

Socio-technical practices: Re-arrangements of technical knowledge for just cities

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I. INTRODUCTION

This special issue investigates a form of urban practice – termed ‘socio-technical practice’ – that utilizes technical knowledge, particularly in architecture, planning and related spatial disciplines, as a means of ‘allyship’. This practice operates within partnerships and coalitions aimed at supporting urban residents, grassroots organizations and social movements advocating for fairer cities. By allyship, we refer to a committed and accountable positioning by practitioners who intentionally leverage their skills, resources and institutional access to support and amplify the struggles of those who have been structurally marginalized, without co-opting or leading them. The collection critically examines how diverse forms of socio-technical practice are being redefined and understood in urban contexts increasingly affected by inequality, climate disruption and displacement. While we acknowledge that the term ‘socio-technical practice’ applies to actions taken by those operating beyond the professional sphere, this special issue will specifically focus on those who engage from this practitioner position.

From the outset, we envisioned this special issue as both a mapping of the field and a network-building exercise aimed at illuminating and tracing potential connections within it. We recognize ‘socio-technical practice’ as a rich and diverse area of work that is widely applied yet insufficiently theorized in urban scholarship. This practice primarily encompasses what Luansang, Boonmahathanakorn and Domingo-Price captured in this journal as the role of ‘community architects’ within the Asian Coalition for Community Action (ACCA): technical professionals who can translate the aspirations of community groups into actionable plans, demonstrating how people are central to the transformation process.⁽¹⁾ In addition to architects, the practitioners involved in the work we are interested in may include planners, engineers, designers and other specialized professionals.

This special issue has two primary aims. Our main aim in compiling this work is to explore the current state of the empirical field of socio-technical practice, gathering insights from a diverse range of practice-based and adjacent scholars who have engaged in such work in various capacities. Together with the authors, we aim to identify how socio-technical practices have been deployed and reimagined in recent years as part of collaborative assemblies of knowledge, people and resources aimed at promoting more just and inclusive forms of urbanization. The collected papers uncover the experiences of those working in this area, highlighting key concerns and identifying areas for further exploration arising from their contributions. The papers demonstrate that this practice functions as both a form of allyship and a site of struggle, particularly regarding whose knowledge is valued in urban development, whose futures are envisioned, and how these visions are constructed. This struggle occurs between urban residents and their organizations, alongside allied socio-technical practitioners and other external actors who challenge the legitimacy of residents’ knowledge. The

¹⁰ Archer, Luansang and Boonmahathanakorn (2012), page 498.

papers confront these tensions directly, offering grounded, critical and often experiential accounts of how spatial practitioners – through their engagement with spatial design, planning processes and everyday spatial dynamics – and activists, residents and community leaders are redefining the aims and scope of technical knowledge within the contested socio-political contexts in which they operate.

Secondly, this issue aims to advance the agenda of situated, embedded and engaged research, supporting practitioners in articulating their embodied knowledge – which often challenges established academic norms.⁽²⁾ Many contributions to this issue are deeply intertwined with the authors' experiences as socio-technical practitioners, aligning with Nelson's definition of 'practice research', which emphasizes simultaneous "*being-doing-thinking*".⁽³⁾ This approach, linked to Paulo Freire's understanding of praxis as simultaneous "*reflection and action directed at the structures to be transformed*",⁽⁴⁾ highlights practice as a valid epistemological position and recognizes the interconnected nature of knowing and acting upon the world.

In this special issue, many contributors are 'scholar-practitioners' or 'scholar-activists',⁽⁵⁾ documenting their experiences and articulating how their learnings contribute to broader communities of thought and action. While research drawing on practice-based knowledge is widely recognized in the arts,⁽⁶⁾ it remains more challenging (although crucial) within Western social sciences, as it often confronts traditional definitions of rigour and legitimacy. By attending to these contributions, we assert that positioning research closer to practice not only expands our understanding of cities but also prompts a rethinking of what constitutes legitimate knowledge and how the constitution of knowledge is intertwined with the transformation of cities and worlds.

