Urban Inhabitation and the Urban Technical

The Urban Institute, University of Sheffield

Roads, buildings, pipes, wires, animals, viruses and humans feel each other out, each folding the other in without being completely subsumed, yet affected in different ways. Each occasion of feeling out and apprehending is always technical, always proposes for the world a surplus of patterned potential, a surplus of sensibility, inexplicable by any "programming" that might have generated it. Sociality is always a matter of recomposing, recombining, setting new terms for what it means to inhabit, justly.

Technicities orchestrate intersections. Intersections produce multiple perspectives, where everything that exists is being recalibrated and repositioned in their relationships with each other—because they are constantly being worked out and engaged by people and materials who are themselves continuously similar and different by virtue of these intersections. Inhabitation is always on the move, creating particular kinds of space where people, with their devices, resources, tools, imaginations and techniques, are always acting on each other: pushing and pulling, folding in and leaving out, making use of whatever others are doing, paying attention to all that is going on, fighting, manipulating and collaborating.

AbdouMaliq Simone, 2021

Towards a Research Programme

In the twenty-first century we are still facing the challenge of how to address the crisis of planetary 'habitability'. Inhabitation—the terms of how we live upon the planet—is in crisis, as increasing numbers of people are drawn into precarious lives, ==existing trajectories make life uninhabitable – too wet, too hot, too unjust and too insecure== - for billions, and migration feeds a new protectionism around affluent places.

Marginalised people in fragile and inhospitable environments have to negotiate their lives through strategies of care and repair and new circuits of movements and displacements, whilst citizenship, residency and rights are contested and denied. ==The fundamental conditions that enable life in cities are constantly changing==. In part, these changes are informed by an imagination that anywhere can become anything, and that places, no matter their history or local realities, can be converted into financial value. As such, little can be taken for granted: the terms of urban inhabitation may be hidden from view, manipulated for private interest or subject to rapid alteration by governments and agencies far away from residents who are the subjects of their decisions.

