



## ***Recrafting the Internet:***

*Essays and reflections based on  
Roundtables held as part of the  
V&A Digital Design Weekend, 2024.*

**Edited by Justin Marshall,  
Jon Rogers & Jayne Wallace**



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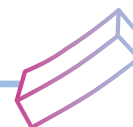
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# The hiCraft Team

## Principal Investigator – Professor Justin Marshall

Justin is Professor of Craft and Digital Making based in the School of Design, Art and the Creative Industries at Northumbria University. For over twenty-five years he has been investigating the integration of digital design and production technologies into craft practices. More broadly he is interested in how craft, as ethos and practice, can have value in collaborative multidisciplinary research projects, bringing a new lens to subjects that are beyond the normal bounds of craft practice.

## Co-Investigator – Professor Jon Rogers

Jon is a Professor of Creative Technology in the School of Design, Art and the Creative Industries at Northumbria University. He takes a very hands-in approach to understanding human relationships with emerging technology by making things that help to uncover as yet untold stories of how our relationship with the internet and related technologies might unfold.

## Co-Investigator – Professor Jayne Wallace

Jayne is Professor of Craft, Digital Creativity and Wellbeing in the School of Design, Art and Creative Industries, at Northumbria University. As a jeweller and a researcher most of her work has been concerned with the establishment and development of digital jewellery as meaningful forms of object – things that connect us to each other and ourselves in gentle ways across a range of human contexts. She is passionate about the poetic and relational qualities of jewellery; of working with people in creative and dialogical ways; of craft as a methodology in a complex digital culture and of the potential of thinking through making and finding meaning through making.

## Co-Investigator – Dr Nick Taylor

Nick is a Senior Lecturer in Human-Computer Interaction in Open Lab at Newcastle University. His research sits at the intersection of design, technology and society. He is particularly interested in: how technology can support neighbourhoods and communities, especially for civic engagement - designing a trusted Internet of Things (IoT) by embedding values including privacy, openness, decentralisation, inclusion and literacy - making, DIY and craft approaches to technology - participatory methods combining a range of approaches from speculative design to long-term deployments of functioning prototypes 'in the wild'.

## Research Associate – Dr Philip Heslop

Phil has a rich and varied history in Human Computer Interaction, Internet of Things, Informatics, Data Visualisation, Computer Graphics, Virtual Reality and Games. He is interested in engaging and empowering populations - especially the digitally marginalised - to understand and utilise the technology that impacts on their lives, in particular within the areas of health and wellness, education and engagement with society. He is interested in working alongside participants, academics and industrial partners to enable, teach and develop technology-enabled experiences that deliver engagement and empowerment across a wide range of platforms.

## Research Associate – Dr Jayn Verkerk

With a background in graphic design practice and the broader visual arts, Jayn's research investigates the human experience of black-boxed digital technologies through critical making and co-design. Previous research translated online interactions into crafted textile outputs. Investigations into the digital imaginary of the cloud resulted in physical artworks that reflect on the ethics of digital industries and online connection in the context of media histories.

# Introduction

By Justin Marshall

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hiCraft was a 3 year AHRC funded project (completed in February 2025) and based in the Northeast of the UK. The overarching question we asked was;

*‘How can we define and foster a healthy relationship between people, the internet and things: using the ethos and practices of craft, informed by knowledge within the humanities, augmented with technical know-how and leveraged by creative, participatory and collaborative activities?’*

Through a range of activities that spanned commissioning makers, practice-based research, extended deployments, citizen collaboration and expert engagements we sought to achieve a deeper understanding of how differing characteristics within our craft ethos have value and relevance when engaging with concerns about trust, bias, transparency, privacy, security, legibility and agency within the current structure of the internet. The central ethos that this research sought to embody was defined by craft thinking and doing, embracing notions of:

## Localism & Provenance

*Focusing on the locally attuned, not global ubiquity and recognising the value of knowing where things come from.*

## Personalisation & Bespokeness

*Aiming at the particular rather than the general.*

## Materiality & Embodiment

*The importance of material engagement as a way of knowing and the significance of our somatic/physical/ bodily experiences.*

## Lived experience

*Thinking and doing being tethered to lived experience and the insights gained through the physical engagement with something – living with and through things.*

## Authenticity

*Valuing ‘honesty’ in terms of both material expression and explicit function.*

## Care

*Expressed as both careful skilled making and as a political act/position.*

## Active

*Championing active creation over passive consumption.*

## Sensitive Responsiveness

*Recognition of the unpredictability, complexity or messiness of a situation and the potential to improvise, being responsive rather than interventionist.*



More details of these characteristics, and descriptions of some of the subprojects undertaken within the hiCraft project, can be found in the accompanying poster pack and on the hiCraft website.

The essays in this book are born out of a roundtable event that was run as part of V&A Digital Design Weekend within the wider London Design Festival in 2024 hosted by Jon Rogers and myself. Films of this event can be found in the 'Outputs' section of the hiCraft website.

To bring fresh perspectives to our craft-oriented proposition we sought to curate an event made up of a diverse set of experts that were, in one way or another, 'outsiders' - outside the hiCraft project - outside the craft sector - outside internet studies - outside academia - outside the UK. These were; American designer and researcher Amy Elliot, Serbian researcher and artist Vladan Joler, Indian designer Neha Singh, Dutch social designer Geke van Dijk and historian Andrew Prescott.



Figure 1. Entangled Threads workshop TEI 2024

The hiCraft project did not come out of a vacuum. Through a range of previous projects and activities over the last decade we have been exploring how craft thinking could bring a fresh perspective to debates and concerns about IoT and the internet more broadly. Along the way we met and, in various configurations, worked with each of the five presenters. Jon Rogers met and worked with Amy Elliot while seconded to the Mozilla Foundation to lead a research programme into the IoT. Bringing a critical interest in the intersection between technology and society Vladan Joler, alongside Jayne Wallace and myself, were invited to participate in an exploratory trip to rural Goa focusing on IoT and decentralisation using craft as a lens. This was curated by Jon Rogers and hosted by the Quicksand design agency of which Neha Singh is the Creative Director. As a socially engaged and user-centred design practice Quicksand recognise the value of craftsmanship and working with communities to develop locally appropriate responses to design challenges. Geke van Dijk is co-founder and Strategy Director of STBY, an agency who specialise in design research for meaningful and positive societal change. Alongside Bas Raijmakers, the Creative Director, we have met in both academic contexts and at Mozfest, Mozilla's long running festival focused on building a better internet. As previous AHRC Theme Leader Fellow for Digital Transformations, Andrew Prescott has been a collaborator, champion and critical friend of the research we have undertaken for a number of years. I have shared a panel session with him at the Dundee Design Festival and he worked with Jon Rogers on the 'Crafting our Digital Future' publication developed out of an exhibition of research-oriented connected devices as part of the 2015 Digital Design Weekend at the V&A.

**Dr Ame Elliott's** piece draws on powerful metaphors from ecology to emphasise and make tangible the developmental trajectory and current state of the internet. She uses the example of the historic destruction of first growth Giant Redwood forests of California and the commodification of the rich and complex ecological and socio/cultural web that are forests into simply -timber- with easily quantitative economic value, as a way of highlighting concerns about the way in which rapid and rampant commercialisation and 'applification' has impoverished our experience of the internet. She draws on the work of Farrel and Berjon and their call to 'Rewild the Internet' to discuss an alternative vision and raises key questions which she argues need addressing in order to shape "a shared story of where we want to go".

**Professor Vladan's Joler's** piece is based on a transcript of a conversation with Jon Rogers. They discuss how systems of standardisation and classification have been used historically as mechanisms of power and control. He argues that current AI perpetuates this mechanism and represents an "age of statistical reasoning" where truth becomes probabilistic. He traces how classification systems, from Linnaeus's racial categorizations to modern facial and emotion recognition, have served as foundational rationales for colonialism, inequality and oppression.

Vladan recognises that while standardization is valuable in engineering contexts to allow repeatability and interoperability, applying rigid classifications to human emotions, behaviour, and identity is fundamentally flawed - humans exist in complex multidimensional spectrums, not simple binaries. These systems are always developed from positions of power and tested on marginalized groups.

Linking his concerns about how we are accelerating towards an unknown future in which forms of classification, standardisation and probabilistic statistical reasoning, powered by ever larger and more expensive AI systems, to hiCraft's proposition, he argues that; "Craft is needed in order to prevent this completely wild machine that has the capacity to do hyper-production of texts, of images, of meanings. We need to fight this mass production of statistically produced things with individuality, with craft".

**Neha Singh's** piece examines how digital technologies can better serve rural Indian communities by respecting local knowledge rather than replacing it. Using farming tools as a metaphor, the author contrasts open, repairable technologies with today's closed digital devices that ignore indigenous expertise.

Her essay presents three co-designed solutions from the Decentralising Digital project (<https://www.decentralising.digital/>): a voice-activated children's coding kit honouring oral traditions, a digital farm sensing tool that enhances rather than replaces farmers' tacit knowledge, and decentralized mesh networks using local materials, giving communities data sovereignty. These participatory design approaches demonstrate how digital technology can amplify local wisdom instead of imposing urban-designed solutions. Neha's essay argues for crafting IoT technologies that are contextually relevant, materially meaningful, open, and community-governed - creating digital ecosystems that serve diverse needs rather than market opportunities.

**Dr Geke van Dijk's** essay explores how some of the craft principles from our hiCraft project - Active, Personalisation, Localism, Authenticity, and Lived Experience - manifest in everyday technology use. Drawing on sociologist Michel de Certeau's concept of "tactical usage," she proposes 'tactical making' as a framework for understanding how people actively reclaim autonomy from big tech's dominance.

She illustrates 'tactical making' in action: podcast creators crafting personal stories, design researchers creating exploratory tools, repair cafés fostering community resourcefulness, and democratized maker spaces in libraries enabling experimentation. While these examples may not all be aligned directly with the creation of new forms of IoT or explicitly improving internet health, these practices show people as active producers, not passive consumers, using technology as a resource for expression, learning, and social connection. They are valuable demonstrations of how our craft principles can meaningfully play out in real-world contexts in which people and communities can actively and creatively shape their own worlds.

While recognising that the 'strategic' design of platforms and services by global tech companies dominate our current experience of digital technology, Geke argues that hopeful undercurrents of creative, localized technology use do exist, and through building greater awareness and education 'tactical making' can flourish.

As a historian **Professor Andrew Prescott** draws parallels between today's "polluted" digital landscape and the environmental degradation of the early Industrial Revolution.

Citing 19th-century thinkers like Coleridge, Arnold, and William Morris who championed culture and craft against mechanization and commercialization, he argues that we need similar resistance against big tech's monopolies, misinformation, and algorithmic manipulation. Using lurid descriptive quotes and impassioned pleas from these writers he captures both their concerns about rapid industrialisation and their aspirations for alternative visions of a healthier society and environment. However, he gently critiques their utopian views through citing renown studio potter Michael Cardew who writing in the 1970s still recognised the potential for meaningful human labour and craft working within factory contexts. He draws parallels between this view and the approach taken by the hiCraft project, which rather than taking a dogmatically anti-digital technology stance, seeks to provide examples of ways in which a craft ethos can be embodied into less extractive and harmful forms of connected devices.

# Rejecting the Monoculture of Digital Spaces: Considerations for Rewilding the Internet

By Ame Elliott

The San Francisco Bay Area on the west coast of the United States is home to Silicon Valley's Big Tech companies – including Alphabet (Google), Apple, Meta, and more. The physical and cultural context that produced this structure of consolidated wealth and power can be referred to as a “tech ecosystem.” This ecosystem metaphor, with connotations of harmonious co-existence according to some natural process, obscures some deeper lessons from exploring the natural environment. Metaphors of physical ecosystems – that is forests, harvests, logging, planting, and rewilding – offer lessons for understanding the dire state of the current internet.

## Appreciating old growth

Less than an hour from Apple's headquarters, Big Basin State Park is home to redwoods, some of which are older than 2,000 years. An exuberant brochure of the 1940's promotes trees that germinated “when St. Paul was in prison” and were seedlings during the destruction of Pompei by Mt. Vesuvius.<sup>1</sup> With these euro-centric benchmarks, notably overlooked are 10,000 years of inhabitation by the people of the Ohlone tribes. The majestic trees of the old growth forests were described in writing by colonial settlers, first Spanish, then Anglo-American. Photographic evidence shows just how large the remaining old-growth trees were.