Although the term 'socio-technical practice' may not be explicitly mentioned in every paper in the special issue, each contribution critically engages with central questions pertinent to this practice: How is technical knowledge mobilized to support social transformation? In what ways do design and planning practices mediate relationships between individuals and the various civic, governmental or private sector agencies? How do these mediations challenge or reinforce oppressive power dynamics? By addressing these questions, the papers in this special issue build upon a lineage of critical spatial thought – ranging from action research and Freirean pedagogy to insurgent planning, feminist ethics of care, and Southern urbanism – fostering a shared dialogue on how to mobilize technical knowledge in socially transformative and emancipatory ways.

II. SITUATING SOCIO-TECHNICAL PRACTICES ACROSS DISCONNECTED FIELDS

In this section, we do not seek to define a singular field but rather to situate socio-technical practices within overlapping and often disconnected scholarly and practitioner dialogues. Our intention is to map how activists, practitioners, scholars and collectives theorize, enact and reimagine the relationship between technical knowledge and urban justice across diverse contexts. We draw from three key bodies of work: critical urban studies, critical architectural and planning discourse, and emerging decolonial and justice-oriented design frameworks. This positioning helps to foreground a significant blind spot: the marginal status of socio-technical practice within mainstream spatial disciplines – including architecture and urban planning – despite its centrality to ongoing struggles for equitable and transformative urban futures.

²⁰ Shafique (2025).

³⁰ Nelson (2022).

⁴⁰ Freire (1968).

⁵⁰ Routledge and Driscoll Derickson (2015).

⁶⁰ Vear (2022).

a. Socio-technical assemblages in urban studies

Over the past two decades, urban studies has increasingly viewed cities as socio-technical assemblages – configurations where infrastructure, institutions and everyday life co-produce urban experience. Catalysing this epistemic evolution, Graham and Marvin's *Splintering Urbanism*⁽⁷⁾ catalysed this epistemic evolution by demonstrating that infrastructural networks do far more than distribute water, electricity or mobility. They also actively produce spatial inequalities, entrench exclusionary politics and shape differentiated forms of urban citizenship. In this view, infrastructures are not merely technical systems but contested terrains of power and meaning.

Building on this foundation, scholars such as Amin and Thrift⁽⁸⁾ and Simone⁽⁹⁾ have expanded the focus of socio-technical analyses from large-scale systems to the intricacies of everyday urban life. Their work foregrounds the rhythms, improvisations and informal logics through which individuals navigate infrastructural contexts. This closer examination of daily experiences has contributed to a broader movement in urban theory that transcends deterministic views of modernity and development, fostering an understanding of infrastructural and technical worlds as relational, situated and intrinsically social.

Despite the extensive body of work in this field, a significant gap persists: the role of sociotechnical practices – initiated by professionals such as architects, planners, engineers and designers – rarely occupies a central position in urban analysis. How is the knowledge that they contribute to urban processes situated, contested or harnessed within prevailing political and policy frameworks? How do their roles evolve when they are intentionally inserted within partnerships and coalitions advocating for more equitable cities? This special issue responds to this lack of exploration by advancing the understanding of socio-technical practices as hybrid, relational modes of action that mediate between expert knowledge and political alliances, as well as between material production and epistemic contestation.

b. Critical perspectives in architecture and urban planning

Entwined with yet partially disconnected from debates in urban studies, practice-oriented spatial disciplines have long grappled with questions of practice, ethics and knowledge in socio-technical terms, even if not always explicitly. The work of John Turner⁽¹⁰⁾ on self-help housing and Nabeel Hamdi's later contributions to participatory planning⁽¹¹⁾ laid early foundations for recognizing informal and context-specific forms of technical expertise. As extensively documented by d'Auria, De Meulder and Shannon,⁽¹²⁾ these 'human settlements' approaches, which emerged in opposition to universalizing notions of modernity and development since the 1950s, redefined architectural design and urban planning processes as incremental and open-ended, rooted in everyday constraints and local agency.

Later, Awan, Schneider, and Till⁽¹³⁾ articulated in their work *Spatial Agency* a related critical shift in architectural thinking: from the architect as an individual hero to one who acts with others –

⁷⁰ Graham and Marvin (2001).

⁸⁰ Amin and Thrift (2002).