Increasingly, societal attention is turning to technical means and capacities - of AI, robotics and biotechnologies - to secure the conditions for collective urban life. Yet ==our understanding of the urban technical is often limited, narrow and reductionist==, with a focus on grand technological solutions or fixes that prioritise human survival, at the expense of the intricate, dynamic and interdependent relationships among various forms of life. ==How might we expand understanding of the urban technical to support life, in its diverse manifestations and pluralities?==
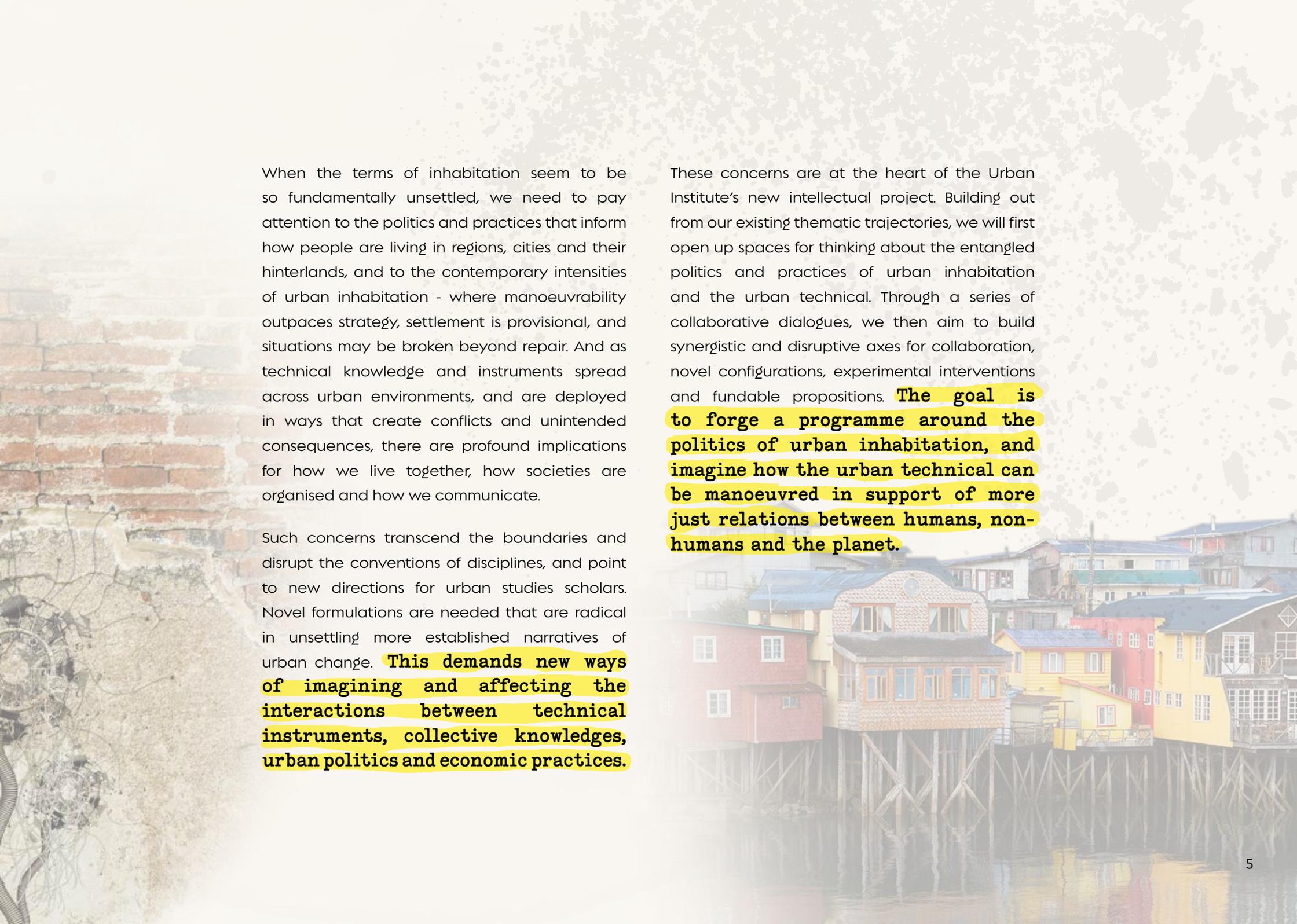
When the terms of inhabitation seem to be so fundamentally unsettled, we need to pay attention to the politics and practices that inform how people are living in regions, cities and their hinterlands, and to the contemporary intensities of urban inhabitation - where manoeuvrability outpaces strategy, settlement is provisional, and situations may be broken beyond repair. And as technical knowledge and instruments spread across urban environments, and are deployed in ways that create conflicts and unintended consequences, there are profound implications for how we live together, how societies are organised and how we communicate.

Such concerns transcend the boundaries and disrupt the conventions of disciplines, and point to new directions for urban studies scholars. Novel formulations are needed that are radical in unsettling more established narratives of urban change. **This demands new ways of imagining and affecting the interactions between technical instruments, collective knowledges, urban politics and economic practices.**

These concerns are at the heart of the Urban Institute's new intellectual project. Building out from our existing thematic trajectories, we will first open up spaces for thinking about the entangled politics and practices of urban inhabitation and the urban technical. Through a series of collaborative dialogues, we then aim to build synergistic and disruptive axes for collaboration, novel configurations, experimental interventions and fundable propositions. **The goal is to forge a programme around the politics of urban inhabitation, and imagine how the urban technical can be manoeuvred in support of more just relations between humans, non-humans and the planet.**

Why is this needed?

Conventional understandings are insufficient to reveal and address the fundamental changes that are reshaping collective urban life in cities all around the world.

We are already living in a climate emergency in which 'tipping points' are exceeded, where turbulent conditions are experienced unequally and further deterioration of urban environments will accelerate uninhabitability. At the same time, the designation of urban spaces as 'uninhabitable' can conceal important memories and alternative ways of doing things.

The expendability of lives, exacerbated through the pandemic, constitutes a social justice emergency like never before. Certain technological solutions have taken the limelight - such as IT, remote sensing, automated processing and digital platforms. Everyday low-tech hacks or work-arounds, and creative means to navigate pandemic precarity, have been overlooked.

A linear, top-down, problem-solution mindset—in which models of sustainability, or smart cities, or digital inclusion, or green growth, or hi-tech corridors can be transplanted from one city to the next—reproduces a reductionist quick fix that is often blind to the lived realities for urban dwellers across the globe.

