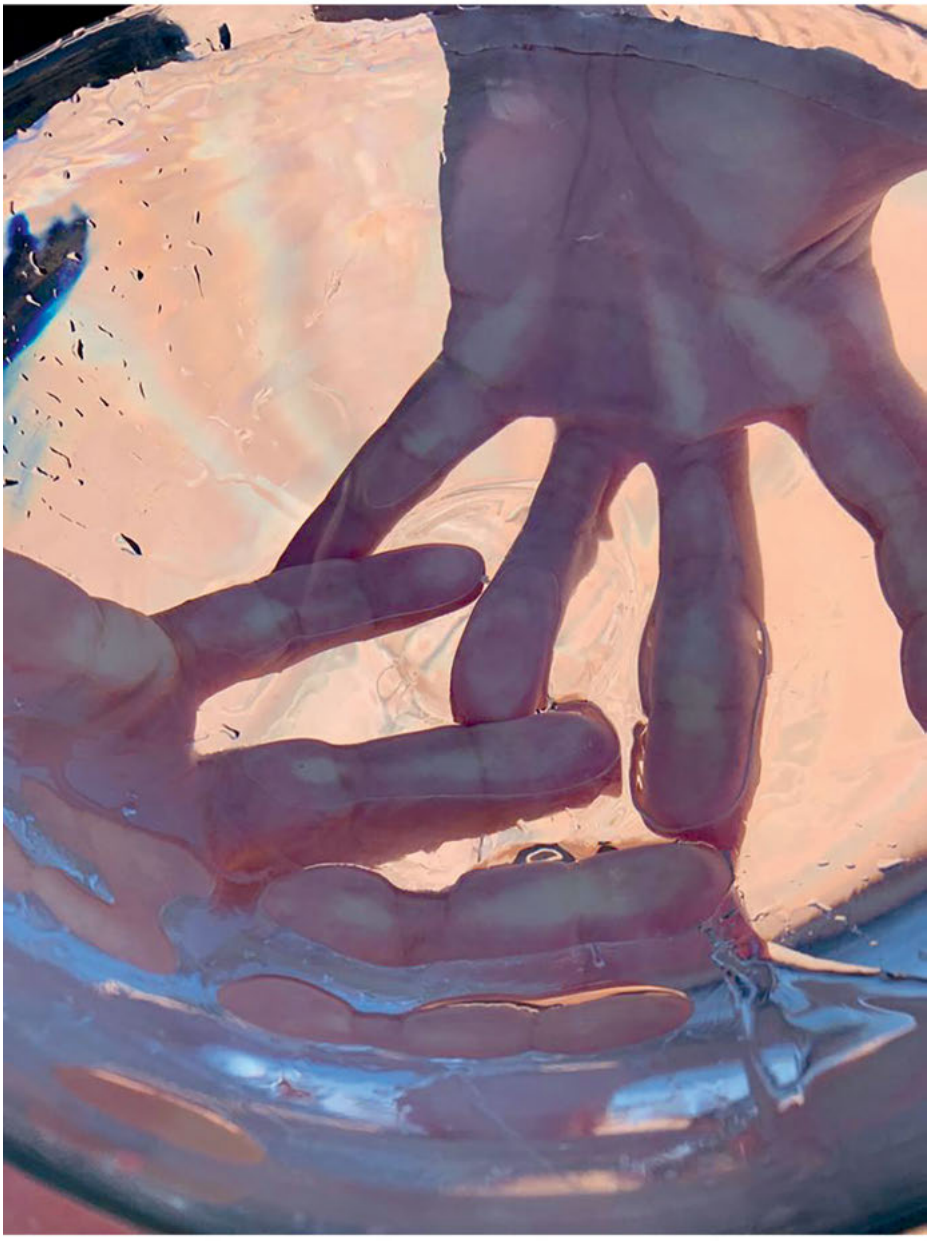

Fig. 3: Watery digits at the Venetian *sestiere* of Dorsoduro.