Figure 1. 1891 photo by C.C. Curtis of a massive tree felled in California.<sup>2</sup>





Almost all these trees were cut down, fuelling the boom-and-bust cycles that continue as a feature of life in the region. Forests were turned into *timber*. Timber, a collective noun, commodifies one element of the forest according to narrowly defined economic value. Hardness, durability and measurable properties dominated discussions of how stands of timber would be processed into lumber for construction. A few remaining trees were preserved to be accessible to the public in places like Big Basin, described by an early member of their conservation society:

*“Imagine a time when the whole peninsula from San Francisco to San Jose shall become one great city; then picture, at its very doorstep, this magnificent domain of redwood forests and running streams, the breathing place of millions of cramped and crowded denizens of the city.”* – Carrie Stevens Walter, Sempervirens Club, 1901.

Ms. Walter’s prediction of a great city was accurate. San Francisco and San Jose alone have 1.7 million residents and sprawl together, flowing continuously into neighbouring Oakland. The region has 7.76 million residents and a GDP of \$1.383 trillion. Throughout this period of explosive growth, generations of visitors have spent time in local parks, including Big Basin, to appreciate big trees. The experience of Big Basin has changed recently as the CZU lightning complex fire in 2020 burned much of the park and destroyed nearly all its facilities and trails, although an old growth core remains.<sup>3</sup>

The comparison of wholesale logging to lightning strikes is a sleight of hand that elides the complexity of what preservation and sustainability mean in a historical North American forest context. Timber is still a business in California, with forestry and forest products contributing 177,000 jobs and \$39 billion to the state economy,<sup>4</sup> and running economically sustainable timber harvests requires replanting trees.

## Replanting is not rewilding

Tree plantations, with their near-identical straight rows of similarly aged trees, spaced in ways to facilitate harvesting, can produce compelling statistics: impressive counts of new trees, promises of carbon offset and producing resources for use in the future. But they by no means replicate what is lost when old growth forests are destroyed. Replanting alone is insufficient because it produces a monoculture, vulnerable and out of balance with the surroundings. Rewilding aims to create diverse, self-sustaining environments that do not rely on high levels of human intervention to maintain. In 2016 Frans Schepers and Paul Jepson described rewilding as “a desire to rediscover the values of freedom, spontaneity, resilience, and wonder.”<sup>5</sup>

In *Rewilding: The Radical New Science of Ecological Recovery*, Paul Jepson and Cain Blythe go on to write of a “shifting baseline phenomenon,” where the scale of ecological damage is underestimated because each generation assumes the experience of nature in their youth is normal.<sup>6</sup> Generations of people whose baseline of experience of parks and preserved land is closer to a plantation than to old-growth forests are ill-equipped to understand the scope of what is lost.

When trying to make sense of what happens after the destruction of the natural environment, it can be helpful to learn from indigenous wisdom tracking destruction across generations. In her book *Braiding Sweetgrass*, State University of New York Professor and Citizen Potawatomi Nation member Robin Wall Kimmerer shares stories of loss, resilience, and rewilding that are relevant to understanding the difference between plantations and old growth forests, and in turn our current tech ecosystem.

*Braiding Sweetgrass* contains the story of Franz Dolp, who from 1987 to 2004 restored 40 acres of Oregon forest. Restored, meaning rewilded, not re-planted. Dolp explains that his goal was to plant an old-growth forest, and that his work “grew out of a deeply experienced sense of loss, the loss of what should be here.”<sup>7</sup> Experiencing loss and acknowledging grief runs deeply counter to the techno-positivism endemic to the Bay Area. However, mourning what is lost can be a catalyst for positive change not only for the Franz Dolps of the world interested in rewilding forests, but also for those concerned with rewilding the internet.

### Mourning the tech ecosystem

Maria Farrell and Robin Berjon make the explicit connection between rewilding forests and the tech ecosystem in their *Noema Magazine* essay “We Need to Rewild the Internet,” writing:

*“But many people born after 2000 probably think a world with few insects, little ambient noise from birdcalls, where you regularly use only a few social media and messaging apps (rather than a whole web) is normal. As Jepson and Blythe wrote, shifting baselines are ‘where each generation assumes the nature they experienced in their youth to be normal and unwittingly accepts the declines and damage of the generations before.’ Damage is already baked in. It even seems natural.”*<sup>8</sup> – Maria Farrell and Robin Berjon.

But what of those that see the damage and want to articulate the scope of loss? More than ten years, or seven generations of iPhone ago, Anil Dash wrote an elegy for “The Web We Lost,” presciently pointing out changes and documenting a historical moment where baselines shifted. He writes:

*“[In 2002], you could allow people to post links on your site, or to show a list of links which were driving inbound traffic to your site. Because Google hadn’t yet broadly introduced AdWords and AdSense, links weren’t about generating revenue, they were just a tool for expression or editorializing. The web was an interesting and different place before links got monetized, but by 2007 it was clear that Google had changed the web forever, and for the worse, by corrupting links.”*<sup>9</sup> – Anil Dash, *The Web We Lost*.

The assumption that links are about generating revenue is a clear example of shifting baselines. A new generation of social media natives understand links as primarily financial, either explicitly through affiliate marketing, or implicitly in the attention economy where content that goes viral is assumed to be more worthy of attention than content that does not. The internet, then commonly referred to with another ecological metaphor, the web, underwent a transformation analogous to the shift from old growth forests to timber. Value was assigned to small commercial transactions with a revenue-extracting mindset, rather than appreciating the value of an intact World Wide Web. Dash continues:

*“This isn’t our web today. We’ve lost key features that we used to rely on, and worse, we’ve abandoned core values that used to be fundamental to the web world. To the credit of today’s social networks, they’ve brought in hundreds of millions of new participants to these networks, and they’ve certainly made a small number of people rich. But they haven’t shown the web itself the respect and care it deserves, as a medium which has enabled them to succeed. And they’ve now narrowed the possibilities of the web for an entire generation of users who don’t realize how much more innovative and meaningful their experience could be.”* – Anil Dash, *The Web We Lost*.



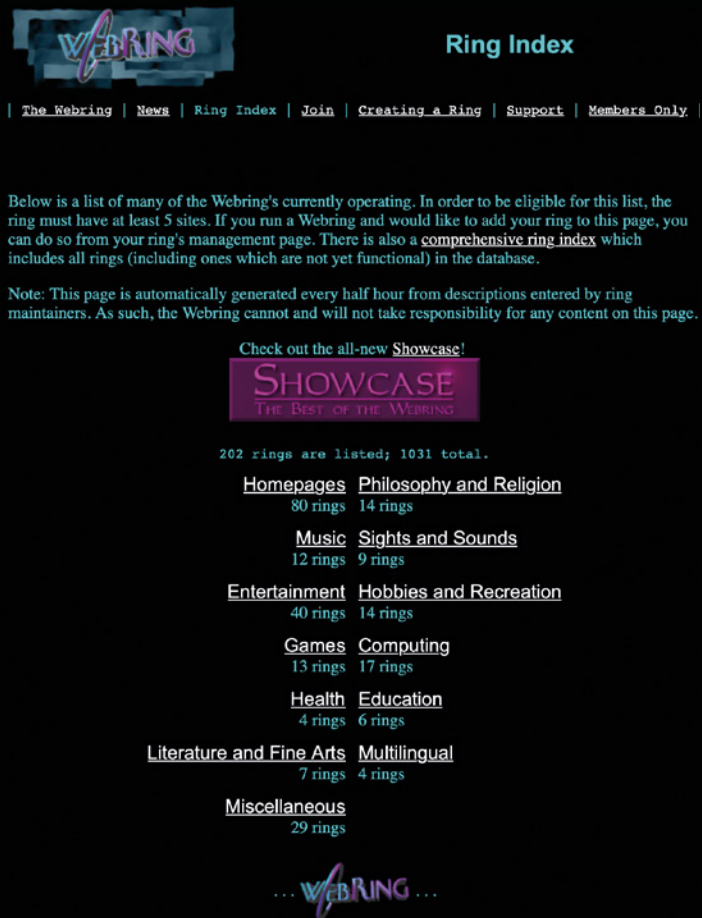


Figure 2. Screenshot of Webring.org from October 1996 showing a pre-social media webpage with non-monetized, non-commercial links to other groups of websites, called “rings” in this interface.<sup>10</sup>

## Apps are like the replanted trees on plantations

Dash rightly points out the huge number of people around the world who became connected for the first time during the transition from the web to the app era. However, the new users coming to the internet through commercial apps are participating in a fundamentally different world. Much as foresters plant new saplings in straight lines, these new people are a resource to be exploited, uniformly organized in metaphorical rows for the ease of value extraction and referred to by the collective noun of “user base.”

The ‘applification’ of the internet breaks the interconnectedness of the web and segregates experiences into narrow confines where information does not flow in and out. Apps are generally proprietary, with very poor interoperability, and have business models that often rely on subscriptions. Despite legislation around data portability, it can be difficult or impossible to actually take your data out of an app and use some kind of alternative. It is evidence of a monoculture mindset and a scarcity mindset. Referencing Robin Wall Kimmerer again, she writes, “The key to success is to get more of everything than your neighbor and to get it faster.”<sup>11</sup> The Silicon Valley tech ecosystem still clings to the dream of exponential growth while ignoring increasingly catastrophic consequences of how fragile monocultures are: polarization, contagion, undermining governments, fostering fear. Notably missing is the curiosity, chaos, and non-commercial character of the early internet.

## Considering a rewilded internet

Farrel and Berjon paint a clear picture of the infrastructural changes necessary to ‘de-applify’ and rewild the internet:

*“Part of rewilding means taking what’s been pulled into the big tech stack back out of it, and paying for the true costs of*

*connectivity... Rewilding the internet connects and grows what people are doing across regulation, standards-setting and new ways of organizing and building infrastructure, to tell a shared story of where we want to go.”<sup>12</sup>* – Maria Farrell and Robin Berjon in “Rewilding the Internet,” Noema Magazine (2024).

Rethinking infrastructure is an essential part of rewilding the internet, as is reconsidering the role of policy and regulations, but the “shared story of where we want to go” is the foundation for everything else. The cultural message of a shared purpose is lacking in the monocultural app landscape. Capturing some of the wonder of rewilding could form the basis of an alternative vision. These questions are intended to provoke discussion to articulate the shared purpose of a rewilded internet.

### Considerations for rewilding the internet:

#### 1. What are the metrics of success?

The number of trees does not measure ecosystem quality, and re-planting, that is churning out ever more monocultural apps, does not lead to change.

#### 2. Who are the stakeholders?

Rewilding is explicitly concerned with interactions between species, contextualizing humans as one of, but not the most important participant. Rewilding the physical environment acknowledges the role of apex predators. How might that metaphor inform rewilding digital spaces? If the value of the internet is assessed as an intact ecosystem rather than a set of resources to extract, what does that suggest for the role of non-human actors?

#### 3. What role can grief and loss play in reimagining the internet?

Nostalgia for an imagined 20th century is at the heart of many contemporary crises. Simplistically saying that

the internet was “better” when it was older (and more elitist) is unacceptable. In contrast, mourning the loss of specific aspects of the interconnectivity and resilience of the pre-social media internet can be a catalyst for positive change. The lost internet provides infrastructural examples of an ecosystem that functioned without an extractive mindset. Acknowledging that loss can point the way to a different future.

### Rejecting “inevitability”

Silicon Valley’s techno-optimist views uphold 20th century narratives about the march of progress and continue to work by relying on passivity and a belief that the dominant narrative is inevitable. Rewilding challenges the narrative. Nothing about the current tech ecosystem is inevitable. It is the result of many decisions, made by people, accumulating over time. People can make different decisions and build something different, creating different ecosystems. Refusing to accept more of the same, interchangeable monocultural apps as evidence of progress opens up a space for alternative futures. Rewilding the internet could bring back some of the “freedom, spontaneity, resilience, and wonder” from the web we lost.<sup>13</sup>



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## Biography

Ame Elliott is a designer and researcher exploring how technology encodes values. She spent 15 years in Silicon Valley working on collaboration technology at Xerox PARC and tech strategy at IDEO. As Design Director for Simply Secure, she led teams working on accountability for AI, IoT, and digital rights. Her current work interrogates the relationship between data extractivism and individual agency. [ame@ameelliott.com](mailto:ame@ameelliott.com)

# Escaping the Difference Engine

By Vladin Joler

**Note from the editor:** In contrast to other contributions to this publication this text is closely based on a transcript of a conversation between two people - Vladan Joler and Jon Rogers. We have edited the transcription for brevity and clarity but have sought to retain a flowing conversational feel, with all its fallible humanity, rather than attempt to smooth it into a polished piece of prose (as we know AI is so 'good' at). As will become clear, we believe this is an appropriate approach to the subject under discussion.

**Jon Rogers:**

Vladan, what do you think of a world that has been shaped and modelled by Big Tech and AI?