Looking backwards at outdated solutions is not an option: there is an urgent need to learn from the limits of past formulations and the 'making do' of the present crisis in order to explore a radical reformulation of urban inhabitability through a process of enduring experimentation.
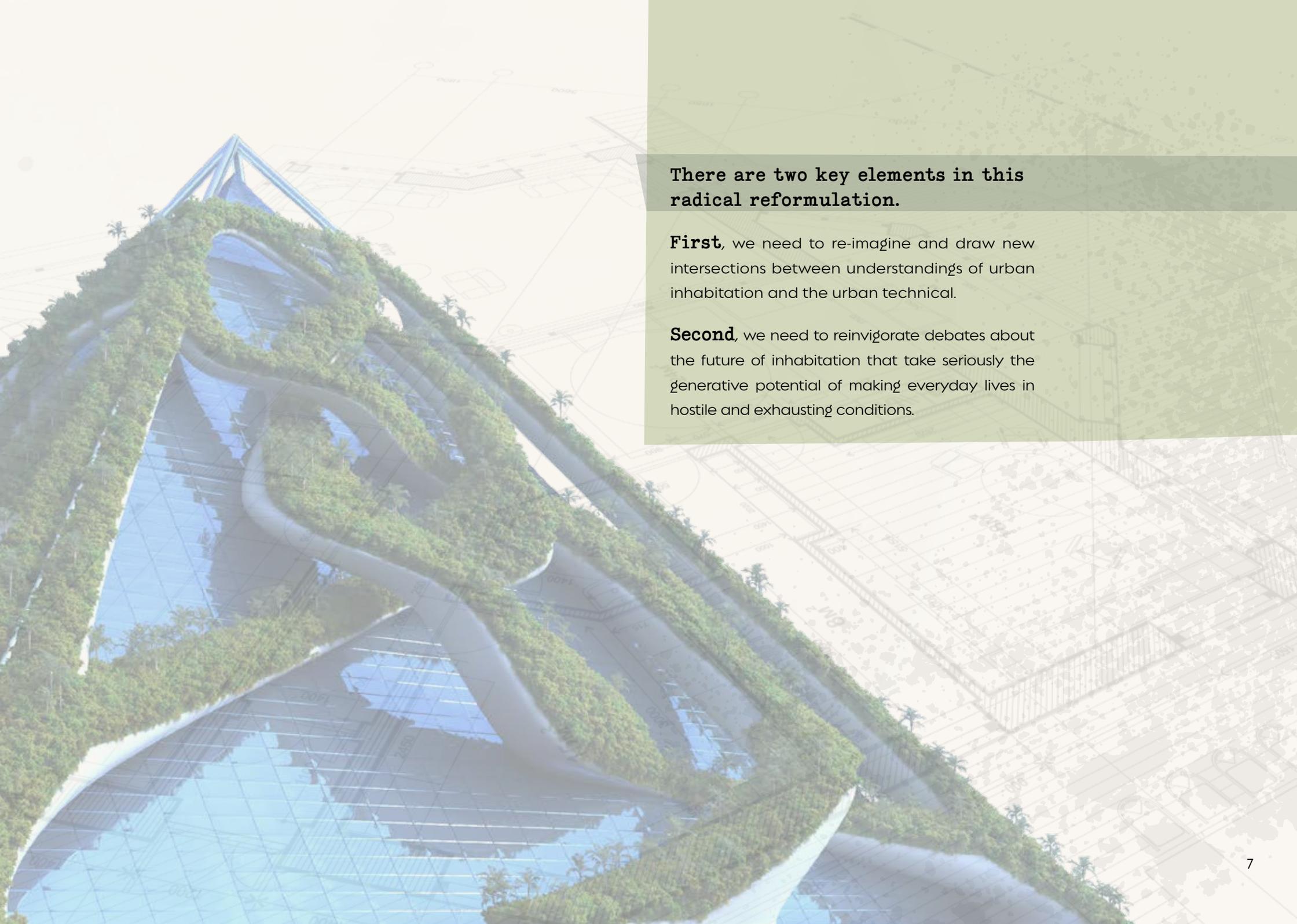
There are two key elements in this radical reformulation.

First, we need to re-imagine and draw new intersections between understandings of urban inhabitation and the urban technical.

Second, we need to reinvigorate debates about the future of inhabitation that take seriously the generative potential of making everyday lives in hostile and exhausting conditions.