⁹⁰ Simone (2004).

¹⁰⁰ Turner (1976).

¹¹⁰ Hamdi (1991).

¹²⁰ d'Auria, De Meulder and Shannon (2010).

¹³⁰ Awan, Schneider and Till (2011).

through networks, alliances and distributed forms of authorship. Similarly, feminist thinkers such as Doina Petrescu,⁽¹⁴⁾ Jane Rendell⁽¹⁵⁾ and Meike Schalk⁽¹⁶⁾ deepened the field's ethical and epistemological orientation by foregrounding care, positionality and the embodied labour of spatial practice. Together, these traditions provide essential intellectual scaffolding for theorizing socio-technical practice as a hybrid, iterative and context-responsive form of intervention.

Despite these progressive currents, the lived experiences and knowledge of socio-technical practitioners – particularly those working outside Western academic, state or elite professional institutions – often remain underrepresented, not only in urban scholarship but also within their own disciplinary domains. As argued by Boano and Talocci,⁽¹⁷⁾ the fields of architecture and urban planning continue to privilege certain forms of expertise over others, thereby reproducing uneven geographies of visibility and legitimacy. This exclusion has tangible implications: it limits the frameworks available for students and professionals to envision their roles in urban transformation and hinders efforts to cultivate pedagogical and institutional support for more reflexive, collaborative and justice-oriented forms of practice.

c. Emerging justice and decolonial frameworks

In recent years, calls for intersectional justice, decolonization and pluriversality have compelled spatial disciplines to confront the political stakes of architecture and planning practice more directly. Adjacent to architecture, reflections on design have been crucial in this movement. Sasha Costanza-Chock's *Design Justice* framework⁽¹⁸⁾ centres on historically marginalized communities, advocating for co-design methodologies that redistribute outcomes, authorship, agency and power. Similarly, Arturo Escobar's *Designs for the Pluriverse*⁽¹⁹⁾ challenges dominant Western epistemologies, proposing a design ethos rooted in relationality, autonomy and accountability to diverse ontologies.

In parallel, Southern urban scholars such as Gautam Bhan⁽²⁰⁾ have articulated what could be termed a Southern socio-technical practice, characterized by modesty, discomfort and embeddedness. In his pivotal essay 'Notes on a Southern Urban Practice', Bhan reflects on professional intervention as both compromised and necessary, entangled in structural inequality and everyday possibilities. These justice-oriented perspectives – such as those of Bhan and Costanza-Chock⁽²¹⁾ – reject any simplistic separation between technical practice and politics, asserting that to design and plan is to engage with uneven terrains of power, dispossession and resistance.

Together, these frameworks highlight a profound decolonial imperative that demands not only a critique of dominant systems but also the cultivation of pluriversal practices – diverse ways of being, thinking and doing that challenge singular models of urbanism and extend beyond technocratic expertise. This special issue aligns with that reorientation by emphasizing socio-technical practices as sites of situated, relational, iterative and political action.

¹⁴⁰ Petrescu (2007).

¹⁵⁰ Rendell (2006).

¹⁶⁰ Schalk, Kristiansson and Maze (2017).

¹⁷⁰ Boano and Talocci (2017).

¹⁸⁰ Costanza-Chock (2020).

¹⁹⁰ Escobar (2018).

²⁰⁰ Bhan (2020).

²¹⁰ Costanza-Chock (2020).

Despite their significance in justice-oriented urban interventions, socio-technical practices are often sidelined in critical urban theory and architectural and planning discourse, with their contributions remaining largely unexamined. This absence is consequential: it obscures the ethical, institutional and emotional labour involved in such work; it overlooks how practitioners navigate the contradictions between professional norms, community expectations and political precarity; and it limits the development of the pedagogical and organizational infrastructures necessary to support this work. To name and theorize socio-technical practice is, therefore, a decolonial act in itself – one that begins to recover, legitimize and connect the dispersed practices already in existence in pursuit of more just urban futures.

d. Illuminating the blind spot: socio-technical practice as re-arrangement

This special issue aims to illuminate these persistent gaps in our understanding of socio-technical practices by presenting contributions that investigate how architectural and planning knowledge is mobilized within partnerships and coalitions dedicated to fostering more equitable cities. Drawing on the work of the Urban Re-Arrangements Collective,⁽²²⁾ which employs urban assemblage theory with a focus on the “*technicities of urban life*”, we conceptualize socio-technical practice as a form of urban re-arrangement. This perspective highlights dynamic, context-specific labour that plays a crucial role in continually reconfiguring the relationships among people, material resources and knowledge through acts of care, solidarity and resistance.