**Vladan Joler:**

In our latest map, *Calculating Empires*<sup>1</sup>, we<sup>2</sup> tried to dissect 500 years of the relationship between technology and power. The components of this power have been emerging for a long time. We can trace their roots to early European colonialism, to the history of statistics and probability, or to the birth of mass media with Gutenberg's press. We can also read the last five hundred years as a history of exploitation: exploitation of nature, but also exploitation of inequality between people. The new power emerging from the rise of AI systems will be a combination of all those relations once again.

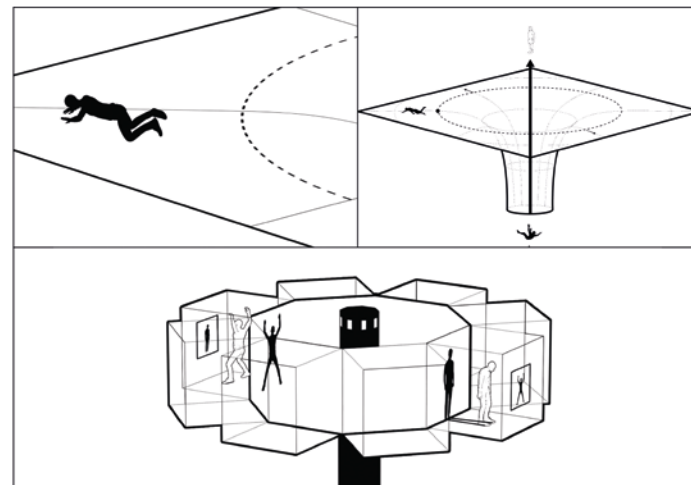
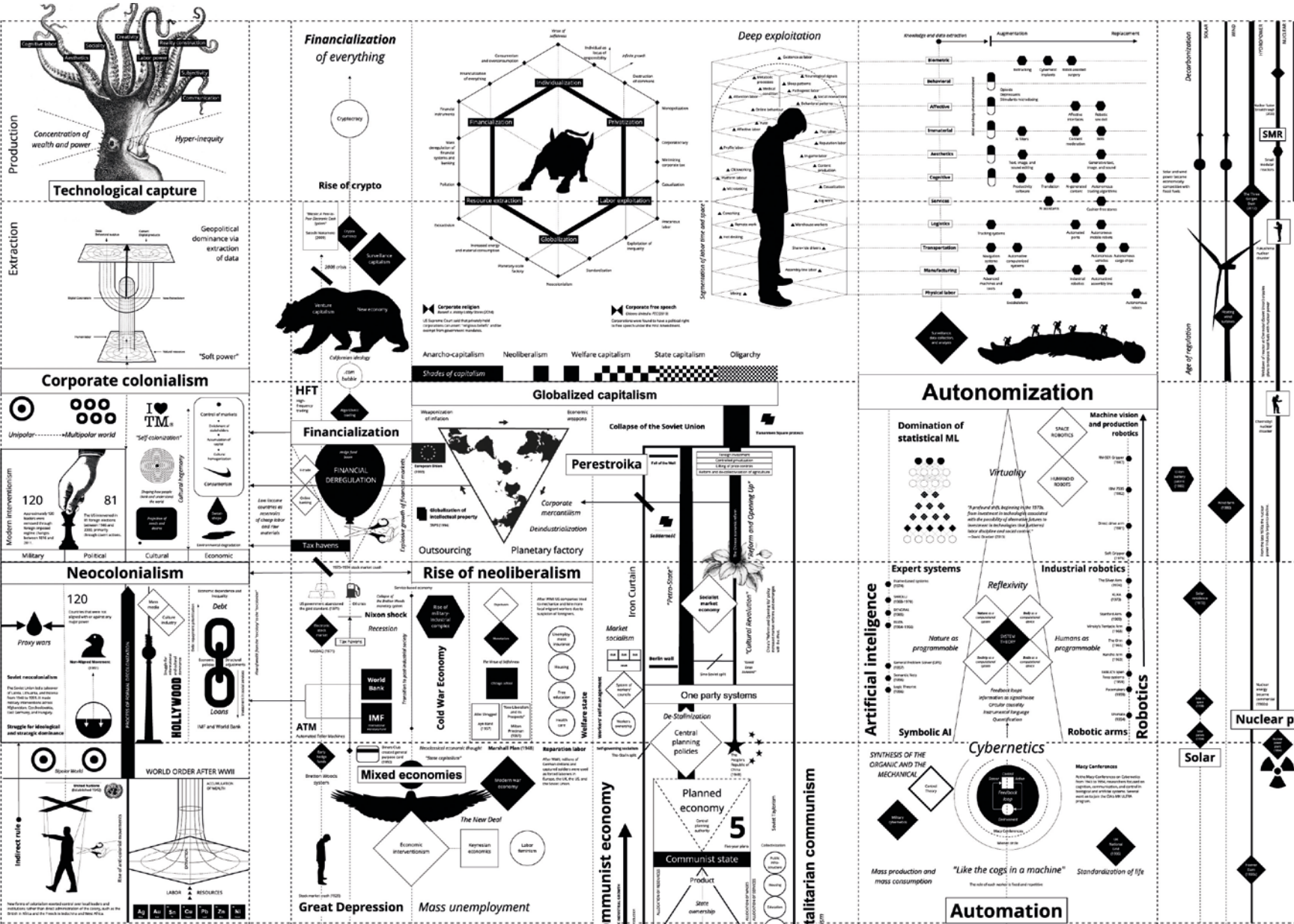


Figure 1. New Extractivism (detail) Vladan Joler (2020)

What we are seeing now is an acceleration toward probabilistic and statistical reasoning. The core principle of AI systems is essentially the automation of statistical processes and the automation of probability calculations. Information and truth are becoming probabilistic. These probabilities are shaped by training datasets using obscure algorithmic processes, and similarly obscure rules and guardrails applied by the owners of these new tools of production. We are gliding into an age of populist statistical totalitarianism. It is absolutely scary how quickly we have accepted it without resistance, without even questioning this new form of statistical truth and production. I think this utterly unknown field we are entering is a truly dangerous scenario, especially when combined with the political, economic, and ideological collapse we are currently witnessing.

**Figure 2. Calculating Empires: A Genealogy of Technology and Power Since 1500 (Detail), Kate Crawford and Vladan Joler (2023)**





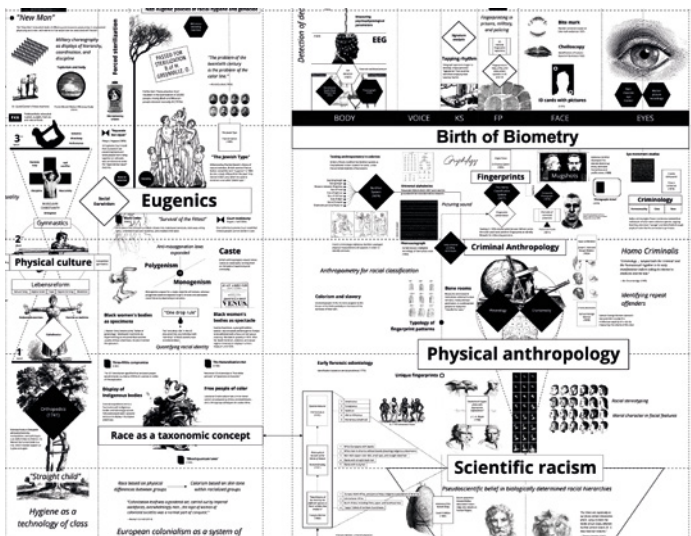


Figure 3. Calculating Empires: A Genealogy of Technology and Power Since 1500 (Detail). Kate Crawford and Vladan Joler (2023)

### Jon Rogers:

In his autobiography “Surely You’re Joking, Mr. Feynman!”, the eminent physicist Richard Feynman reflects on measurement and statistics. Asking which is a better way to measure the emperor of China’s nose – to ask the entire population to guess (giving you a number arrived at by a billion people), or to ask the person sitting next to him to use a ruler.

In an age of Followers, Likes and Retweets, which one do people want to see as science - The one that is complex and involves a billion people, or a simple single measurement from one person?

### Vladan Joler:

If you take the history of science or the history of classification, there are many moments when things go sideways. For example, the major work of Swedish botanist and zoologist Carl Linnaeus, *Systema Naturae*, written in 1735, established a general system of nature through the three grand kingdoms of animals, vegetables, and minerals. It is considered a cornerstone of modern European taxonomy. In the same work, however, he classified humans into four geographical “varieties” (*Europaeus*, *Americanus*, *Asiaticus*, *Africanus*) based on skin colour and continent. In the 10th edition he linked them to specific temperaments (sanguine, choleric, melancholic, phlegmatic) and cultural traits, a system that later became foundational for scientific racism.

If you continue that thread, you end up with centuries of developing wrong and unjust classification systems, essentially assigning different qualities or meanings to human differences, usually in ways that legitimize existing injustices and power relations. Then you have a ‘scientifically proven’ tool to discriminate, to enforce colonialism, racism, Nazism, oppression, and slavery. You have a tool to claim that “the others” are different, and therefore, can be treated differently.

Once the baseline is established, it expands into the fractal measuring of everything. In a way, I see certain forms of classification as a kind of violence: measuring intelligence, measuring and classifying emotions, classifying gender and sexuality. We should always ask who established particular systems of classification, how they were formed, and why. We should always question them, especially today, when these processes are becoming highly automated because of AI systems.

Jon Rogers:

Yet if you want engineering systems to work you do want really clear classification and clear standards that are repeatable and reusable.

Vladan Joler:

I think you are completely right. And this is the curse of the current technological systems we are trapped in. Standardisation is one of the great wonders of the last 500 years, in the sense that without it we would have almost nothing that works or lasts at scale. Standards are protocols for how we connect. They enable us to do things together. The world of global trade functions because of the standard size of the cargo container; without it, the planetary-scale factory would not exist. I am fully aware of that. Much of modernism is built on the idea of standardisation. Everything from the height of the table in your studio to the shape of your shoe is aligned with the proportions of a statistical “reference man”<sup>3</sup>.

But once you start applying the logic of standards and systems of classification to people and their social relations, then you are absolutely in the wrong place. For example, we can trace today’s automated emotion-recognition systems back to a single paper by Darwin that established the concept of universal emotions. However, in the lived reality of our emotional experience and daily expression, we know it is not like this. Our inner state is not always visible on our faces. Different cultural norms apply to us. We hide, repress, act, and sometimes fake. What we feel, how we behave, or how we understand our identity is usually not binary. Maybe it is a line, a spectrum. And between those two points there is an infinite number of relations and scales. Or perhaps it is not even a

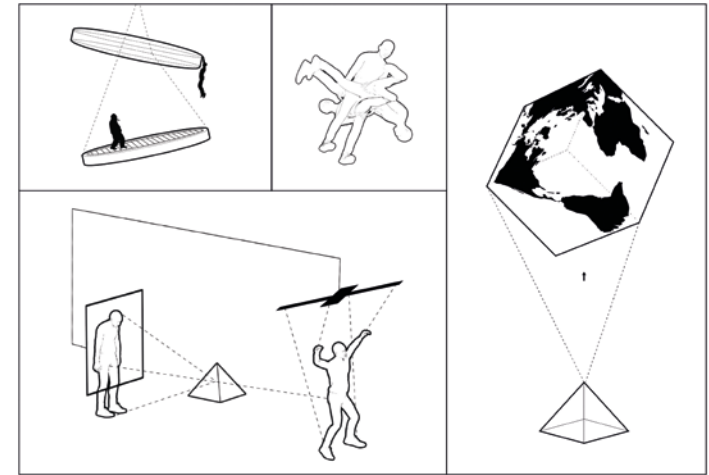


Figure 4. New Extractivism (detail). Vladan Joler (2020)

line, but a two or three-dimensional space. And we should remember that the points within these multidimensional classification spaces are also dynamic: they can be fuzzy, noisy, fluid, or take on any other form we can imagine. We can apply this thinking to the political spectrum as well, as we witness the collapse of the traditional left-to-right single-dimensional space.

Jon Rogers:

Let’s talk about hard power. When you don’t fit with that standard, as was the case with the bus driver in northern England who was sacked for being “too short”<sup>4</sup>, you don’t fit with the world that’s been built around you. You’re in trouble then aren’t you?