Urban inhabitation

Urban inhabitation takes place across multiple, interacting sites and is not anchored in one setting, such as the home. Inhabitation is unsettled and temporary, constituted by varying modes and modalities of movement. Inhabitants mobilise heterogeneous strategies to secure necessary, possible and desirable livelihoods, whilst manoeuvring and hustling, grafting and shifting to make ends meet and lives work. Urban inhabitation is political. It is about who gets the right to reside, how residency is legitimised, claimed or refused, and how people maintain and reproduce themselves whilst living on the margins. Populations find novel, improvised and often hidden ways of navigating precarious lives in uninhabitable contexts. The relationship between the politics of inhabitation and the urban technical creates new objects and spaces of urbanisation. Territories of operation are being opened up and closed down, leading to different urban realities for those living in most marginalised and precarious urban settings. Inhabitants possess distinct forms of expertise and assume different positions and capacities in relation to the state, each other and their environments. Places are sometimes designated as uninhabitable in order to make them available for private enclosures and increased profit. Even in contexts which appear intensely formatted, regularized and secured, the viability of everyday living requires an interplay of calibrations, re-arrangements and contestations. Nothing is ever settled for sure.

Urban technical

A conventional way of understanding the **urban technical** is as technological operations that exert macro-structural effects. The focus is often on the structuring of material, spatial and temporal dimensions of urban life. The way we conceive of the urban technical – and what it means for everyday life – has usually been informed by Western models of inhabitation and modes of seeing and knowing the city: as technical instruments of decision-making and regulatory mechanisms that enable particular forms of statecraft that are not universal or generalizable – for instance cartography, surveys, spreadsheets, strategic plans, administrative protocols or smart operationalisation. Yet the technical is more than this. The technical mediates everyday life: what is recorded, what is visibilised, how we communicate and move around, what we see, hear and the air we breathe. Whatever takes place in everyday life and in territorial operations relies on distinct forms of technical mediation, all of which filter, transmit and generate data and information in ways that are neither neutral nor transparent. This is not just about plans and tools, written down or improvised. How we live in cities is impacted as much by invisible infrastructures and operations as well-understood technologies.   Away from a narrow focus on technology, a concern with the technical, or the varied technicities of urban life, means opening up imaginaries, and draws attention to the way in which things come together in a process of energetic transmission. A focus on urban technicity shifts focus not only to control and the calculative operations at work in planning practices and mechanisms of urban provisioning, but also to subtle forms of refusal, resistance and possibility.

We need to explore the opportunities for developing novel and plural modes of inhabiting the urban by going beyond projects of technological domination.

The question is not how technicity extends or impedes some essential notion of life, but what kinds of urban living can be made through the technical?

This demands new imaginaries and propositions based on understanding the tensions, contradictions, glitches and improvisations that sit between the urban technical and the conditions of urban life made through multiple modes of inhabitation. It means close attention to existing and possible arrangements through which the dramas, scenarios, and interplays of everyday life are forged; who can do what, with whom, where and when.

Practices of inhabitation are constituted through technical relations and affordances which are contested, reworked and deployed to generate novel forms of urban technicity. Urban technicity needs to be seen as not only a political technology of control, but enlarged and stretched.

Rather than inhabitation being reduced simply to the established repertoire of 'human needs', the political question is what kinds of life are worth living, and how the apparent apolitical dimensions of the technical are reposed as contestations over collective urban life.

What will we focus on?

Our focus is on how practices of urban inhabitation and the urban technical are co-constituted and reshape each other. Our concern is to explore the potential for transformation by teasing out the contours of alternative modes of inhabitation, through an interrogation of existing and often marginalized and hidden practices.

We will deploy the idea of **'extensions'** as a provocation to rethink the relationships between urban inhabitation and the urban technical. Extensions draw attention to intensive entanglements across different locations, to different ways of living, different games of getting by, different logics and identities of what any given place might be.

We see extensions as augmentations of urban information processes, decision support systems, territorial management, surveillance and control, as well as the unforeseen ways in which urban spaces can offer inexplicable affordances. While this may be about seeking to overthrow the current system by suggesting new models or elaborating utopian visions, it is also about extending the possibilities for putting existing materials to new uses.

Extensions between urban inhabitation and the urban technical are spatial, corporeal, temporal and existential.