These contingent re-arrangements emerge within, against or alongside dominant governance logics, yet they cannot be reduced to these frameworks. Instead, they represent a repertoire of subtle, flexible interventions that draw from both technical and activist practices to transform power dynamics. Throughout the contributions in this issue, we observe practitioners forging new relational networks that connect residents with planners, grassroots movements with municipal systems, and university studios with contested urban spaces.

These actions are not merely interventions in service delivery or participation; they are also political acts of re-arrangement through which urban relations are continuously adapted, recomposed or contested. Importantly, these arrangements are unstable and iterative, reshaped by changes in funding, authority, spatial displacement or the friction of competing objectives. It is this rhythm of re-arrangement – of holding together and falling apart – that characterizes sociotechnical practice.

To fully grasp this field, therefore, we must closely examine its forms, politics and temporalities. This requires a conceptual stance that acknowledges fragility, friction and improvisation – not as signs of failure, but as constitutive features of practice in unequal urban landscapes. By framing socio-technical practice in this way, this special issue contributes to rethinking how architectural and planning education, research and action can better prepare current and emerging practitioners to engage with this vital facet of urban transformation.

III. COMMON THREADS

This special issue aims to illuminate the persistent gaps in our understanding of socio-technical practices by presenting contributions that investigate how architectural and planning knowledge is mobilized within partnerships and coalitions dedicated to fostering more equitable cities. Across diverse geographies, scales and governance frameworks, the papers illustrate that socio-technical practice, as a form of urban re-arrangement, is both relationally and politically constituted. This

²²⁰ Abdullah et al. (2023).

section introduces the papers by examining four aspects of this re-arrangement: the forms of socio-technical knowledge that are mobilized, the partnerships and coalitions involved, the tensions addressed, and the challenges encountered by socio-technical practitioners in their work. It concludes by identifying areas for further research.

a. Forms of socio-technical knowledge

The contributions in this special issue mobilize a diverse array of socio-technical knowledge forms, demonstrating that socio-technical practice extends well beyond traditional planning or architectural processes and outputs. In the three papers by Huchzermeyer; Comaru, Gonsales and Barbosa; and Unni and Joseph, planning and legal advocacy emerge as critical dimensions of practice, encompassing community-based policy briefings and legal affidavits collaboratively developed with grassroots groups.

Elsewhere in the issue, Carofilis Cedeño, d'Auria and Ortiz Tirado highlight how, in the context of a university–grassroots alliance in Guayaquil, Ecuador, architectural drawings can serve both pedagogical and political purposes, challenging dominant spatial narratives. Other contributions emphasize design and construction as powerful means of reconfiguring knowledge and power relations. Kapp, Baltazar and dos Santos present the planned construction of Campus Quilombo – a centre for secondary and higher education for traditional communities in south-eastern Brazil – as a self-managed construction lab, where technical design facilitates the emergence of community political autonomy. This project reframes construction not merely as a top-down process but as an open-ended endeavour that fosters co-production and political agency. Similarly, Moschonas et al. (this issue) document how design tools – such as 3D modelling and participatory infrastructure planning – used in the service of decentralized water infrastructure in Indonesian *kampungs*, can promote socio-ecological adaptation when aligned with local knowledge systems. Wolff et al. (this issue) further suggest that such socio-technical knowledges – particularly in the governance of nature-based solutions in the Asia-Pacific region – should not only be seen as participatory tools but as foundational mechanisms for coalition-building. Rather than treating knowledge production as an analytical or representational process, their framing calls attention to the ontological significance of co-produced technical practices in reshaping governance arrangements themselves.