developed a walkshop exercise on carrying open water through Venice to engage in the activity of *walking as research*—a collaborative, material, and political practice.[35] As transcorporeal encounter, the mundane activity of carrying allowed us to tune into the effects of such a simple gesture on our movement, our senses, and the experience of our surroundings and vice versa—in short: to explore the way we carry ourselves while carrying water being carried by the waters of Venice. The communal act of carrying an open vessel filled to the brim with Venetian water through the city would soon lead to spillage as the vessel was passed between hands: liquid handshakes among the group, residents of Venice, and fellow nonhumans. This exercise in hydro-feminist kinship revealed that practices of displacement and filtering stick to the multiple bodies (whether made of flesh, compromised water, or creeping climate) in Venice. They manifested infrastructurally and transcorporeally as we decided to dissolve the tropes of blissful spectacle of this city (whether romantic or catastrophic) and simultaneously ushered a nuanced experience of friction in the lagoon environment.[36]

Carrying is caring. If care is thought of in this way, we also come to acknowledge via Neimanis that we ourselves are leaking bodies of water.[37] In that sense, any caring activity has to be conceived as something beyond maintenance, but an articulation, a way of thinking as Puig de la Bellacasa puts it, a joint exposure that makes a plea for spillage and wetness.[38]

I brought three bottles back to Berlin that I filled with different bodies of water available in Venice: lagoon, tap, store bought. Just from looking, one is unable to tell the difference between them and assess what their contents might cause when ingested. Two of them are considered drinkable, the other one is a polluted mix of salt water and fresh water. I assume that few would be willing to take their chances in picking the safe one (fig. 4).

35 This collaborative walkshop drew inspiration from a conversation with Astrida Neimanis during the Anthropocene Campus Venice and their foundational work on walkshopping together with environmental artist Perdita Phillips. See Astrida Neimanis and Perdita Phillips, "Postcards from the Underground," *Journal of Public Pedagogies*, no. 4 (November 2016). https://doi.org/10.15209/jpp.1181. For the broader methodological framework of walking as research and its material, performative and political implications as a queer, more-than-representational, and radical practice, see Stephanie Springgay and Sarah E. Truman, *Walking Methodologies in a More-than-Human World: WalkingLab* (New York: Routledge 2017).

36 For a comprehensive account of the walkshop activities in terms of spillage, exposure, and the futurity of post-Anthropocene thinking, see Caison and Perraudin, *To Carry Water.*

37 See Neimanis, *Bodies of Water*, 29.

38 See Puig de la Bellacasa, *Matters of Care*, 72. Together with Clemens Winkler, I have discussed elsewhere the uptake of care as a practice, motive, and commitment in humanities and design research discourse in terms of their shared *and* conflicting ways of worldmaking, institutional and material legacies, and argued for a nuanced reading of care as related to questions of li(v)ability. See Léa Perraudin and Clemens Winkler, "Designing with Care? A Pending Question," in *Material Trajectories: Designing with Care?* ed. Léa Perraudin, Clemens Winkler, Claudia Mareis, and Matthias Held (Lüneburg: Meson, 2023), 15–29.

Fig. 4: Three bottles: lagoon, tap, store bought

The question of what it actually means to be refreshed and replenished by a body of water, entails asking about availability, access, safety—immediate questions of privilege that in turn apply to myself, as I am residing in institutionalized spaces of academia, above water level, being minorly affected by pollutants in my surroundings. I am involved in another kind of surface tension during a research stay that is funded by the German Research Foundation while engaging in academic discussions and workshop activities conducted by Venetians and long-term residents in Venice. My time spent in the lagoon city is characterized by the attempt to move and sense otherwise.[39] *Yet, how deeply might one get submersed in a limited time; what is the measure of said depth and what is the medium of submergence? How do the waters of Venice mediate temporal frictions as they play out at the fringes of academic knowledge, material poetics and geopolitic realities? After rowing in the lagoon and swimming at Isola di Sant'Erasmo, after eating Salicornia and after taking a sip of compromised water, after writing about pollution, displacement, subsidence, care, and embodied practices of research, I still know little about the lived experience of Venice and speak from a position of convenience and choice of what I address and what I strategically or involuntarily overlook during a temporal stay. Through the well-planed framework of the program, I was granted access to many experiences that tourists* and *residents might never engage in. My first time in*

39 See Caison and Perraudin, *To Carry Water.*

Venice has been shaped by those experiences and simultaneously has left me mostly insensitive to this point of what makes up the aquatic specificity of the Venetian lagoon in terms of its history of wealth and power, and how water was rendered a mediator of practices of separation, violence, and extraction as they significantly contributed to what I encountered and need to be addressed as surface tensions themselves.

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