They are spatial in so far as sites, contexts and institutions overstep their boundaries and extend themselves out in the world. Dimensions are added on to houses, streets or neighbourhoods, but then take on a life of their own, often emerging out of multiple overlapping tenure regimes or regulatory frameworks.

Extensions are corporeal, in the sense of how particular kinds of bodies extend themselves into the earth to preclude exhaustive extractions, and how bodies may be renewed beyond discernible modalities of social reproduction.

Extensions are a temporal matter, when time is extended or suspended during crisis or transition, through slow and fast forms of policy and governance, through waiting it out and anticipating better futures - when the city is haunted by all that might have taken place or by spectral propositions that interrupt any linear line of development.

Extensions are existential, in how the urban technical may rethink both the terms of life and death, the way each is concretized, and the way the powers of life and death are extended into each other through technicities in even more brazen, expanded displays.

What might these extensions between the urban technical and the forms and terms of urban inhabitation then look like?

If we are to explore alternative futures, we must seek to identify possibilities within the contradictions, limits and resistances existing in contemporary landscapes of urban technicities.

The challenge is to experiment intellectually and practically - with the aim not of reproducing or repairing existing systems, but of generating new modes of habitability.

We propose the following initial topics for dialogue as a springboard for these intellectual and practical experiments:

The technical operations of everyday life. Navigating, selling, transacting, fixing, redoing, chatting, transporting, buying, watching, avoiding, greeting, driving, gathering, dispersing, repurposing – all these are technical operations of everyday life. At the same time, infrastructures that structure these operations do not always work in the ways intended by their designers, and systems are inevitably brittle and glitchy. Residents frequently invent hacks or workarounds to make infrastructures work for them without fundamentally changing the existing system. How do these technical operations of everyday life prefigure novel configurations and ways of inhabitation?

Sensing, sensibilizing and knowing. Technicity enables an algorithmic pre-emption of different potential forms of life, through prior scanning and calculation of behaviors across a wide range of times and contexts. Technical operations – swarm intelligence, neural networks, cellular automata, machine consciousness, generative adversarial networks - are intensifying human experience, both consciously and otherwise, changing forms of individuation and collective ways of life. 'Sensing' entails processes and affects beyond human cognition: we may believe we possess 'common sense' without comprehending how complex parametric layouts, exoskeletal architectures of sensors and relay systems, for instance, constitute invisible and multiple infrastructures through which we are 'hacked' or subliminally controlled. How do different forms of technicity alter processes of individuation and collectivity and the relations of sensing, experiencing, feeling and knowing forms of urban inhabitation?

Mobilizing and politicizing technicities. Urban environments are composed of diverse, intersecting agendas, concerns, calculations, textures, uses and intensities that make it difficult for any single actor to unilaterally govern any given space. Myriad technicities become mobilised in the search for ascendancy, whether by property developers, municipal governments, finance capital or mafias, to render territory calculable, legible and exploitable as an asset for competitive advantage. Technicity is comprised through sets of decisions that craft the city for different purposes, often irrespective of those that inhabit it. Municipal politics are then shaped by the augmentation of agendas, aspirations and movements with technical instruments. What happens when instruments of mapping, accounting, documenting and visualizing are deployed by different urban groups and generate an increased plurality of competing representations of (in)habitability?

Temporal domains of urban life. However empty and useless many aspects of new built environments and infrastructures, there is usually the conviction that eventually something will happen. Projects do not even pretend to materialize their promise, when buildings simply stop halfway towards completion even as their tenants have little choice but to occupy them. The physical environment thus becomes a place-holder, in permanent transience, stagnated, yet promising to always, possibly, be otherwise. What matters is being in the position to shape and make use of this eventuality when it transpires. How does the extension of the urban technical mediate the temporality of urban inhabitation, through waiting, enduring, place-holding, hoping, dreaming, remembering or memorializing?

Racialized objects of computation. Rational-based systems produce, evaluate and transform data on people as units of analysis. Humanity is reduced to quantitative metrics made possible through algorithmic operations and machine learning. In the process, blackness is commuted and continuously reimposed as an enduring fiction for organizing social relations, and a racialized past simplified and reduced to single modes of being, rather than a multivalent array of incomplete processes of becoming. How and by whom are black technical objects made and contested and with what implications for sociality, communication and governance?

