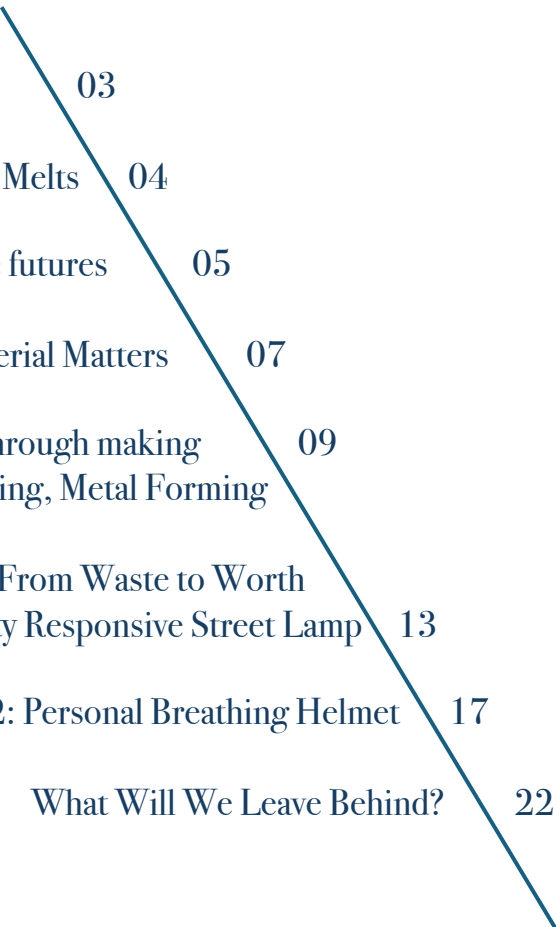


What We Will Need When The Ice Melts

Emir Elisa Rizzato

MA Craft – Edinburgh College of Art





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About me



Emir Elisa Rizzato is a multidisciplinary artist and craftmaker originally from Italy and currently based in Scotland. Her practice explores the evolving relationship between humans and the natural world, developing projects that investigate environmental issues through material-led making, speculative design, and critical craft. By combining traditional making techniques with contemporary environmental concerns, she aims to encourage dialogue and inspire more sustainable ways of thinking.

Working across glass, wood, and metal, Emir primarily uses reclaimed and discarded materials, including recycled glass, salvaged timber, and domestic waste, to explore themes of material agency, circularity, and ecological responsibility. Her practice is driven by the belief that waste is not an endpoint but a valuable resource capable of carrying history, meaning, and potential.

What We Will Need When the Ice Melts is the culmination of her MA Craft at Edinburgh College of Art. Through glassblowing, kiln-formed glass, woodturning, and metalwork, the project imagines a climate-altered future in which crafted objects become tools for adaptation. Rather than offering solutions, the work invites audiences to reflect on how today's environmental choices may shape tomorrow's realities, and on the role craft can play in promoting environmental awareness and positive change.

Prologue: If The Ice Melts

What We Will Need When the Ice Melts is a speculative craft project that explores how contemporary making might respond to a future shaped by climate change, resource scarcity, and environmental instability. Combining traditional craft processes with speculative design, the project investigates how making can function as both a form of production and a tool for critical inquiry. Rather than proposing solutions, it asks how crafted objects might encourage reflection on our relationship with consumption, waste, and the environmental decisions shaping our future.

The project is set in the year 2060, not as a distant science-fiction fantasy, but as a plausible future within the lifetime of today's younger generations. It imagines a world in which climate change has continued to be deprioritised and the environmental warnings of today have been largely ignored. Rising global temperatures, worsening air quality, increasingly frequent flooding, extreme weather, and diminishing natural resources have fundamentally reshaped everyday life. In this future, adaptation is no longer a choice but a necessity.

The objects presented throughout this publication are imagined as everyday artefacts from this altered world. They speculate on how people might adapt to new environmental realities while prompting audiences to question whether such objects could one day become necessary if current trajectories continue. Blurring the boundary between fiction and possibility, the project uses speculative craft to make abstract environmental issues tangible through material form.

Rather than concealing the origins of the materials, the project embraces their histories. Working with reclaimed and discarded resources reflects a commitment to repair, reuse, and transformation, while questioning conventional ideas of value and consumption. In doing so, the work aligns with wider discussions surrounding sustainability, circular material practices, and the role of craft in responding to environmental challenges.