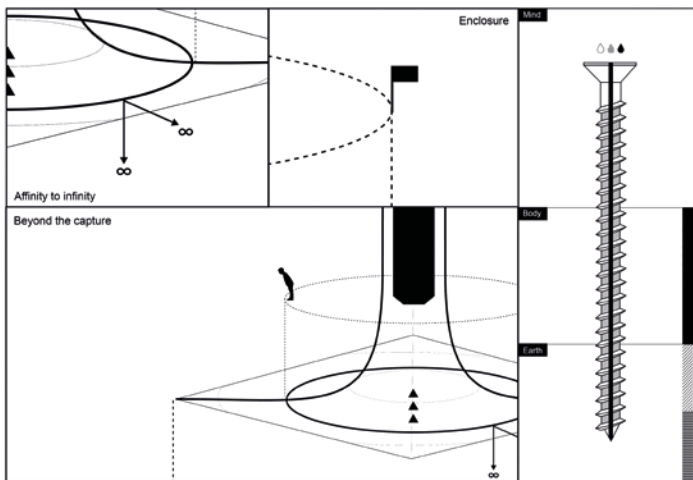


Figure 5. New Extractivism (detail). Vladan Joler (2020)

### Vladan Joler:

Exactly. And you can always count on the fact that throughout history, new systems of classification using new technologies or new media were usually developed, tested, and implemented from positions of power. For example, the mass use of photography in jails in 1888, or IQ tests deployed by the American military and by the Immigration Services at Ellis Island in the 1910s. These systems were usually tested on the borders of the “fortress” in the past, in the same way they are being tested and implemented now.

When we were in the early days of the Internet, each of us was able to connect to the web with a relatively inexpensive computer. And the underlying protocols were deeply egalitarian: each node in the network could be a sender and

receiver, user and server. This is why it felt so empowering in the beginning, until it became highly centralized and monopolized by Big Tech.

Back then, the entry level was much lower than it is today in the context of AI. Meta has just committed hundreds of billions to developing new infrastructure for AI. In order to participate in this enforced new AI race that nobody asked for, the starting point is now measured in millions of dollars. In this game, we are doomed to be only users, not owners, of the new tools of production. This “revolution” will exponentially redistribute power toward the same people and companies that have already accumulated unprecedented wealth and resources. It will create hyper-social and economic inequality.

Several years ago, as a cognitive or philosophical experiment, Kate Crawford and I began to wonder: Is there any word in the English language that is not captured by Google? Is there anything beyond their extractivist engines of capture? Is there any word that has managed to escape millions of web crawlers<sup>5</sup> and other forms of extraction? What do the borders or thresholds of their territory look like?

In her art piece ‘How Not to Be Seen: A Fucking Didactic Educational .MOV File’ (2013)<sup>6</sup>, Hito Steyerl claims: “Whatever is not captured by the resolution is invisible”. Can the resolution of the word be a clue for finding this missing word?

We analysed Google’s web crawlers and were surprised to find that if a word is longer than 120 characters, it is not captured. That is the resolution of the capture. Unfortunately, there are not many words longer than 100 characters. But still, let’s assume that somewhere beyond Google’s field of capture, in the wild, there remain some untaged, free, and non-commodified words. Some are probably “word whales” too big

to be captured; some are “ghost words”, strange mutations or errors of more common words; some are spaceless words. We can also imagine whole tribes and ecosystems of uncaptured words or lingos within non-scrappable spaces such as closed gaming platforms or encrypted networks. Who knows?

How can we talk about these precious, exotic, free word entities? How can we speak of them without putting them in danger? Can we write them down on paper and hand them to someone else? What is the ecology of things that live beyond the border of capture? There is a whole ecosystem of relations, unknown words, unknown books, unknown feelings. Perhaps some of them are not even named. I find it beautiful to think about the ecologies that exist beyond the threshold of capture.

Understanding what is beyond the border of capture is becoming even more important in the context of AI. AI models also have limits. They have borders defined by their training datasets, their training algorithms or architectures, and the rules imposed on them. Understanding these borders and limits is becoming an existential question for many human disciplines. It will define what gets automated and what does not, and who will ultimately be left without a job.

**Jon Rogers:**

Is there anything we can do to change the course of the internet and the rising power of AI?

**Vladan Joler:**

Given the context of mass automatization of our lives, there is a need to rethink craft as a strategy, as a form of resistance. Craft is necessary to counter this wild machine that has the capacity for hyper-production of texts, images, objects, and meanings. We need to fight this mass production of statistically generated things with individuality, with craft.



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- 2 Vladan Joler and Kate Crawford
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ICRP 1974 Publication 23's definition; "Reference man is defined as being between 20–30 years of age, weighing 70 kg, is 180 cm in height, and lives in a climate with an average temperature of from 10°C to 20°C. He is a Caucasian and is a Western European or North American in habitat and custom."
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## Biography

Professor Vladan Joler is an academic, researcher and artist whose work blends critical design, data investigations, counter-cartography, investigative journalism, writing, data visualization and numerous other disciplines. He explores and visualizes different technical and social aspects of algorithmic transparency, digital labour exploitation, invisible infrastructures and many other contemporary phenomena in the intersection between technology and society.



# Crafting a Meaningful Internet: Lessons from Rural Indian Communities

By Neha Singh and Babitha George

Take a look at the pictures on the right. This is a set of farming tools one finds in a village in India. What else do you see? Can you see that these tools are hardy but also frugal, breakable as well as open and in that sense, repairable. There are whole guilds of people in rural villages of India who are fixing, repairing, welding, even melting down and reforging these farming tools.

Now swap these farming tools for other technologies i.e. mobile phones, and swap villages for Indian cities, and until about a decade ago we would have found a similar picture. There were mobile phones available in all shapes and sizes and repair shops were aplenty. You didn't only visit them when your phone broke, but also when you were bored and needed a change. Armed with a few tools and some basic knowledge, these repair folks could change covers, keypads, install alternate languages, re-solder circuit boards and even unlock/jailbreak phones. The list of things that you could do to your phone if it broke, or if you wanted to personalise it, was endless and it was common to find a shop that said they could repair up to 100 items in less than 1 hour!

This ecology of repair and personalisation of digital technologies has (quickly) vanished. Digital technologies are now more closed than open, and while they promise to be inclusive, efficient and transformative for societies, they



Figure 1. Farm tools and equipment, various locations - Karnataka.

frequently fail to consider local wisdom, cultural practices and the indigenous expertise of people. But all around us in rural communities in India, we find that people have found ingenious ways of weaving crafts and localism into their daily lives, sometimes even working with technologies, like the farming machines that are robust and efficient, and at the same time local and bespoke.

So, what can we learn from the embodied practices of these communities that focus on localism, emphasising the importance of knowing where things come from and ensuring that solutions are contextually relevant rather than striving for global presence? And can the Internet and associated connected devices be designed with care - recognising that different communities have different needs, perspectives, and ways of engaging with the world?

### Building on and not replacing tacit knowledge

As an example, the 'Soil Health Card initiative' is an Indian government-led project that aims to help farmers by providing them with a chemical assessment of their soil<sup>1</sup>. Seems useful! We (the Quicksand design team) met Achukkegowda, a coffee farmer from the Soliga tribe in Karnataka. For him, soil health isn't measured through indicators like potassium, phosphorus, or sulphur (i.e. quantitative chemistry). Instead, he would take a handful of soil, feel its moisture, looking at the number of earthworms, the diversity and density of seeds and weeds (i.e. qualitative biology and ecology) (see Fig. 2). This is how he and his ancestors have always known if the land is healthy. It is based on his lived experience, rooted in materiality and personal interactions with the land. The Soil Health card, with its technical, data-heavy information is alien to his way of understanding the land. This is a typical example



Figure 2. Achukkegowda in his homestead coffee farm in BR hills, Karnataka and a small holding farmer showing us healthy soil in an organic farm in Magadi, Karnataka.

of technologies conceptualised and designed in urban settings being imposed on rural communities - technology that, despite providing accurate information, does not align with local knowledge systems. For Achukkegowda and his community of farmers, they need technology that respects and amplifies their wisdom, not replaces it.

### Designing technologies with people

If we want technologies to be truly useful and meaningful, we need to design them with the people who will actually use them. Instead of assuming that scientific metrics are universally applicable, participatory design embraces local perspectives and alternative ways of knowing. Co-creation can bridge the gap between technological innovation and everyday practices. In a series of participatory workshops conducted as part of the project, Decentralising Digital<sup>2</sup>, the team created prompts and used these as building blocks in community workshops to imagine and co-design technologies.

Here are some ideas that came out of these conversations:

## 1. Children's coding kit



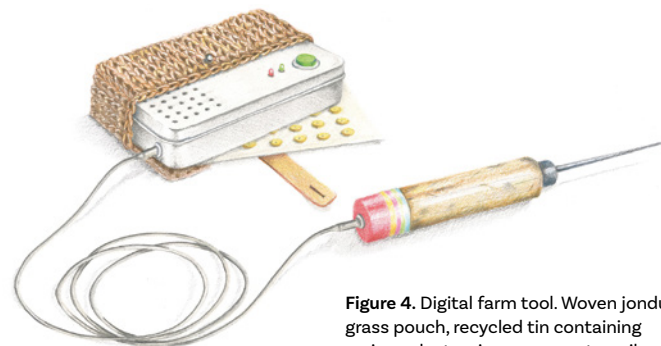
**Figure 3.** Children's coding kit. Stainless steel case containing 'Your Voice' developers board, various electronic components, and a deck of coding cards. 2025, Pete Thomas.

Imagine a coding kit, aimed at children, but also of value to anyone in the community who wants to become a maker. This kit includes a microcomputer powered by speech—because in many rural communities, knowledge is shared orally rather than through written documentation (see Fig.3). With this tool, farmers, young learners, and tinkerers can create low-cost, customisable digital farming tools, blending technology with their traditional ways of working.

This coding kit embodies personalisation and bespoke-ness, as it is designed not for broad, impersonal use but to cater

specifically to the community's unique methods of communication and learning. It champions active creation over passive consumption, ensuring that rural communities are not just users of technology but active participants in its development and evolution.

## 2. A digital farm tool



**Figure 4.** Digital farm tool. Woven jundu grass pouch, recycled tin containing various electronic components, soil spike. 2032, Pete Thomas.

What if we built a sensing tool that doesn't just generate a list of numbers but actually integrates with a farmer's tacit knowledge? A tool that enhances what farmers already do best, rather than replacing them with large-scale agribusiness models? (See Fig 4.). The development of such a tool would require collaboration between farmers, designers, and technologists. By engaging farmers in the design process, one can ensure that the tool respects their lived experience and material engagement with their land. This hybrid approach balances indigenous knowledge with modern digital capabilities, creating a system that is both effective and empowering.



### 3. Making a mesh

One of the most significant challenges in digital inclusivity is the question of data ownership and control. Currently many technological interventions extract data from users without giving them agency over how it is used. In response, what would an alternative vision where communities govern their own digital ecosystems, look like?

Imagine a decentralised mesh network created by farmers using locally available materials like plastic bottles (see Fig. 5). This DIY approach allows farmers across a region to share weather patterns, soil conditions, and market trends. Instead of data being controlled by external corporations, local data custodians—inspired by India's panchayat<sup>3</sup> system—could manage and govern the data in ways that serve their own communities. This is not just about connectivity; it's about technological sovereignty.

This concept aligns with responsiveness, acknowledging that farming is complex and ever-changing. By enabling decentralised, responsive systems, communities can adapt technology to their specific and shifting needs, rather than imposing rigid solutions from the outside that might not work in every context.

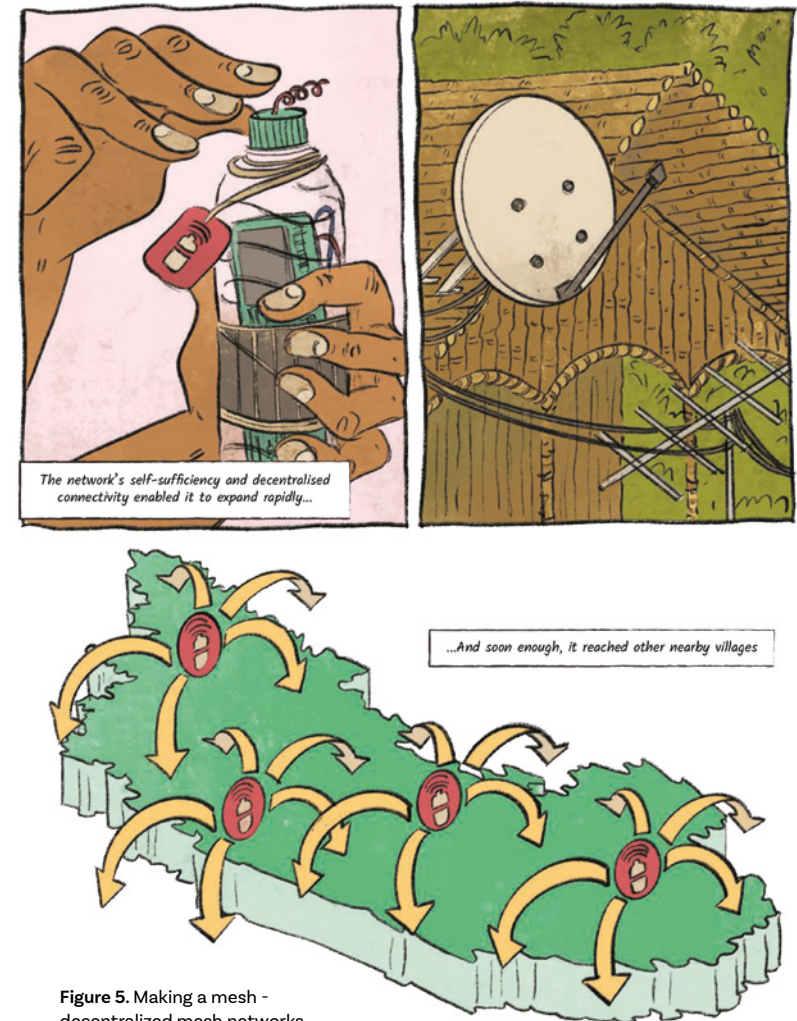


Figure 5. Making a mesh - decentralised mesh networks for South Indian villages.