Climate, nature and atmospheres. Climatic change is a redefining feature of urbanization, reflecting and reinforcing social and spatial inequalities, with consequences for quality of life, livelihoods and life itself. Climate change is enrolled into the urban technical as an infrastructural challenge through managed and partially managed ecological spaces and hybrids of humans, non-humans and technology. Automation technologies are on the rise and, for some, promise the fixing, managing and even transcending of turbulent urban ecologies. This even extends to the atmosphere, as multiple dimensions of the atmospheric commons are being reincorporated into new infrastructural circuits. For instance, in the urban context, longstanding concerns about the safety of air or the implications of heat are being extended into other material deficiencies. What are the consequences of new socio-technical systems for how we think about climate, nature and inhabitation in cities?

Human and non-human interfaces. As infrastructures combine and collide, new 're-combinants' are made: roads, buildings, pipes, wires, robots, animals and humans feel each other out, each folding the other without being completely subsumed. At the same time, there are multiple examples of the intertwining and circulation of non-human life through urban technical systems – rats in sewers, the spread of mosquitos through irrigation systems and entry into urban areas. Yet there is now a refocusing on the potential of rendering the non-human as an infrastructural capacity, operationalized through specific and precise configurations of biological life, technical affordances and customized enclosures. Does working with nature as an infrastructural resource generate novel modes of inhabitation, and what are the ethical implications?

How will the programme work?

Our aim is to mobilize these ideas into a programme – constituted as an organizing framework for a series of explorations, collaborations and dialogues that can lead to longer-term, funded projects involving active experimentation and exchanges between urban labs around the world.

The programme will chart some of the myriad possibilities which inhere in the co-constitution, extension and transformation of the relations between the politics and practices of urban inhabitation and urban technicities. Whilst embracing surprise, uncertainty and flexibility in delivery, we are guided by three initial goals.

First, to enlarge and explore our understanding of the interrelationships between urban inhabitation and the urban technical in diverse formal and informal milieu.

Second, to collaboratively analyse how the urban technical can be repurposed to enable new modes of inhabitation, which may prioritize care, repair and collective support, and reshape the potential of urban technicity.

Third, to inform and shape a wider dialogue about new modes of inhabitation that respond to the Abolitionist proposition to "change everything" and the Anthropocenic imperative to terraform the planet. If both imply new imperatives of planning and technical elaboration, where do we start, and how?

The programme will be **distinctive** in its open-ended, flexible and exploratory nature and seeks to build bridges between researchers, scientists, designers, engineers, artists and creatives, technologists, policy-makers, businesses, and residents.

It seeks to be **disruptive and creative** in its desire to unsettle existing assumptions through challenging Western epistemologies, methodologies and frameworks for analysis for rethinking interrelations between technicity and everyday life.

