Introduction

This book calls for new standards through a more ethical, eco-sentient and anti-racist use of technology in the field of art (Mohanty, 2003; Tsing, 2015; Vergès, 2021; Tungstall, 2023). It builds upon an artistic research project with the title Feminist Hacking: Building Circuits as an Artistic Practice (PEEK AR580), an international and art-based research project that ran from March 2020 to November 2023. Feminist hacking is here understood as a method involving an intensive knowledge-sharing process, through workshops and other forms of exchange, which encourages peer-to-peer learning. Drawing upon the experience of queering technology through feminist hacking, an artistic research team set out to decolonise technology using feminist hacking. Our peers are mainly 'women', meaning cisgender and transgender women, as well as non-binary individuals who are marginalised in the technology and art field. Furthermore, feminist hacking was used in this project to gather knowledge on mining, extraction, contamination, conflict and exploitation. Speculative methodologies were employed to promote more sustainable hardware production methods within the realm of art.

In this way, the Feminist Hacking project – hosted at the Academy of Fine Arts Vienna by Patrícia J. Reis, Taguhi Torosyan and Stefanie Wuschitz – wanted to challenge the normalising extractivist narratives prevalent in technology. For this reason, the research team worked with activists, critical makers and artists to produce hardware, rather than producing hardware with professionals from the hardware manufacturing industry. One of our strongest partners in this project was the feminist hackerspace and art collective Mz* Baltazar's Laboratory, based

in Vienna, Austria. All members of the research team were part of the feminist hackerspace collective, and their previous experience with the community positively informed and shaped this project.

After producing this 'feminist hardware', the team organised workshops to teach participants how to create the hardware themselves, using circuit building as a core methodology for artistic practice. During the workshops, participants were asked to unpack, question and subvert traditional power structures within the field of technology through speculative prototypes inspired by the notion of feminist hardware (Wuschitz, 2020). The project also provided different platforms (artist and citizen science workshops, online conferences, GOSH and GitHub contributions and a Feminist Hardware Festival) for participants to share their unique perspectives, ideas and experiences. Ultimately, the project goal was to raise awareness of alternative commodity chains and more decentralised, ethical, sustainable and thought-through forms of manufacturing electronics. In short, forms that align with values of de-growth.

De-growth prioritises global, social and environmental justice over the overconsumption-based profit maximisation of a few. In practice, de-growth stands for a transformation from extractivist economic models to circular economic models that consider ecological limits (Heron & Eastwood, 2024).

Through circuit building as an artistic practice, participants questioned and subverted the status quo of technology production and expressed their unique visions through their choice of materials and sources. These materials encompass alternatives that are biodegradable, including those derived from plants, upcycled resources and urban-mined materials, which are not typically used in hardware manufacturing processes. Through our

Ethical Hardware Kit: action in the forest by Patrícia J. Reis and Stefanie Wuschitz, 2023
Photo © Janine Schranz

Concept and design: Patrícia J. Reis and Stefanie Wuschitz, in collaboration with Media Design students (Hackerspace Cultures) of the University of Arts in Linz, Austria – Melanie Steinhuber, Petra Francesca Weixelbraun, Florian Winkler, Alba
Curatorial work: Patrícia J. Reis
Textile design: Erika Farina
Contributors/experts: Gameli Adzaho, Seyram Avle, Milton Raggi, Mariá Antonia González Valerio, Saad Chinoy, Ira Agrivina, Hannah Perner-Wilson, Rajina Shresta

practice and feminist hardware workshops, we also addressed a prevailing gender bias within the maker community and a lack of representation of non-binary and female-identified tech developers (Abbate, 2012; Wuschitz, 2014; D'Ignazio & Klein, 2020; Kohei, 2024). The Salon of Open Secrets interview and workshop series (presented in Part 2 of this book) is an example of how the project addressed this gender imbalance and the under-represented groups. To foster community building and facilitate knowledge transfer in this domain, we extended invitations to various non-binary and female-identified media artists and researchers. They were invited to discuss their work, career challenges and struggles, and to impart insights by sharing some of their 'secrets'.