Figure 5. Making a Mesh - decentralized mesh networks for South Indian villages.

## Crafting an Internet that reflects localness

These ideas and approaches aren't just about farming or just unique to India. We can find these practices all around us and they challenge us to rethink how we design the internet and emergent technologies so that they are **local in their concerns, meaningful as things and not just gadgets, and open and honest in their function and ownership.**

Looking at communities like Achukkegowda's, and by weaving in the principles of crafts, localism and participation, it may be easier to imagine how we can craft a 'healthier' internet that values local wisdom, fosters participation, and centres human experiences.

Taking a craft approach to building relevant technology means building it with people and communities. This contrasts with industrialized, mass-produced big-tech techniques; instead prioritizing craftsmanship, material and place authenticity, and sustainable practices that value a more thoughtful, hands-on, and iterative process of making technology that is deeply embedded in social and cultural realities.

Over the years we have seen ways of living and being that can inspire us to navigate, critique, and shape the technology systems that permeate our lives differently. Traditional knowledge systems, community-based innovation, and locally-situated problem-solving can offer imaginative and alternative models to dominant technology paradigms, which frequently reinforce extractive and centralized control. Craft approaches to technology invite us to reimagine digital tools as something that is co-created, adaptable, and reflective of the values and aspirations of those who use them. This means moving away from homogenizing all "users" to impose a single scaled and closed model across them all and instead fostering technological ecosystems that are diverse, decentralized, and capable of evolving alongside the communities they serve.



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## Image and illustration credits

Quicksand (<https://quicksand.co.in/>) and Pete Thomas

## Biography

### Neha Singh

Neha is a designer and Creative Director at Quicksand, a design strategy and innovation consultancy based in India with a focus on emerging markets. Her work revolves around uncovering the depth and nuances of research contexts and translating these insights into meaningful narratives, solutions and strategies for partners, clients, and communities. Neha draws deep inspiration from crafts—not just as final products, but as integral to her creative process.

### Babitha George

Babitha is a director at Quicksand. She has been working on evolving design methods for research with vulnerable communities in India, for participation and co-design. She is also one of the co-founders of UnBox Cultural Futures, a platform bringing together efforts around social change, art & culture, thoughtful design and open research.

# Tactical Making: Recrafting the Internet

By Geke van Dijk

Some thoughts and reflections sparked by characteristics of the craft ethos described and explored in the hiCraft project and the panel discussions during the 2024 Digital Design Week at the V&A.<sup>1</sup> The characteristics of craft that most caught my attention are: Active, Personalisation, Localism, Authenticity and Lived Experience (loosely summarised below). These five characteristics, plus four more, are defined and illustrated in a series of posters and artefacts produced as part of the hiCraft project (Marshall et al., 2024).<sup>2</sup> The five characteristics I picked out particularly resonate with my own perspective and investigations on social uses of technology are:

**Active:** People engaging in craft are active creators, not passive consumers.

**Personalisation:** Craft is an outlet for the voice of the individual; creating subjective and qualitative experiences.

**Localism:** Craft activities are grounded in culture, nature and resources that are significant to place.

**Authenticity:** Individually-crafted artefacts, their social contexts and ecology manifest authenticity.

**Lived Experience:** Physical engagement with things as a way to gain insights.

These characteristics strongly resonate with my own investigations and perspective on social uses of technology. My lens on the topic of 'crafting the internet for everyone' is that of a design researcher (with a professional practice is based in Human Centred Design, Service Design and Circular Design) and a social scientist (with an academic background in Cultural Studies and Ethnography). Questions I regularly ponder in my work are: How do people make use of technology in their daily lives? And how can technology and new products or services be of use in supporting meaningful and positive change?

One of the constructs from social science that has had a strong influence on my understanding and ponderings on social uses of technology is 'tactical usage'. This is a term, or way of reflecting on social practices, coming from the seminal work by Michel De Certeau (1988) titled 'The Practice of Everyday Life'. In this book he describes the tactics available to people for reclaiming their autonomy from all-pervasive forces of commerce, politics, and culture.

About 30 years ago I, and the people I was working with at the time, benefitted a lot from using De Certeau's construct of 'tactical usage' to open up our thinking about the role of mass media in everyday life. We proposed the term 'tactical media' to provide a framework for reviewing and celebrating the work by a wide range of media makers and activists from around the world.<sup>3</sup> I believe that the discussions around the current state of the internet, and the role of 'big tech' in everyday life, can benefit from the construct of 'tactical use'. Using this as a lens to look at the wide range of uses of interactive technologies nowadays may help us to not get cynical by over-focusing on obviously bad aspects, such as coercion and privacy loss, while also not be naive by over-focussing on just hedonistic gains such as entertainment or improved efficiency.

In line with De Certeau's tactical usage, and our application of that in 'tactical media', I'd like to suggest the term '**tactical making**' as an element in our considerations for recrafting the internet for everyone. To provide further foundation for this concept of tactical making, I've added descriptions below of studies into everyday uses of technology that I've been involved in over the last few years. These descriptions illustrate the ongoing and evolving practice of tactical making.



Figure 1. Participatory research in people's everyday environments, exploring their use of technology for personal storytelling.

## Participatory research with people who are using technology

At STBY, a design research practice based in London and Amsterdam, much of our work entails exploring how people use technology in their daily lives. We do this through participatory research. We meet with people in their everyday environments (e.g. home, office, on the go, etc.), and engage in interviews and observations to get a better sense of their routines, preferences, concerns and motivations. One recent project, for instance, was about people making podcasts (see Fig. 1). We met with podcast makers in 6 different countries and learned a lot from these engagements about their use of technology in the process of making podcasts. A few observations:

- Their stories revolved a lot around making – Media making – Crafting stories about their daily lives. They use technology for this, but it's not just about the tech for them. It's more about the stories they create and share.
- Many people have great joy in making things, experimenting, creating, telling stories, having fun, putting it online, sharing their stories with others, getting feedback, creating and maintaining their communities.
- The content is also often made together with other people. It's a very social activity, which can be pretty messy as well at times. This experience is not all happy and shiny. It entails a lot of 'making do and getting by' (Wentworth, 2016).

I'd suggest that this practice of making podcasts could be an example of how the hiCraft principle of **Active** plays out – People are active creators, not just passive consumers.



**Figure 2.** Fieldwork packs with design probes and recording devices, prepared by the research team in advance of the interviews.

## Using technology to conduct exploratory research

As the design researchers working on these projects, we are also using lots of devices and tech for our explorations, and we love that. It's a very creative practice, and it's never boring as the devices keep changing. Over the years we have tried out many different little gadgets. We keep testing new things out. And we have fun preparing our fieldwork packs (see Fig. 2). A few observations:

- This process of preparing for and conducting fieldwork is not just about technology for us. It's essentially about crafting prompts for explorations and for storytelling about how people use tech in their daily lives.
- A lot of our attention goes into making and creating, in service of letting others share their stories in the best possible way.
- We carefully prepare our fieldwork packs, including design probes and recording devices. They enable us to explore and better understand how people craft story telling in their daily lives.

This way of compiling kits of tech to record personal accounts could be an example of how the hiCraft principle of **Personalisation** works – Driven by an interest in subjective and qualitative experiences, not just the functional use of materials and technologies.





**Figure 3.** Maps, cards and modelling objects for triggering and documenting stories about everyday life.

### Crafting creative materials to spark meandering conversations

When we meet people to learn about their stories, we often bring maps, cards and modelling objects with us (see Fig. 3). We use these to trigger and document stories, imaginations and ideas. Some of this work happens offline, with tangible materials, but a lot also happens online, often through digital whiteboards. Again, a few observations:

- Making, creating and crafting the stories together helps us to listen, think, explore, iterate and share. This is a very human activity of gradually understanding, shaping and sharing our

world views. We learn from people who are crafting their stories, and we jointly co-create reflections that can be shared with others.

- A large part of this effort is about making, as a gradual, iterative process. The making element covers both the exploration or thinking process and the actual creation of the stories.
- This is both true for the people we speak with for our research and for ourselves. By using tangible artefacts, we trigger meandering conversations and explorations. Further, by keeping the materials open and unfinished, they invite people to co-create their stories with us. A blended process of research and design (explore, understand, create, communicate).

This way of prompting and co-creating personal stories could be an example of the hiCraft principle **Local** – Personal stories grounded in culture, nature, resources and place.





*“Repair is about more than just reuse and upcycling. It offers us an alternative way to relate to the world.... It’s about more than just being frugal or being a critical consumer... It also offers us a way to actively take responsibility to shape the world.” Esther Hammelburg<sup>5</sup>.*

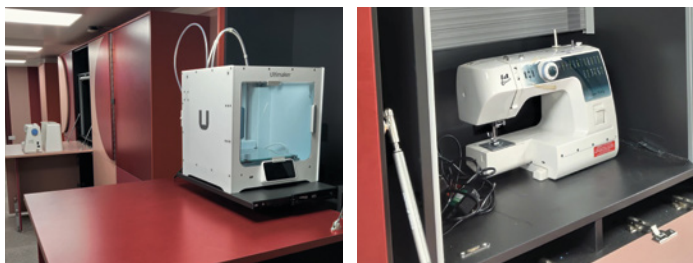
**Figure 4.** Interactions at a Repair Café in Amsterdam.

### Interest in repairability and Makerspaces

An emerging strand in our work revolves around repairability and Makerspaces. For instance, a project we are preparing at the moment is looking into the need for all sorts of repair services among communities living in housing estates across London. One of the example services we’ll be looking at are Repair Cafes. Fig. 4 is of a Repair Café in Amsterdam<sup>4</sup> where I went to get help with mending some of my favourite clothes that had holes in them, but that I was keeping hold of as I was not yet ready to part with them. The growing interest around the world in repairability is about being considerate with resources and resisting the high churn of the consumption society. These repair cafes are both creative and social places. Local communities are coming together in these places. Observations sparked by interactions in these places:

- It’s about caring for the things you own. Not discarding and replacing them too soon.
- It’s about climate, being responsible and frugal with resources.
- It’s also learning. Developing your skills and growing as a person, with a strong reciprocal element. You’re not just ‘getting’, you are also giving.

This way of repairing things in a social context could be an example of the hiCraft principle of **Authenticity** – Manifested in individually-crafted artefacts, their social contexts and ecology.



**Figure 5.** Makerspace in a library in London, offering a range of machines for everyone in the local community to use.

## Democratisation of Makerspaces

Makerspaces and Fab Labs have been popping up around the world for over 20 years. Originally emerging from subcultures of 'nerdy' creative technologists, designers, artists and software hackers who were curious about tinkering with new technology such as laser cutters, 3D printers and Arduinos. While this wave of new technical toys occurred, a rediscovery of old-school machines was also happening, such as knitting and sewing machines which could now be programmed. At the time an interesting blend emerged of crafting with new technologies and crafting with more traditional materials such as wool and fabric. Over the last decade, and since laser cutters and 3D printers and the like have become more mainstream, there is a new wave of Makerspaces being established that are aimed at a wider audience. Many of these spaces are in libraries and are accessible to everyone in the local community. In 2024 a new Makerspace was opened in the community library in Artizan Street in central London<sup>6</sup>. Fig. 5 shows a blend of machines, for sewing, 3D printing, laser cutting and moulding. Observations based on this new generation Makerspaces:

- Fab Labs and Makerspaces are often hives of experimentation and discovery.
- Library-based labs are very accessible, usually cheap to use, and they also offer support and training. They give workshops for people to learn how to use the machines, and they provide free usage for residents who want to work on their own projects.
- The purposes and outcomes are very broad. They can range from neighbours looking to reproduce parts to mend a broken curtain railing, to young kids in the area who are preparing designs at home on their laptops and then come

in to manufacture whatever they've been working on. Some people go far and deep, others stay more basic.