Ultimately, *What We Will Need When the Ice Melts* is not an attempt to predict the future, but to provoke reflection on the present. It invites viewers to consider how today's choices shape tomorrow's realities, and it asks what we can still change before these speculative objects become everyday necessities.

Climate futures

This project is rooted in current scientific evidence rather than science fiction.

The speculative future presented throughout this project extends from environmental trends already being observed today. It asks a simple question:

What happens if current environmental trajectories continue?

The following data illustrates the challenges already facing our planet and provides the foundation for the speculative objects and the possible future presented in this project.

Air Quality

- 99% of the world's population breathes air that exceeds the World Health Organization's recommended pollution limits.
- Air pollution contributes to approximately 7 million premature deaths every year, making it one of the largest environmental health risks globally.



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 **World Health Organization**
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Main sources

- Fossil fuel combustion
- Transport emissions
- Industry and power generation
- Agriculture
- Household fuels and wildfires

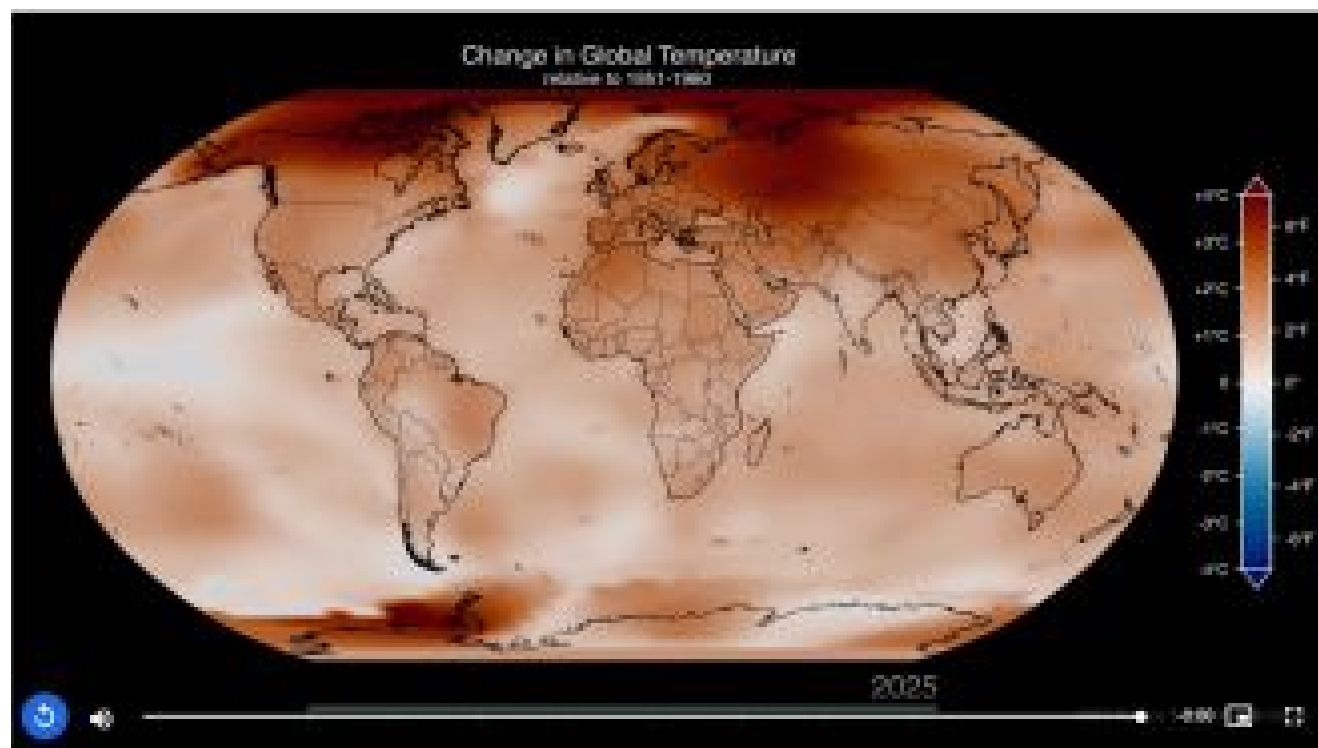
(World Health Organization, 2024)

A Warming Planet

Human activity has unequivocally warmed the atmosphere, oceans and land.