Papers by Ewing (this issue) and Cavalcante et al. (to follow) centre co-design in their methodological approaches. Ewing's work in Cape Town combines urban storytelling, memory mapping and iterative visioning to explore how relational practice can function as both a spatial intervention and a healing process for those affected by the legacies of the apartheid city. Cavalcante et al. develop a culturally embedded, multilingual approach to risk planning in Brazil, drawing on feminist care ethics and Indigenous knowledge. These methods are not merely participatory; they are situated, affective and politically reflexive, highlighting the dynamic, context-specific labour that continually reconfigures relationships among people, material resources and knowledge through acts of care, solidarity and resistance

Campaigning and counter-planning, as discussed by Unni and Joseph; Comaru, Gonsales and Barbosa; and Pasta, Johnson and Can, represent a more grounded and inclusive approach to socio-technical practice. This aligns with the work of Boano et al. (this issue), who highlight design and planning knowledge as a means of attuning to people's experiences of space and critiquing planning ideas that are often abstracted from lived realities. In this context, technical knowledge is employed not only to design interventions but also to construct arguments, shape public discourse and

hold institutions accountable. In a related manner, Masimba illustrates how technology-assisted enumeration and mapping processes used by Slum Dwellers International (SDI) groups in Harare have fostered a new form of political agency among young people in informal settlements. These and other ‘do-it-yourself planning tools’, the author argues, have the potential to act as a powerful means of political mobilization. These practices demonstrate how socio-technical knowledge can contribute not only to the creation of cities but also to the generation of political possibilities.

b. Partnerships and coalitions

Across these varied modes of working, a picture emerges of socio-technical practice as fundamentally relational and collective. Partnerships expand into coalitions that sustain and are sustained by this work, central to its transformative potential. This resonates with Wolff et al.’s argument that it is not governance structures that give rise to coalitions, but rather the imperative for socio-technical collaboration that generates new governance forms. These authors’ study of nature-based solutions governance in the Pacific highlights coalitions as the condition of possibility for participatory transformation, foregrounding the political labour of alignment, mediation and technical co-production.

Boano et al. describe how students, migrant workers and solidarity activists in Apulia, Italy, form a fragile but powerful network of resistance, co-producing design responses in opposition to racialized planning logics. Comaru, Gonsales and Barbosa show how long-term collaborations between universities and housing movements give rise to new political subjectivities and design pedagogies. Barretto and Ferreira underscore the importance of long-term, cross-scalar coalition building in strengthening socio-technical practice efforts and in their field note expand on the importance of documenting such longitudinal efforts. Carofilis Cedeño, d’Auria and Ortiz Tirado illustrate how generations of students and residents co-authored urban alternatives under dictatorship conditions, weaving together activism, design and education.

In South Africa, Huchzermeyer outlines coalitions involving legal NGOs, community structures, and planners, all working to navigate the contradictions of state policy. Masimba also highlights the various forms of collaboration and learning that have emerged within informal settlements in Harare, aimed at acquiring new skills and generating knowledge to inform upgrading processes. None of these alliances are merely strategic; they are affective, embedded, and often forged through shared histories of struggle.

Pasta, Johnson and Can similarly describe the careful negotiations that underpin post-disaster reconstruction alliances in Antakya, showing how Architecture Sans Frontières UK’s work in this context shifted from technical delivery to interpretation in order to attend to the knowledge and aspirations of local actors.

c. Tensions, conflicts and contestations in place

A core intention of this special issue is to arrange forms of knowledge and partnership as a means of confronting the tensions, conflicts and contestations that define the uneven socio-political terrain in which socio-technical practice operates. These conflicts are especially pronounced in housing and land rights, particularly regarding external agencies. For instance, Comaru, Gonsales and Barbosa present a detailed account of the *Frente das Ocupações* (Occupations Front) in Brazil, where technical assistance is deeply entangled with legal battles, grassroots organizing and struggles for recognition

and epistemic justice. Here, the role of architects and planners expands beyond design outputs to include co-production of evidence, public advocacy and legal framing.

Huchzermeyer further examines in situ upgrading in Johannesburg, where civic leaders, lawyers and planners coalesce to challenge state-imposed relocation logics and defend community claims to land and infrastructure. Her framing of socio-technical practice as ‘radical advocacy’ illustrates how professional practice can be strategically embedded in political struggle.