This way of using tech to play and experiment could be an example of how the hiCraft principle **Lived Experience** plays out – Physical engagement with things as a way to gain insights.

### Technology as a resource for exploration and expression

These ways of using tech to explore and craft stories about slices of our lives, for instance through podcasts, and to shape parts of our everyday lives through digital making, have always existed and will hopefully never go away. They tend to be firmly rooted in our everyday cultures and social lives. They may pan out differently throughout the decades, and in different contexts and cultures, but these practices seem to be always there. The current revival of interest in making, repairing and frugally caring for resources is very relevant and important. Due to the climate emergency many people are looking for alternative ways to take active responsibility for how they relate to and use resources. Digital communication technology, digital making technology and the internet are part and parcel of this making and exploring. They are a useful resource – a means rather than an end for many. The deeper values and drivers are expression, exploration, learning, creating, sharing, being frugal, responsible and resourceful.

In that sense, getting back to the topic of our panel discussion about 'crafting the internet for everyone', you could say that this crafting is happening already. Active, personal, local and authentic uses of digital technologies based on lived-experienced are thriving. Needless to say that there are also many worrisome aspects of the corporate exploitation

of the digital space as an all-encompassing commercial environment, but it is useful to not ignore these positive signals from activities on the ground.

### Tactical making

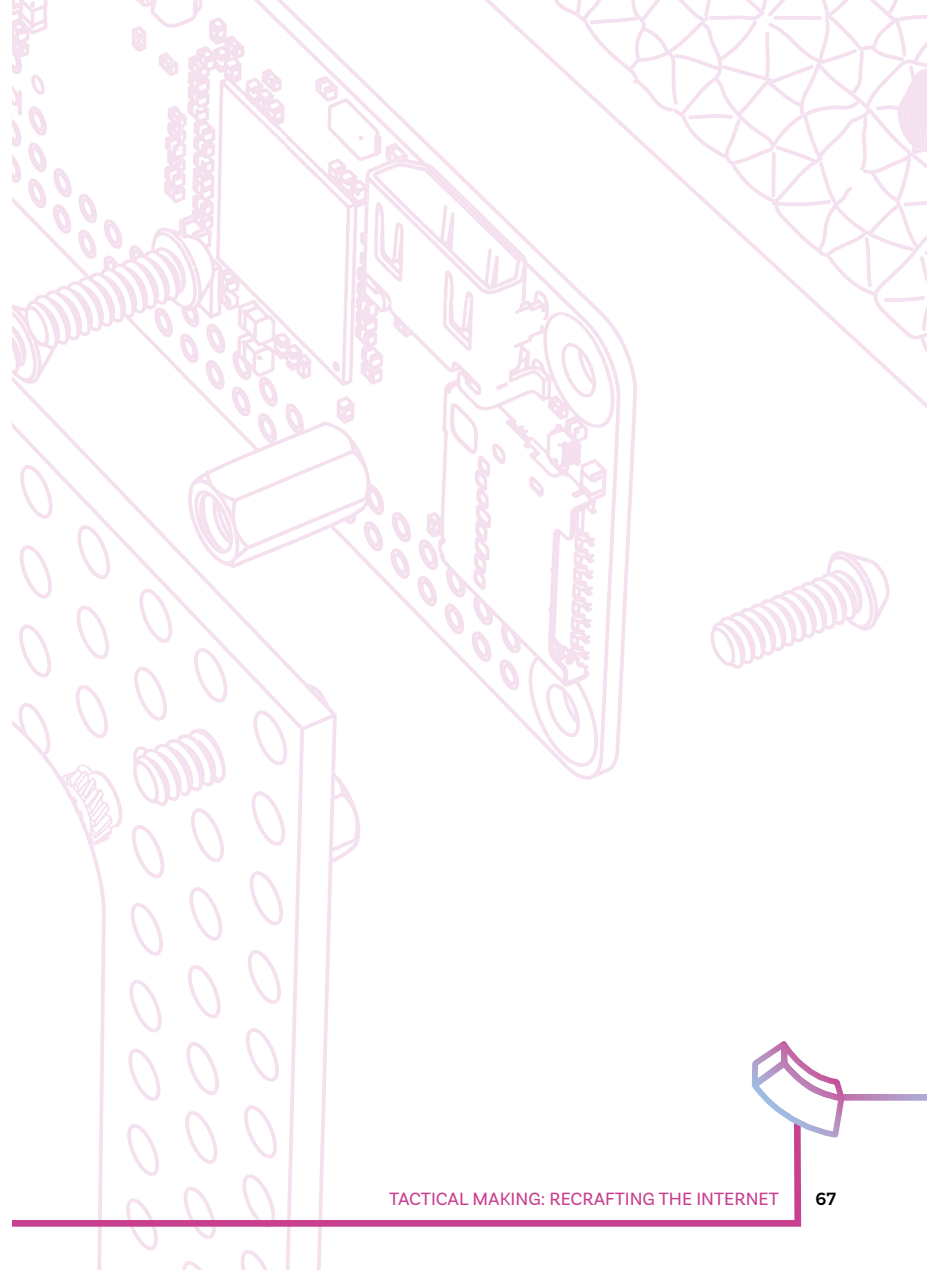
This brings us back to my lens of social science and Michel De Certeau's 'The Practice of Everyday Life'. He observed and described the ways in which people individualise mass culture, altering things, from utilitarian objects to street plans, rituals, laws and language, in order to make them their own. This is an active, tactical attitude, not just passively consuming what industry offers.

De Certeau outlined an important critical distinction between 'strategies' and 'tactics' and related these to the duality of 'repression' and 'expression'. When we organised the Tactical Media event in Amsterdam mentioned above, we used this distinction to showcase and celebrate a broad range of video work from a mix of activists, artists and local community groups. Their work showed hopeful expressions of active, personal, local and authentic stories based on lived experience. They provided a healthy counter point to the more strategic and top-down stories pervasive in mass media. In parallel to this, I suggest we can also use this analogy of strategic versus tactical to speak about '*tactical uses of digital technology*' or '*tactical making*'. The use of the term tactical in this respect signifies a more bottom-up and personal way of using digital technology to actively craft personalised stories and personalised objects, as opposed to more standardised and consumption-focused formats for using technology usually defined by 'strategic' tech companies.

People are not just passive consumers of media, internet and big tech. They are also active producers. The undercurrent

of creative, playful, critical, disruptive experimentation and making is always there, in different shapes and forms. Give it space and it will bloom. Though, of course, that does not mean we should not be critical. Critical thinking and debate about strategic uses of technology are always important and needed, as well as strong policies (curbing big tech in terms of privacy, security and data ownership) and good education (building awareness and resilience). The recently published book *The Tech Coup* by Marietje Schaake (2024) is a good contribution to this much needed critical reflection.

To make tactical making thrive, we need to provide spaces for the undercurrent of tactical uses of technology to develop and grow. Local spaces for in-person tinkering and making, and perhaps also online Makerspaces. We need to provide support for the many dispersed, local and social pockets of experimentation and making. The driving force of the social element in tactical making will then find ways to connect some of these dispersed pockets and feed new social and tactical movements. Tactical use of technology is a phenomenon that has happened in all timeframes, and it is currently also happening through digital making technologies. ‘Tactical making’ is an indicator of active, personal, local and authentic expressions based on lived-experience and as such provides a hopeful model for, and approach to, (re)imagining a ‘healthier’ internet.



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- 1 hiCraft is an AHRC funded collaborative academic research project by Northumbria University and Newcastle University. This article is sparked by conversations with panel members and audience during the event '[Recrafting the internet](#)' at the V&A Museum in London on 21 September 2024, organised by the hiCraft team. The panel members were Neha Singh (Quicksand), Andrew Prescott (Glasgow University), Justin Marshall (Northumbria University).
- 2 The poster [The Landscape of Craft](#) (Marshall et al., 2024) included in this publication pack and online [https://hicraftnorthumbria.org/wp-content/uploads/2024/11/Craft-Ethos-poster\\_optimised\\_1.pdf](https://hicraftnorthumbria.org/wp-content/uploads/2024/11/Craft-Ethos-poster_optimised_1.pdf), describes and illustrates nine characteristics of their proposed craft ethos (Active, Materiality, Embodiment, Personalisation / Bespokeness, Sensitive Responsiveness / Becoming, Lived Experience, Localism & Provenance, Authenticity, and Care).
- 3 Next 5 Minutes (N5M) Tactische Media, 8-10 January 1993. A 3 day festival in Paradiso in Amsterdam, Netherlands. The term Tactical Media was introduced in the [Zapbook](#) created for the festival by Amsterdam Cultural Studies (by Jeroen van Bergeijk, Geke van Dijk, Karel Koch and Bas Raijmakers). Three [further iterations](#) of the festival followed in the next decade until 2003.
- 4 [Repair Cafe Oud Noord](#), Amsterdam. Open on Wednesday evenings.
- 5 [Recast newsletter #27](#), 8 September 2024, by Esther Hammelburg, Tutor Media and Communications, University of Applied Sciences Amsterdam.
- 6 Maker Space at [Artizan Street Community Library](#) in central London. Initiated in 2024 by the Library staff, with financial support from the City of London.

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## Biography

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# Towards an Internet of Sweetness and Light

By Andrew Prescott

When at the opening of the 2012 London Olympics, Sir Tim Berners-Lee, the inventor of the World Wide Web, typed the words ‘the web is for everyone’ on a computer in the middle of the arena, it was the culmination of an optimistic phase when it seemed that the internet and the web would help create a more democratic, open and culturally vibrant world. Yet within two years Sir Tim himself, alarmed by the growth of corporate control of the web, the erosion of net neutrality and the rise of online abuse and misinformation, called for stricter international regulation in the form of a Magna Carta for the web (Berners-Lee 2014).

Today, our online environment, which is so important for every aspect of our life from politics and commerce to culture, travel, friendship and even dating, appears hopelessly polluted. The echo chambers and manipulated algorithms of social media have weakened democratic structures. The rise of conspiracy theories and misinformation has killed people by, for example, spreading anti-vaccine myths. The vast corporate monopolies of big tech contribute to increased inequality and undermine national sovereignty. In the past year (2024) there have been major cyber-attacks on institutions ranging from the British Library and Internet Archives to the National Health Service and Transport for London. Elon Musk by his antics on ‘X’ has single-handedly degraded the concept of free speech and brought this fundamental liberty into disrepute.



Figure 1. ‘This is for everyone’ Nick Webb.

But, as a historian, I wonder whether we have been here before. The rapid and uncontrolled growth of towns and factories in the earliest stages of the Industrial Revolution in Britain covered the countryside with insanitary cheap housing. The factory chimneys rendered the air unbreathable. As waste was poured into rivers, they became dead environments. And, as Ame Elliott (see Ame’s piece ‘Rejecting the monoculture of digital spaces’) reminds us, natural resources such as forests were swallowed up.



Figure 2. Postcard by 'Jotter', Early morning on the River Don in Sheffield, c. 1900-20. Newberry Library.

In 1910, Annie Besant, famous for campaigning for better working conditions for women making matches whose handling of white phosphorus caused a cancer of the jaw, wrote:

*Go to Sheffield, which was built in what was one of the loveliest valleys of the Midlands; notice, as you come near it, the beauty of the countryside, the wooding of the undulating land, the exquisite beauty of rivulet, of forest, and of grass: and then, out of all that beauty of Nature, you plunge suddenly into the hideousness of Sheffield. You find the atmosphere thick with black smoke. No tree will grow in many of the districts, no flowers even on the sills of the houses of the poor.*

(Besant 1910: 200-1).

The early Industrial Revolution was seen not only as an environmental disaster but also as a human one. It was feared that craftsmen, like weavers, were being turned into mere minders of machines. It seemed that Britain had become preoccupied with measuring and increasing its wealth, regardless of the human, political and cultural consequences. The poet Samuel Taylor Coleridge warned in 1817 that 'large masses of the people may be oppressed and degraded by the uncontrolled action of purely commercial principles'. He insisted that 'the monetary wealth of a country is no adequate measure of its well-being' and 'that no state can consist without the check and guidance of a deeper insight, and a higher law, than any which can be derived from calculations of profit and loss' (Coleridge 1852: xii).