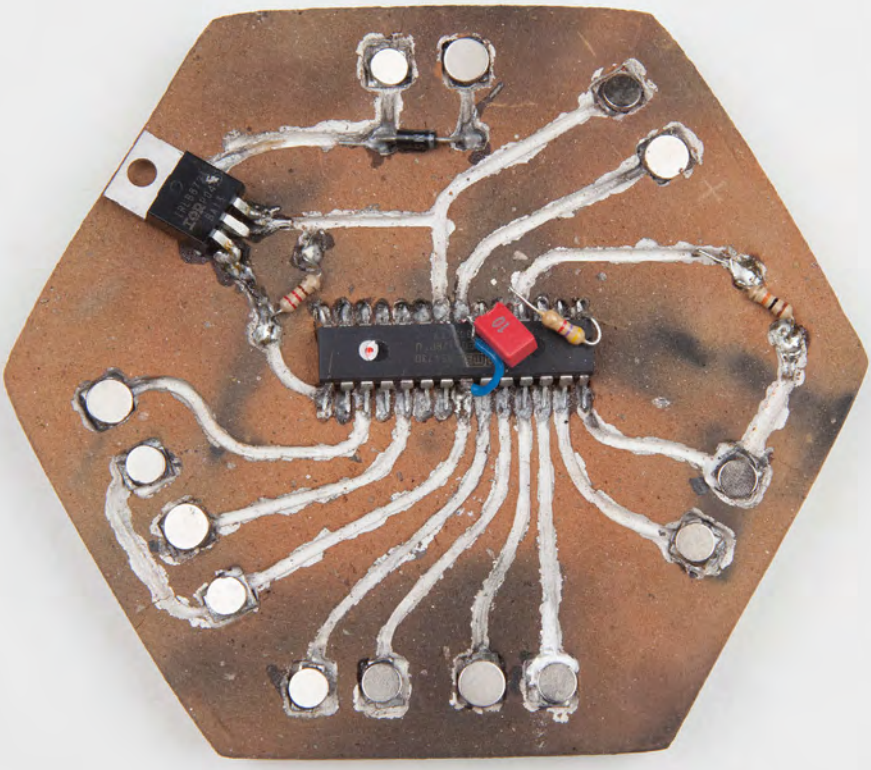
Giulia Tomasello and Arianna Forte, in conversation with Patrícia J. Reis and Stefanie Wuschitz, 2022

Through the workshop series, the project aim was to create a safer and more inclusive space for makers of FLINTA (women, lesbians, intersex, non-binary, trans and agender) genders to share their approach to the intersection between art, technology and material science. By bringing together a diverse range of voices and perspectives from different age groups, the project sought to inspire more people to speak up and become active, and to forge a shared vision of green, economically just and decolonial de-growth. The project uses the practices of local communities of feminist artists, activists, technologists and feminist hackers around the world. In particular, we invited and worked with Hannah Perner-Wilson, Ira Agrivina, Erika Farina, Rajina Shresta, María Antonia González Valerio and Seyram Avle, and our allies Saad Chinoy, Milton Raggi and Gameli Adzaho, Julian Chollet, Heinz Lackinger and Daniel Schatzmayr, among others. The three-year research project at the Academy of Fine Arts Vienna embraced different tactics to create a more inclusive, critical and diverse tech community and to speculate on the future production of ethical hardware.

The aim of this book is to provide a comprehensive overview of several projects that apply trans-feminist hacking in ethical computing.

Firing the natural clay during the workshop with Heinz Lackinger at Donnerskirchen, Burgenland, Austria, November 2022
Photo © Patrícia J. Reis

The book is divided into three parts: Part 1 introduces the methodology and literature review underpinning our project, including an exploration of key concepts such as feminist hardware and trans-feminist hacking. Part 2 presents the practical outcomes of the artistic research, from the preliminary research phase to the final results. We look in detail at the Ethical Hardware Kit, Clay PCB and Coffee Table. These projects emerged within the framework of the arts-based research project Feminist Hacking: Building Circuits as an Artistic Practice. Part 3 introduces the network of contributing allies, who are part of an interdisciplinary and international community of activists, artists and trans-feminist hackers. It introduces the interactive storytelling game Salon of Open Secrets, its citizen science aspect and the Feminist Hardware Festival.



Patrícia J. Reis and Stefanie Wuschitz,
Clay PCB, 10x10 cm, natural clay fired in
wood fire, silver, electronics
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