Global temperatures continue to rise as greenhouse gas emissions increase, driving widespread environmental change. Already observed impacts include:

- More frequent heatwaves
- Stronger storms and flooding
- Longer droughts
- Melting glaciers and polar ice
- Rising sea levels
- Increasing biodiversity loss (*IPCC, 2023*)



2025 global surface air temperature anomalies. <https://svs.gsfc.nasa.gov/60000/>
NASA/Scientific Visualization Studio

Waste and Consumption

The world continues to consume natural resources faster than they can regenerate.

Large quantities of materials are extracted, manufactured, discarded, and replaced despite many remaining suitable for reuse or repair.

This project responds by embracing reclaimed materials and the principles of the 5Rs:

Refuse • Reduce • Reuse • Repair • Recycle

(Circle Waste, 2020)

Why This Matters

Climate change and resource depletion are not isolated issues. Air pollution, fossil fuel use, waste generation, biodiversity loss, and unsustainable consumption are deeply interconnected.

Recognising this, the United Nations Sustainable Development Goals identify urgent action through:

SDG 12 – Responsible Consumption and Production

SDG 13 – Climate Action

These goals encourage societies to reduce waste, improve resource efficiency, and build more sustainable futures.

This Project

The speculative artefacts presented in this publication are imagined responses to these realities.

They are not predictions.

They are questions.

If we continue on our current path, what objects might become necessary?

Material Matters

The materials chosen for this project are not new; they already carry histories of use, production, and disposal. Rather than viewing these histories as limitations, I embraced them as part of the design process. Each object was developed using reclaimed materials, recognising that in a climate-altered future, waste is no longer something to discard but a valuable resource.

Reclaimed wood from felled trees forms the structural components of the work, preserving the marks, grain, cracks and imperfections left by its previous life. Steel recovered from a discarded washing machine provides durable metal components, demonstrating how everyday appliances can become sources of future materials through urban mining. Recycled glass bottles were melted and reformed into new components and bottle-glass frit became both functional and aesthetic elements, carrying visible traces of weathering, recycling, and transformation. These materials retain evidence of where they have been, allowing the finished objects to embody both past and future narratives.

Rather than purchasing new materials, I used what already existed, questioning whether discarded objects could be adapted before considering new resources. This approach reflects the circular material systems that will become increasingly necessary as raw materials become scarcer and environmental pressures continue to grow. Working with reclaimed materials fundamentally changed my approach to making. Unlike manufactured materials, reclaimed resources are unpredictable; they contain imperfections, inconsistencies, and evidence of previous use that cannot be designed out. Instead of resisting these characteristics, I learned to work with them, allowing the material itself to influence design decisions. The process became one of adaptation rather than control, where every mark, crack, and irregularity contributed to the identity of the finished object.

These materials have memories. By preserving rather than erasing their histories, the project demonstrates that value does not lie in perfection or newness, but in the ability of materials to be continually reimagined, repaired, and transformed for future use.