Carofilis Cedeño, d’Auria and Ortiz Tirado contribute a historical perspective by revisiting the Taller 5 initiative in 1980s Ecuador. Their paper shows how academic–practice collaborations conducted within clear political alliances produced transformative impacts, not only through technical drawings but also by reframing public discourse – from the pejorative language of ‘invasion’ to ‘organized popular settlements’. Meanwhile, Unni and Joseph focus in their paper on campaign-led planning in India, analysing how civil society coalitions mobilize technical knowledge to confront the top-down rationalities of state master plans. Their work illustrates how socio-technical practice can disrupt official narratives through shadow reports, vision documents and participatory mapping.

The contestations explored in this issue extend beyond housing. Several papers focus on nature-based solutions and disaster response, revealing deep tensions between technical standards and local realities. For example, Moschonas et al. examine informal settlements in Indonesia, showing how well-intentioned, technically based nature-based solutions often fail to account for the cultural, social and spatial practices that sustain urban life. Similarly, Wolff et al. unpack the limitations of justice-based nature-based solutions in the Pacific Islands, where international donors and fragile institutional frameworks undermine the viability of participatory approaches.

In the context of post-disaster recovery, Pasta, Johnson and Can document how Architecture Sans Frontières UK collaborated with local grassroots organizations to challenge state-driven reconstruction efforts in Antakya, Türkiye. They positioned themselves as interpreters of community knowledge and utilized design to support and legitimize local aspirations and demands. Together, these papers illustrate how socio-technical knowledge can be mobilized in contexts marked by complex injustices, co-creating alternatives to prevailing planning regimes.

d. Challenges in practice

However, partnership and coalition work in sociotechnical practice is rarely straightforward. The challenges faced are numerous and often deeply structural. A recurring concern throughout this issue is the dominance of instrumental project logics. In the contributions by Moschonas et al. and by Wolff et al., externally funded initiatives are constrained by rigid timelines, inflexible metrics and bureaucratic requirements that hinder community-led ownership. These logics are not merely technical; they are also political, influencing what is deemed successful or fundable.

Co-option presents another significant risk. Unni and Joseph document how participatory tools can be absorbed into state processes without facilitating meaningful power redistribution. Huchzermeyer observes that task teams are often undermined by shifting municipal priorities, while Masimba emphasizes the necessity for urban poor collectives to maintain control over defining, directing and dictating the agenda for participatory enumeration and mapping, to avoid being co-opted by exclusionary state processes. Pasta, Johnson and Can reflect on the state’s ambivalence toward community-led heritage planning. These examples highlight the need for scrutinizing the political economy surrounding practitioners’ engagement with grassroots struggles.

Temporal fragility is also a key challenge, as project timelines often clash with the rhythms of daily life and political mobilizations. Ewing's work in Cape Town shows how relational design coalitions rely on informal arrangements and temporary resources, making them vulnerable to changes in policy or funding. Cavalcante et al. (to follow) note the difficulty of sustaining risk governance processes once project timelines conclude. Wolff et al. emphasize the precarious position of local mediators, who are essential to participatory processes yet often excluded from formal recognition or compensation.

The papers in this issue also address internal asymmetries within socio-technical practice. Cavalcante et al. develop tools that are sensitive to language, gender and cultural backgrounds. Boano et al. explore how factors such as migrant status and race shape design engagement. Unni and Joseph highlight the roles of women workers and informal vendors in planning dialogues, challenging male-dominated frameworks.

Within this, several authors grapple with the emotional labour involved in socio-technical assistance. Ewing frames relational design as care work – emotionally demanding and often undervalued. These insights speak to the need for a more equitable distribution of relational responsibilities between external practitioners, government entities and local leaders.

e. Pointers for further research

Looking ahead, the papers collected in this special issue highlight several areas for further research and reflection. Barretto and Ferreira; Carofilis Cedeño, d'Auria and Ortiz Tirado.; and Comaru, Gonsales and Barbosa advocate for a renewed engagement with the history of socio-technical practice, particularly focusing on under-documented alliances and pedagogies since the 1980s. This is especially relevant in the Latin American context, where such practices have a long lineage. These historical cases offer not only strategic lessons but also alternative visions for future practice.