Echoing Coleridge's comments, Matthew Arnold, who had a profound influence on the development of educational policy in England, denounced what he saw as a blind faith in machinery. For Arnold, the worship of machinery was unintelligent and dehumanising (Arnold 1993: 174-5):

*we must not let the worship of any fetish, any machinery, such as manufactures or population, –which are not, like perfection, absolute goods in themselves, though we think them so,– create for us such a multitude of miserable, sunken, and ignorant human beings, that to carry them all along with us is impossible, and perforce they must for the most part be left by us in their degradation and wretchedness.*

Arnold declares that 'He who works for machinery, he who works for hatred, works only for confusion' (Arnold 1993: 78) – words that eerily seem to prefigure Donald Trump and Elon Musk by 150 years. Against the idolatry of the machines, commerce and quantification, Arnold set culture, defined in a form which reflects such traditional ideas of the humanities as the study of literature, art, philosophy, history and the classics (Arnold 1993: 78):

*Culture looks beyond machinery, culture hates hatred; culture has but one great passion, the passion for sweetness and light. Yes, it has one yet greater!—the passion for making them prevail. It is not satisfied till we all come to a perfect man; it knows that the sweetness and light of the few must be imperfect until the raw and unkindled masses of humanity are touched with sweetness and light.*

Culture was for Arnold the 'lasting truth' which could speak to the diseased spirit of his time. For Arnold the solution to the problems created by rapid industrialisation lay 'in getting our friends and countrymen to seek culture.' (Arnold 1993: 152).

Thinkers like Coleridge and Arnold invoked culture as a defence against a machine-minding money-fixated society. Their narrow-minded and Euro-centric definition of high culture is in many ways objectionable today, but nevertheless the insistence of commentators like Coleridge and Arnold on the importance of creativity and the life of the mind and spirit perhaps offers a balm in a world dominated by algorithms and data grabbing in support of huge commercial enterprises. The idea that culture is the pursuit of perfection and truth is badly needed today.

The study of the humanities became a way of keeping a reductionist mechanistic view of society at bay. This rejection of the fruits of industrialisation of course reached its apotheosis with William Morris and the Arts and Crafts movement. Morris not only denounced the squalid industrial waste produced by uncontrolled factory production but also spoke out against the 'rigid organization of the factory which keeps the operative virtually chained to a single repetitive task' (Kinna 2000: 493-4). For Morris, factory workers were slaves to the machine and the middle classes who enjoyed the consumer goods produced by the factories were equivalent to slave owners. Morris sought by preserving and

reinvigorating craft traditions not simply to produce more beautiful objects than the factories, but that labour should be satisfying and fulfilling, something that was in Morris's view impossible under the division of labour inherent in the factory system.

The problems we confront today in crafting a healthier internet are much the same as those which William Morris and his followers addressed in trying to counteract the environmental and human damage caused by industrialisation. Indeed, the commercial pollution of our shared digital environment might be seen as a consequence of the first wave of industrialisation. Morris, in particular, looked back to the Middle Ages as a model of a healthier approach to work, craft and labour. While we might find inspiration in such medieval precedents as the guilds, the extent to which they can be adapted to industrial or digital contexts is doubtful.

Morris struggled to see how to scale up his activities to undermine the factory system. However, he thought it was worth the effort, declaring that 'though the movement towards the revival of handicraft is contemptible on the surface in the face of the gigantic fabric of commercialism', it was nevertheless effective 'as a protest against intellectual tyranny' (Morris 1888: 610). Likewise, although the ethos and practices of craft will find it difficult to make much of an impact on Apple, Meta, Microsoft or Google, this struggle is nevertheless worthwhile as a protest against, in the words of William Morris, 'the vulgarisation of all life' and 'the sickness of modern civilisation' and as a means of keeping alive memories of 'methods of work which no society could afford to lose' (Morris 1888: 610).





Figure 3. Cutlers' workshop in Sheffield, c. 1900-1919.

The criticism of factory production by Morris and others may have been overstated. The historian Sidney Pollard has described how at the end of the nineteenth century, the cutlery industry in Sheffield was still dominated by 'little mesters' whose working practices had changed very little (Pollard 1981: 27). They worked in their own workshops using time-honoured craft methods. The Industrial Revolution had not much changed the working practices of these craftsmen, but it had revolutionised their environment. Wheels were powered by steam and automated tools were used for such repetitive tasks as stamping and cutting. Their workshops might be lit by gas and have a water supply. Railways made distribution easier and cheaper. It is possible that we could see the digital environment as offering similar opportunities for contemporary craft. The internet already offers huge opportunities for improved marketing, distribution and sharing for makers and craftspeople.

How might this be used to subvert and transform the mass commercialisation of the internet?

The celebrated British potter Michael Cardew was surprised to find, when he went in 1938 to work as a designer and maker of pots at Copeland factory in Stoke, that the workers in the factory were not machine minders but fellow craftspeople (Dunlop 2012: 134):

*To Michael's surprise he found himself among men and women who took a 'craftsman's delight and interest in their work'. The atmosphere was 'beautiful' - the workers operated in cheerful teams, with a boy mould runner who fetched the clay, a woman assistant who beat the clay flat and a man who put the clay on the mould fixed to a rotating wheel. He then used a metal profile mounted on an arm to shape the outside, a process known as jiggering, or shape the inside, a process known as jolleying ... This was not the kind of mere 'machine minding' that Michael had envisaged.*

Cardew's experience illustrates how the dualistic division of Morris and others between machine production (bad) and the handiwork of craft (good) can be misleading and unhelpful. This dualism has been frequently read over into the commercial environment of the internet and one of the most important messages to emerge from the hiCraft project has been to try and break down this division and create a greater porosity between manual production and digital technology.

Craft practitioners of the generation of Cardew, who came to prominence in the 1930s, had moved on from the more rigid views of Morris. Cardew commented that 'The protests of the Arts and Crafts Movement of William Morris and his followers in fact did more credit to their hearts than to their heads'. He declared that 'Nobody today can afford to quarrel with mass-production; it is a fact of history' (Cardew 1971: 139). For Cardew, mass production of



ceramics served utilitarian needs, but there would be a continued demand for handmade objects which embodied warmth, individuality and creativity. In Cardew's view, such creations embodied the human spirit, something that had been confirmed by his experiences in Africa (although he expressed this in rather archaic language) (Cardew 1971: 244):

*In remote and obscure places, people immemorably submerged in what Karl Marx so justifiably called 'the idiocy of village life', made and still make simple utensils and household goods for their immediate needs; yet these objects manage somehow to have a universal beauty which goes straight to the heart of our common human predicament.*

There has been a long-standing hope that, somehow, the march of technology would create sufficient leisure to allow everyone to become craft-folk. Peter Fuller reviewing 'The Maker's Eye' exhibition at the Crafts Council Gallery in 1982 said that 'it is possible to envisage a 'two tier economy (thanks to the micro-chip and full-blooded automation) in which objects of primary necessity will be made by machine, freeing men and women for the sort of fully creative labour offered by the arts' (Fuller 1982: 14).

Fuller's view appears naïve today when, instead of freeing men and women, the micro-chip has consigned them to working in Amazon warehouses or the gig economy. The rise of AI makes these anxieties even greater. Much of the historic positioning of the Arts and Crafts movement, and indeed even of the humanities more generally under the influence of critics like Coleridge and Arnold, has been an outright rejection of technology and a determination to keep mechanistic and commercial impulses at bay. In confronting similar issues in our corrupted and polluted digital environment, does hiCraft offer a different approach? I argue that it does and that this is one way it offers important pointers towards crafting a healthier internet.



Figure 4. Edward F. Skinner, File Cutters in the Cammell Laird Steel Works, Sheffield, 1917.

HiCraft first of all reminds us of the importance of constantly thinking about and reflecting on the use of data and technology in our lives. Morris refused directly to engage with factory culture, thereby limiting the possibility of changing it. hiCraft demonstrates that, to have any hope of ameliorating the pollution of the internet, we need to engage more directly with technology. Nicola Naismith and Jayne Wallace, by sharing health data in their *Fitbit-Sitbit* project, encourage us to think about the uses made of our health data by big tech. Jayne Wallace's *Black Work* embroidery forcibly brings home the complex concealed circuitry of digital devices and again prompts us to think about how we are often unaware of the technological webs which surround and entrap us.



Michael Cardew felt that the appeal of craft was that it had a more human dimension. It is perhaps the loss of that human dimension that alienates us from big tech, and it may be that digital crafts will help create a more human-friendly digital environment. Jayne and Nicola's sharing of health data not only encourage them to reflect on their own health and bodily rhythms but also nurtured and enriched their friendship. The playfulness of Sean Kingsley's beautiful *Puzzle Jugs* makes the internet of things seem more approachable and friendly. The most affecting of all the hiCraft projects is Rachael Colley's wearable *Perspire* which was intended to help Rachael come to terms with the unexpected death of her partner in a car crash in a very direct way. Rachael's work is a reminder of how craft can promote well-being and counteract the anxieties produced by social media. She illustrates how digital crafts can counteract the hatred too often found on the web and help humanity by promoting, in Matthew Arnold's words, 'a passion for sweetness and light'.

Part of the human aspect of craft derives from its respect for materials and its tactile character. For Sean Kingsley, as for many potters, the use of local clay is a given and much of Sean's craft lies in exploring the possibilities and difficulties of working with that clay. In incorporating circuits into his pots, Sean was equally careful and considered in his choice of gold lustre. All this contrasts with the globalised supply chains of Apple or Samsung. In selecting material for use in her wearables, Rachael Colley was similarly concerned to find something that would react well with her body. Likewise, the feel and weight of the *Digital Compasses* add to the sense that this is a personal connection with a friend rather than an anonymous geo-location service.

At every point, the hiCraft creations prompt us to think about the way we engage with data and encourage us to rethink our relationship to data. This might be the way in which the circuitry of Sean Kingsley's puzzle pots emphasises the deceptions inherent in

our use of data or the way in which the visualisation developed by Nicola Naismith and Jayne Wallace encourage us to deconstruct the way in which health data is used. By producing discursive objects whose message is not resolved, the craft objects in hiCraft challenge and question the nature of our digital environment and in this way point towards a healthier internet.

Many of the crafts produced by hiCraft insist on the importance of the local and working with local materials. This has been a recurrent theme in craft since the days of Morris and finds its digital echo in the recent campaign of Berners-Lee and others for decentralisation of the internet. As William Morris recognised, scaling up such localised activities is problematic. A persistent dream of the Arts and Crafts movement has been the establishment of centres of local practice which could coalesce into larger enterprises. Michael Cardew dreamed of achieving this in his work in Nigeria (Dunlop 2012), and the Coomaraswamys hoped to achieve something similar in Ceylon at the beginning of the twentieth century (Chatterjee 2020). Again, it is striking how the stress of the hiCraft project on localism has drawn on knowledge from, and built bridges across to, India and the global south (See Neha's piece 'Crafting a Meaningful Internet: Lessons from Rural Indian Communities').

It may be that the internet offers the means of drawing together and linking up local craft practice in the way that Cardew or the Coomaraswamys imagined, and that such craft networks will help promote a healthier internet.

As we contemplate the human, cultural and political disaster of a polarised, hate-filled and commercialised internet, we can find inspiration in the way thinkers like Coleridge, Arnold and Morris confronted the environmental and social impacts of early industrialisation. The work of hiCraft restates and reinvigorate those traditions in a way which may eventually help produce a web which is for everyone.



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**Figure two:** Postcard by Jotter, 'Early Morning on the River Don in Sheffield', c. 1900-20. Newberry Library.

**Figure three:** 'Cutler's workshop', possibly Rockingham Street, No. 20 Cambridge Street or Leppington's Cutlers, Sydney Street. Reproduced with permission from [www.picturesheffield.com](http://www.picturesheffield.com)

**Figure four:** Edward F. Skinner, 'File Cutters in the Cammell Laird Steel Works', Sheffield, 1917. Science Museum. CC0 1.0 <https://creativecommons.org/publicdomain/zero/1.0/>

## Biography

Andrew Prescott is a Senior Honorary Research Fellow at the University of Glasgow. He was a Curator of Manuscripts at the British Library from 1979-2000. He was AHRC Theme Leader Fellow for Digital Transformations from 2012-2019. Recent publications include *Archives: Power, Truth and Fiction*, edited with Alison Wiggins (2023).

## Reflections and Hopeful Visions

By Justin Marshall, Jon Rogers & Jayne Wallace

These essays have provided us with some valuable new insights, metaphors and framings that have, as we hoped, extended and enriched our thinking. We are concluding this book with some brief final thoughts on craft as a lens, mindset and strategy for reimagining a different and ‘healthier’ way to digitally connect, and most importantly, what sorts of spaces, resources and roles may be needed to make these imaginings reality.