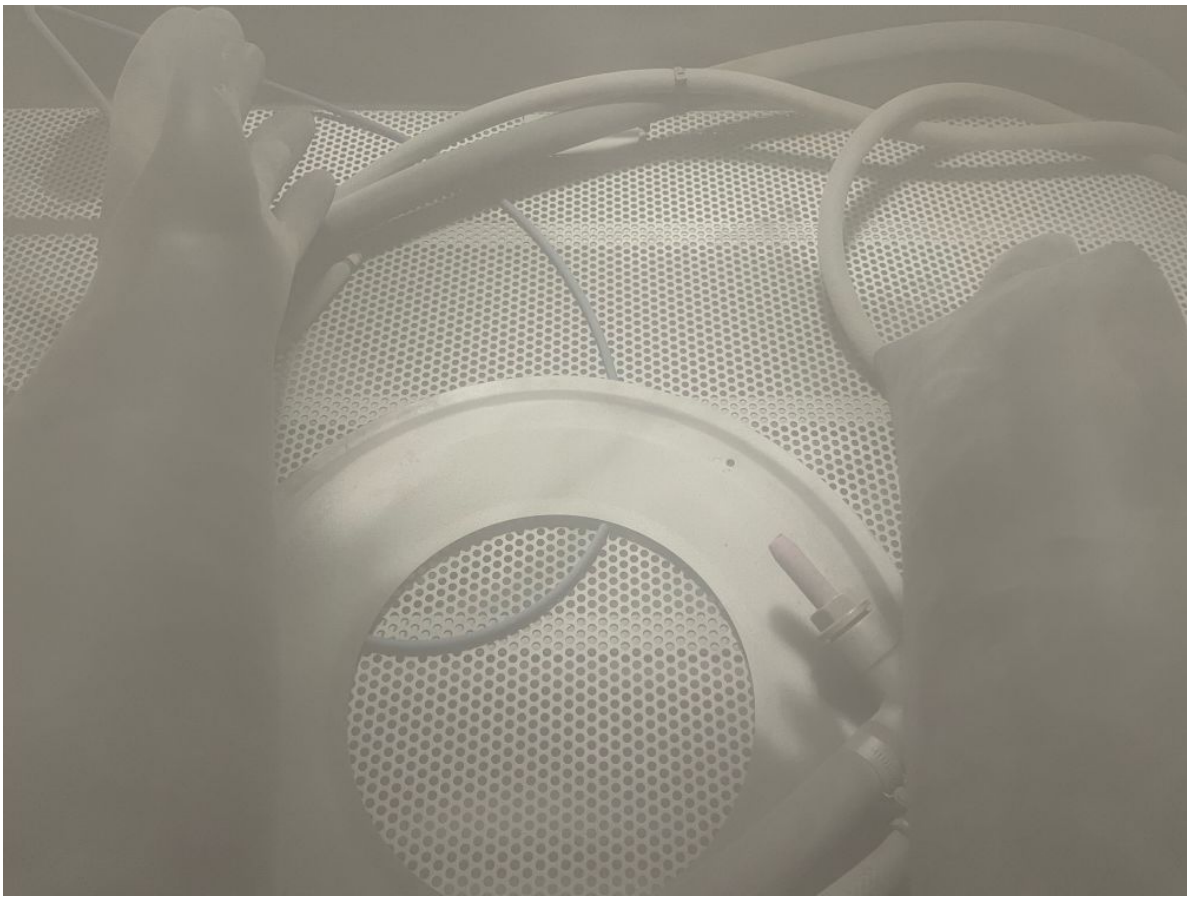


MADE FROM WHAT
WAS LEFT BEHIND

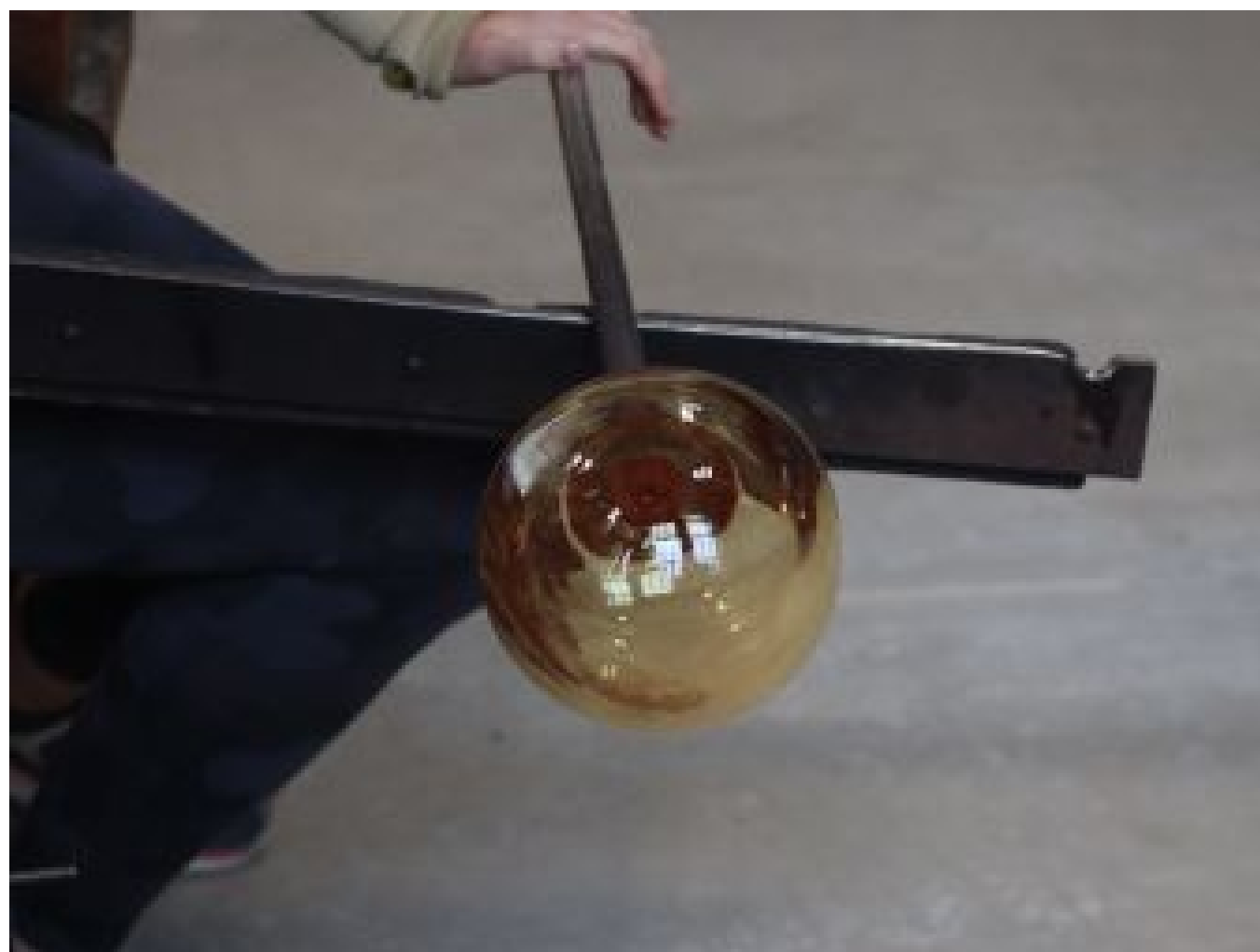
This project uses a practice-led approach, where making became the primary method of research. Through experimentation, iteration, and reflection, the objects evolved alongside the ideas that informed them.

Working with glassblowing, woodturning, and reclaimed materials developed tacit and embodied knowledge that could only be gained through practice. Rather than controlling the materials, I learned to work with their qualities and imperfections, allowing them to shape the design process. The workshop photographs document this process of learning through making.