It is **transversal** in looking across multiple perspectives, lines of enquiry or geographical boundaries. This means a comparative imagination that does not seek to fix or settle, but recognizes instability and transience and focusses on capturing fleeting or unanticipated modes of inhabitation which are usually out of frame.
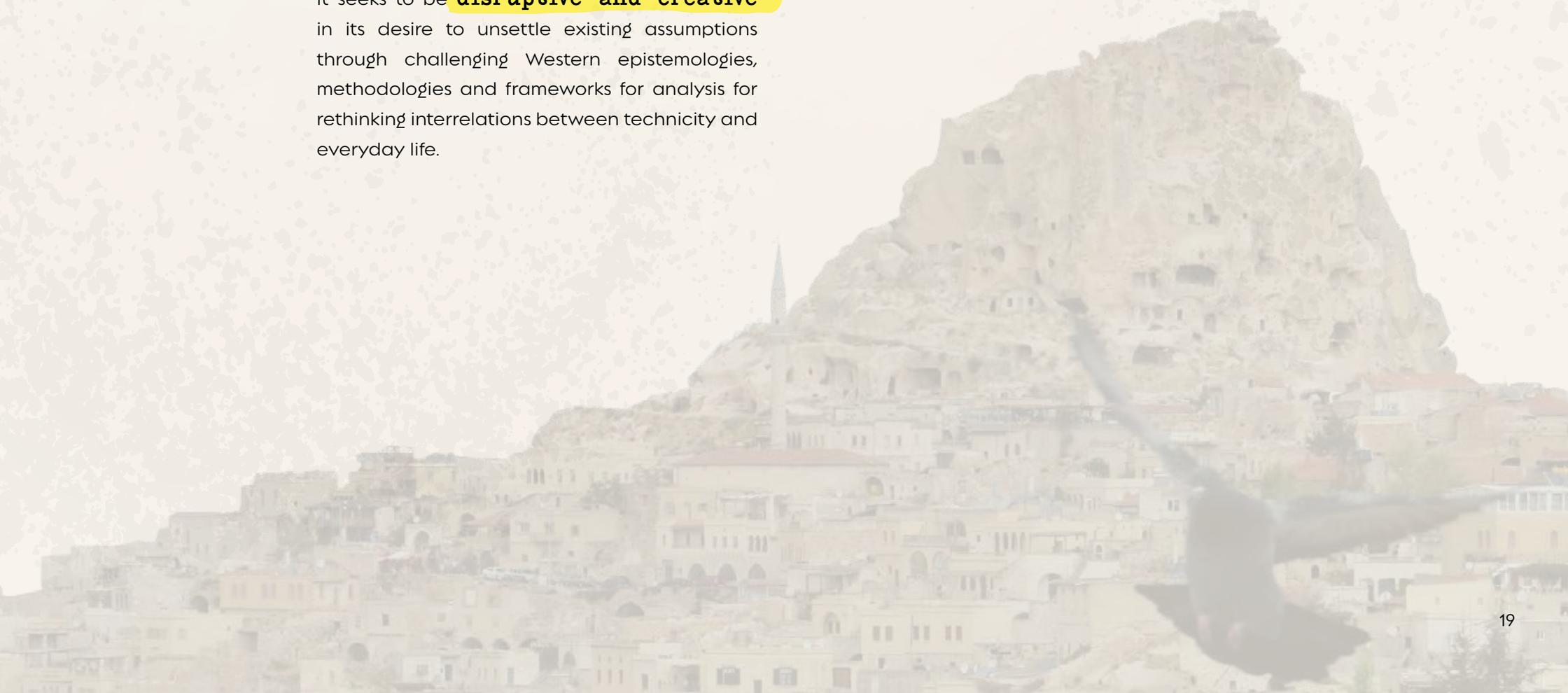
What will we do?

We will initially curate a series of conversations, dialogues and workshops that then lead to more active interventions - site visits, funding proposals and collective case studies, for instance - with a group of scholars who share our concerns.

During **Year 1 (2021-2022)**, we will undertake structured and programmatic dialogue around our initial ideas to open up conceptions of urban inhabitation and the urban technical, and develop a relational understanding of how these are co-constituted.

Years 2 (2022-2023) and 3 (2023-2024) will be co-designed with collaborators interested in working with us on a programme of work. First, we imagine a series of collective case studies, site-based interventions and workshops to open up horizons and possibilities. Second, we will undertake collaborative analysis and reflection on the implications of the programme – theoretically, methodologically and practically.

A consultative group, drawn from our international network of scholars, will provide strategic input and guidance.

What will be produced?

As well as producing conventional academic outputs – special issues and edited collections – there will also be a commitment to working with artists, film-makers and writers to produce outputs that enable a wider societal debate about the future of inhabitation and the urban technical. We would like to see longer-term funded collaborations and projects emerging from the programme. In the meantime, we envisage mobilizing resources to produce video materials, seminars, podcasts, workshop reports, blogs, creative output and traditional academic outputs along the way.

How can I get involved?

This programme has a wide number of entry points for people to get involved. We are interested in collaborating with anyone – from across disciplines, geographies and sectors – who is motivated to join us on this journey of investigation. If you'd like to get in touch, contact the Urban Institute Directors on **urban-institute-directors-group@sheffield.ac.uk.**

You can also get regular updates on events and activities linked to the programme at **https://www.sheffield.ac.uk/urban-institute**

Join the University of Sheffield's Urban Institute in forging a novel programme around urban inhabitation and the urban technical.

If the fundamental conditions that enable life in cities are constantly changing, how can we mobilize and repurpose an expanded notion of the urban technical to support more just relations between humans, non-humans and the planet?

This prospectus is designed to initiate a collaborative programme of work involving active experimentation and exchanges between urban labs around the world.