### A Focused Craft Lens – Not Hazy Rose-Tinted Spectacles

Andrew’s essay eloquently draws parallels between the challenges we face through the current rapid and unchecked developments in the digital world, and the uncontrolled growth of towns and factories in the early stages of the 1st industrial revolution in the UK. He makes links between the pollution of the environment and the degradation of people through poor housing and unhealthy working conditions, and the decline of individuals’ agency in the 18th and 19th centuries, with our 21st century experience of toxic online culture, the proliferation of misinformation, loss of trust and the erosion of established democratic structures.

Amongst other 19th century poets, writers and thinkers who critiqued unchecked industrial development, he cites William Morris, who although wrote eloquently and passionately



Figure 1. Ame, Jon and Vladan in discussion as part of the V&A roundtable event.

about the degradation work in factories, is critiqued for his romanticised conception of pre-industrial Britain. Morris, and the wider Arts and Crafts movement, are renowned for looking back to the Middle Ages as a model of a healthier approach to work, craft and labour. We recognise that there is a strong human inclination to nostalgically look back to a utopian past (fictional or otherwise) when things were simpler and better, and this is particularly true in the crafts where persistent utopian visions of pre-industrial making eulogise hand making, localism and meaningful labour. The risk now, as then, is that in oversimplifying and ossifying such human-centred concepts and ideals they can be easily trivialised as naive, unrealistic, retrogressive and against the flow of technological development. Though the loudest opinions tend to be from those who benefit most from promoting all

aspects and impacts of technological innovation as positive and progressive, while actively ignoring, underplaying, or even concealing any negative consequences, and this has certainly been true of the digital tech industry.

However, like the critique of the unhindered growth of unhealthy and dangerous factory working as the industrialisation progressed through the 19th century (e.g. the writings of Dickens amongst many others), there is growing recognition of the detrimental impacts of the current forms of digital connection on individuals, wider society, and through the vast amounts of energy that is increasingly being used to run digital infrastructure, on the planet. We therefore argue that this is the time to look for, and promote, alternative healthier paradigms and models.

The hiCraft project was founded in a craft ethos made up of principles that can be set against the prevailing trajectory of internet development. However, while recognising that the internet was born out of an ethos of freedom and openness, we do not nostalgically look back at its past incarnations as something to return to. But we have used these craft principles as a lens through which to imagine and prototype a healthier digital future. A future that is driven more by humane aspirations than the current extractive processes implemented by global tech companies. A future, as Valdan recognises when discussing the trajectory of AI development, in which people have more control and agency, rather than being “only users, not owners, of the new tools of production”.

### **Beyond the Platform -The Significance of the ‘Container’**

Ame’s essay draws on the call from Farrel and Berjon to ‘rewild the internet’. While they provide an engaging and compelling

critique of the current state of the internet, they focus on protocols and platforms as the site for rewilding. We argue that this is only part of the solution.

The importance of material engagement as a way of thinking is core to our Craft Ethos and we were keen to emphasise the ‘thing’ within the Internet of Things as a site of investigation within the hiCraft project. This was manifested through the creation of a diverse range of connected ‘speculative craft’ artifacts in which we gave as much significance to their form and materiality as we did the digital technologies they contained.

We argue that materials are more than matter and have a social/cultural/technical component, and therefore the form and material make up of a connected device is core to any interaction. For example, experiencing a connection through holding a digitally augmented hand thrown flagon is different to a connection through ubiquitous black cuboid- a smart phone. Crafted objects can engender deep somatic, sensuous and even poetic experiences. We believe that when material sensitivity is partnered with similarly nuanced digital interactions, that privilege meaningful relational experiences over superficial (and sometimes toxic) communication and instant gratification, there is potential for far richer forms of connectedness.

So perhaps ‘container’ is the wrong word, it limits the significance of a form’s materiality to merely the passive ‘carrier’ of a more significant immaterial interaction. We would argue that it is in the reimagining of both these aspects of connectedness that there is potential for new forms of a healthier IoT and the internet more widely.





This is quite an ask! As mentioned earlier Farrel and Berjon, like many advocating for a change in the internet, are calling for change to internet regulatory and standard setting. But standards and regulation in software cannot be the only way to rewild. As the internet has become so intertwined within our physical world, IoT, wearable devices, electric cars, smart buildings, citywide digital infrastructure and so on, we cannot limit rewilding to software – the very idea of the internet needs rewilding.

### **A New Ground for Rewilding?**

Rewilding from a software perspective feels like a rewilding from the air – from the top down. We argue that we can also rewild from the ground- from the bottom up. Or perhaps more than that, the actual ground from which we rewild the internet needs to change. Our contribution to this is to say that one of the grounds from which we can rewild the idea of the internet is craft. That grounding the approach to rewilding using a craft ethos could fundamentally change the frame from a handful of industrial monopolies making identikit products for hundreds of millions of people towards a framing where hundreds of millions of people can make the products for tens and hundreds of people. It is essential that the shared common ground of the world wide web remains, but the size of the structures that connect to and from it could tread far more lightly on the surface of the earth and be more community centred. Doing this will require changes to how technology is developed, governed, stewarded and maintained – a comprehensive reimagining. Which sounds daunting to the point of impossibility ..... but it's not! The ways of framing from a community perspective already exist. The idea, purpose and functionality of a world wide

web is entirely compatible with locally made, stewarded and maintained internet connected devices and networks. In her essay Neha argues for creating(crafting) such connected devices that are “local in their concern, meaningful as things and not just gadgets, and open and honest in their function and ownership” and provides some compelling examples. To deliver an internet experience within communities that is reliable, safe and easy (and/or joyful!) to use, will take approaches that include how the internet is governed on a global and national scale. If we take the example of a national cycling infrastructure, this works when governments do this (for example in the Netherlands), it fails when they don't (the US). Cycle networks require rules and governance (you can't drive a car on them) but allow for people to cycle their own bicycles. Bicycles that they can buy, make, repair and maintain. If you don't have the skills to repair your own bicycle, the open standards by which they are made from, enable a thriving culture of independent repair shops. We are not short of a skilled workforce to deliver and maintain internet standards at a national level. But we are, however, desperately missing the skills to design, build and maintain the internet in our communities. It is here that we draw on inspiration from a craft ethos – as we found during the hiCraft project.

### **Community Creative Technologist**

Designing, building and maintaining the hiCam social network gave us a clear sense of what a future could look like if communities could build their own social networks without the need for 3rd party (big tech) web services. Technically managing small networks is entirely feasible on a local community scale. But the economics of this speculative research were covered by AHRC research funding. How to



Figure 2. The hiCams

make this work in the wild will require government support. Market forces are not the answer within an economic system which rewards monopolisation and scale. What is urgently needed is the development of sources of funding to support communities to grow their own technologists and in doing so their own digital cultures and self-determinism for more hopeful futures. Community creative technology development would also need to include spaces and places for people to make their own devices- something that connects to existing local infrastructure (e.g. libraries). In her essay Geke provides examples of local socially inclusive maker spaces that have empowered people to learn to make and repair as an active, creative and 'tactical' (hands-on and on the ground) response to their concerns about the ecological impact of rampant consumerism. We are proposing something similar but for people that recognise the need to take on the fortresses of big tech.

We will need spaces for making that have local flavour and relevance, but also have a common suite of tools and opensource componentry (think Fablab+), alongside systems for governance and standards compliance that are rooted globally and nationally, but are tuned to local needs and cultures. An obvious facilitator and champion for this would be local government. If London can have a Chief Digital Officer, then a village in Scotland could have a Community Technology Officer who works closely with and through Community Creative Technologists to make the standards work locally. Taking this idea for a walk, it is easy to imagine a craft-centred ecosystem of locally developed systems for working in which a healthy internet could be born and thrive.

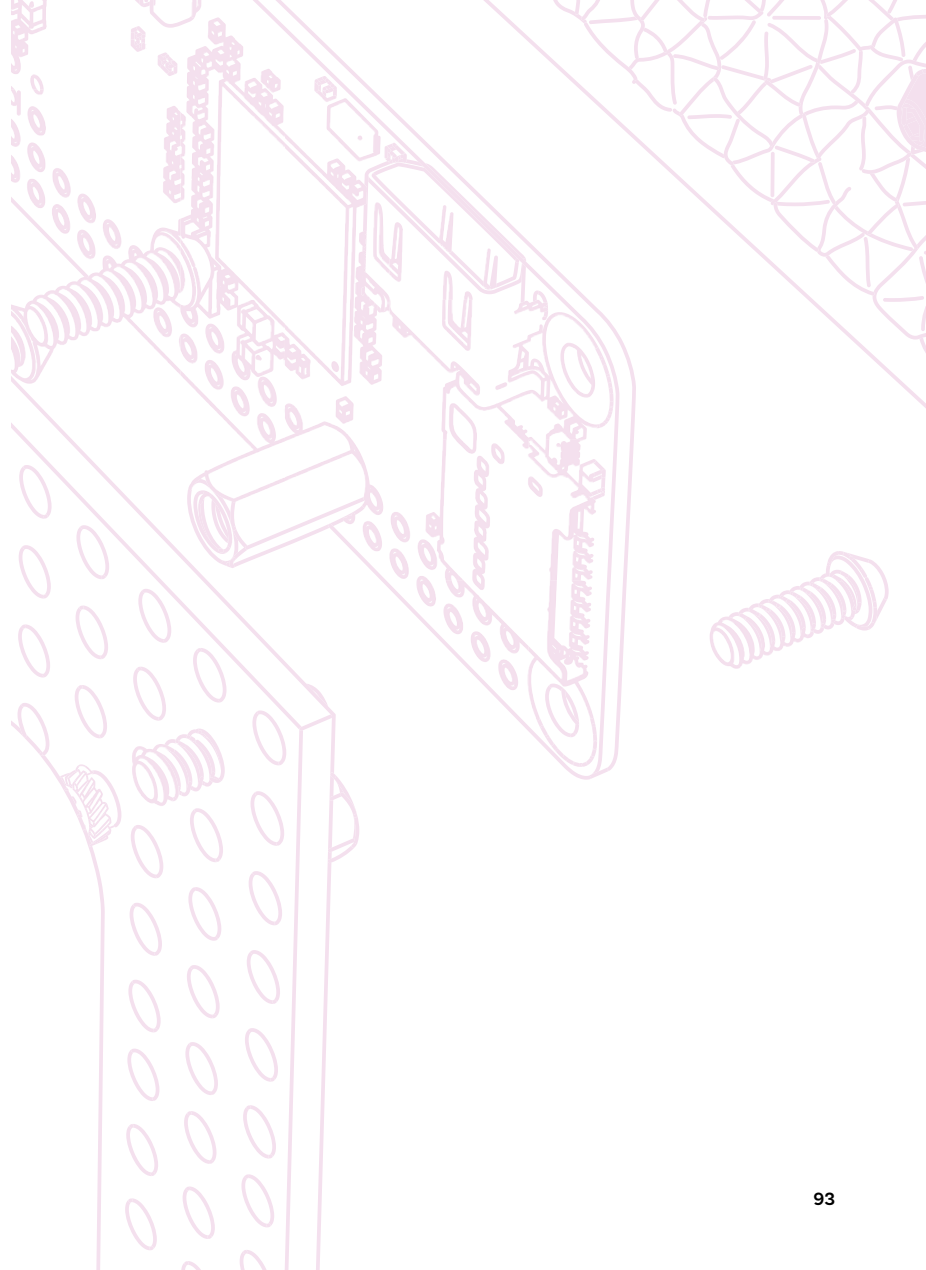
## Final words

We would align with Tim Berners-Lee's position, articulated in his recent book 'This Is for Everyone: The Captivating Memoir from the Inventor of the World Wide Web' (2025), that no company or government should have control of the web and it should be free for all. While recognising the present and immanent challenges to this aspiration and more broadly to the web's original humanistic vision, he believes that there is still hope.

HiCraft also unashamedly leans into a hopeful vision of the future. It is always a challenge to provide convincing arguments that run counter to the trajectory of technological development, political opinion and socially accepted norms, especially when they are promoted by powerful actors (corporations) whose interest it is to present their 'offer' as the only rational and viable option. But change starts from hope as an active agent, not a passive aspiration. HiCraft sought to provide hopeful examples of alternative ways to connect that buck the trend towards centralisation, monopolisation, manipulation and extraction'- as Cory Doctorow pithily coined it, the 'enshittification' of the internet.

Alongside top-down policy and regulatory change, we need more, and more compelling, bottom-up examples of healthier ways and means to connect that seek to be of benefit at personal, community, societal and environmental levels. Our future work aspires to this. To finish on Vladan's call to action;

***“We need to rethink craft as a strategy, as a form of resistance”.***



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*Investigating how we can define  
and foster a healthy relationship  
between people, the internet and  
things through the ethos of craft*



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