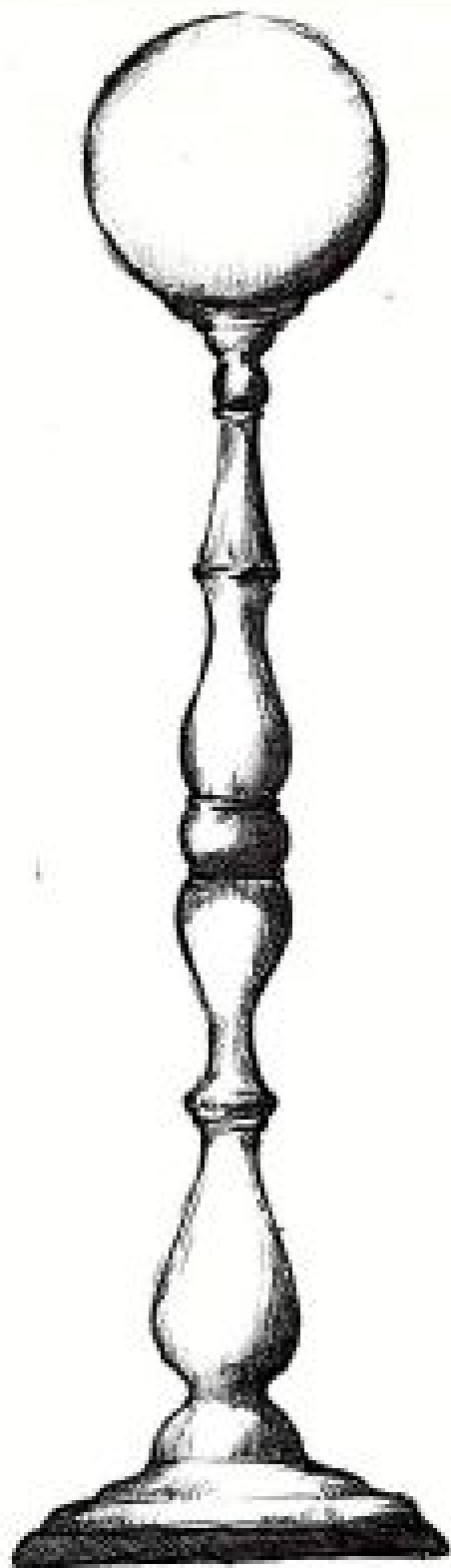


From Waste to Worth

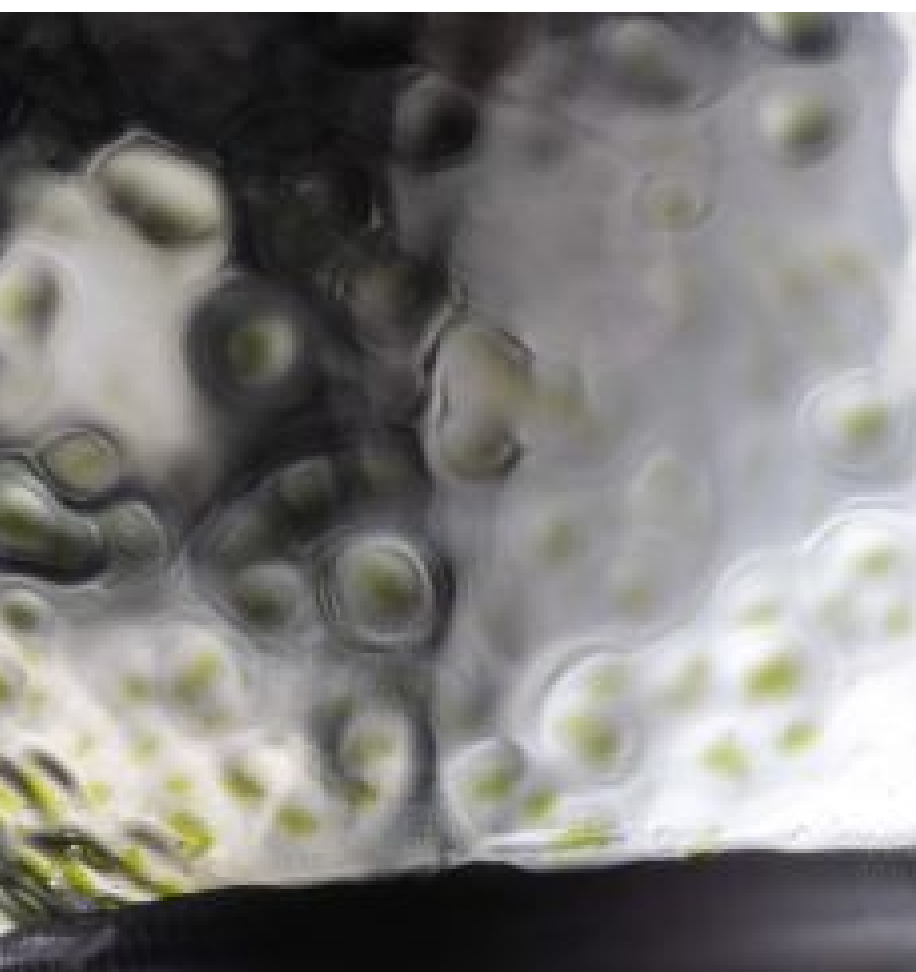


The Air-Quality Responsive Lamppost is a speculative public infrastructure designed to make invisible air pollution visible. In a future where hazardous air quality has become a daily reality, the coded light with the air quality sensor provides an immediate visual warning, allowing people to assess environmental conditions before going outside. Constructed from reclaimed timber, recycled glass, and steel recovered from discarded appliances, the lamppost reflects the project's commitment to circular material practices. Its materials demonstrate how waste can be repurposed into essential public infrastructure for a climate-altered future. The object is powered by an Arduino controller connected to an air-quality sensor that continuously monitors airborne particulate matter. Sensor readings are translated into a colour-coded LED system, communicating changing environmental conditions through light: green indicates safe conditions, amber signals elevated pollution levels, and red warns of hazardous air quality. Rather than reducing pollution, the lamppost makes atmospheric conditions visible. It transforms environmental data into a public warning system, encouraging awareness and adaptation within everyday urban life. The structural components, electronics, and sensor system work together to communicate invisible environmental hazards.







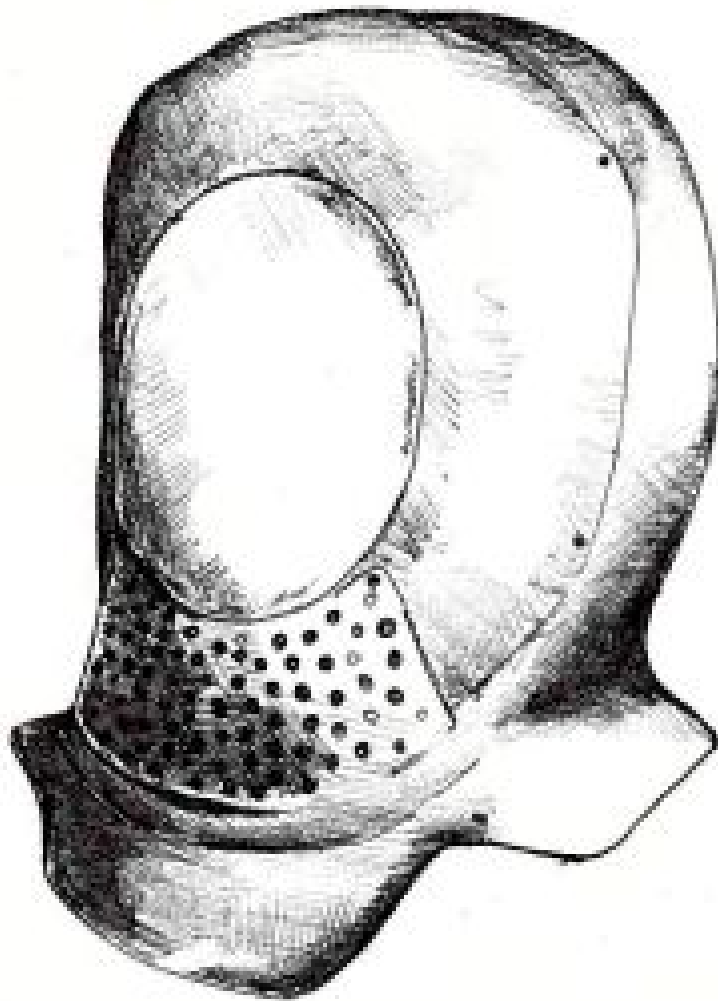


The Personal Breathing Helmet imagines a future where respiratory protection has become an essential part of everyday life. Designed for a climate-altered world, it responds to increasing air pollution, wildfire smoke, and airborne contaminants by proposing a wearable object that enables safer movement through hazardous environments.

The helmet is constructed from reclaimed washing-machine steel and recycled green bottle glass, demonstrating how discarded materials can be transformed into valuable survival equipment. The green-glass visor reduces solar glare while offering partial protection from intensified UV radiation, and the enclosed form houses a replaceable filtration system that supplies the wearer with filtered air.

Rather than presenting a commercial product, the helmet functions as a speculative survival object. It is intended to provoke discussion about the future of environmental adaptation and the consequences of climate change. By combining reclaimed materials with traditional making processes, the object questions how design, craft, and resourcefulness may become essential tools for survival in a future where clean air can no longer be taken for granted.











*The future does not arrive all at once.
It is built from the choices we make today.*

What will we leave behind?

This project demonstrates how speculative craft can encourage environmental awareness by transforming future climate scenarios into tangible objects. Rather than offering solutions, it invites audiences to imagine the consequences of present-day decisions and reconsider the materials, objects, and systems that shape everyday life.

Through making with reclaimed materials and designing speculative survival objects, I have explored how craft can become a tool for questioning, provoking discussion, and imagining alternative futures. The work is not intended to predict what will happen, but to ask what could happen if our relationship with the environment remains unchanged.

If these objects became necessary, what choices did we fail to make?