Importantly, Boano et al. emphasize the significance of trans-local learning circuits, particularly those that facilitate knowledge exchange from South to South or from South to North. There is a pressing need to learn from the wealth of socio-technical practices and critical urban thought that have developed in Global Majority contexts. Their work challenges Eurocentric models of expertise and suggests novel circulations of architectural and planning knowledge.

The papers by Ewing and by Kapp, Baltazar and dos Santos each make a strong case for recognizing practice as a site of epistemological innovation. Toolkits, reflections, construction labs and co-authored visioning exercises should be seen as legitimate forms of urban knowledge production, deserving of critical analysis and archiving.

Wolff et al. and Moschonas et al. clearly indicate the need to deepen our understanding of what socio-technical practice might entail within the framework of socio-ecological thinking. Across both papers, there is a shared call to move beyond the descriptive framing of nature-based solutions or pilot projects, and instead to critically unpack the internal dynamics, formation processes and governance implications of socio-technical coalitions.

Lastly, Comaru, Gonsales and Barbosa and Pasta, Johnson and Can advocate for a paradigmatic shift – from viewing socio-technical practice merely as assistance to understanding it as a form of relational practice. This perspective acknowledges the mutual dependencies and co-constituted nature of practice, challenging hierarchical models of expertise and intervention. It also opens up the possibility of more closely analysing the political economy and power relations

involved, particularly regarding the disparities in expertise between practitioners and residents. This invites us to consider socio-technical practice not as a mere transfer of knowledge but as a shared effort in imagining and enacting urban justice.

IV. COLLECTED INSIGHTS FROM THE SPECIAL ISSUE

In reflecting on the collective insights of this special issue, it becomes evident that socio-technical practice, as a form of urban re-arrangement, resists univocal definition. Instead, it is a situated, contingent and inherently political endeavour that emerges at the intersection of professional expertise, grassroots struggle and dynamic urban conditions. While its potential lies in fostering more just and emancipatory forms of city-making, its practice is fraught with contradictions that necessitate ongoing critical reflection.

Across diverse geographies and contexts, sociotechnical practice is shaped – and often constrained – by institutional logics that prioritize speed, quantifiability and replication over slower, emergent and context-responsive processes. The work of building relationships, cultivating trust and enabling collective agency often escapes formal metrics of success. Yet, it is precisely this labour that sustains transformative practice, ensuring its alignment and accountability to the grassroots struggles it aims to support.

These contradictions are not confined to external constraints imposed by project structures; they are also intrinsic to the partnerships and coalitions themselves. Uneven distributions of power and responsibility – along lines of gender, race, class, generation or professional status – can subtly or overtly reproduce the exclusions that collaborative processes seek to overcome. This dynamic often foregrounds the roles and knowledge of practitioners over those of residents and grassroots organizations that the practice is intended to support. When the burdens of care, coordination or interpretation disproportionately fall on residents and grassroots actors rather than their professional allies, it raises critical questions about the ethics, sustainability and equity of relational modes of engagement.

Addressing these internal asymmetries is not ancillary to the work of socio-technical assistance; it is fundamental to its integrity and political utility. As a form of socio-political re-arrangement, socio-technical practice shifts power, knowledge and resources toward more equitable outcomes. Its value lies not only in the physical or technical outcomes it facilitates but also in the relationships it cultivates and the reconfiguration of roles among professionals, residents, institutions and collectives in shaping the urban landscape.

This practice embodies solidarity, humility and an openness to uncertainty. At its best, it invites practitioners to engage not just as supporters but as integral participants in broader processes of world-making – processes that aspire to be more just, attentive and capable of accommodating alternative urban futures. As this issue illustrates, such work is already underway in numerous localities and networks. Our task now is to learn from these efforts, sustain them, and reimagine the forms of knowledge, collaboration and care that socio-technical practice can offer.

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FEEDBACK: FROM THE *ENVIRONMENT AND URBANIZATION* EDITORS

There are only two Feedback papers in this issue, one on garnering community support in the context of the energy transition in Taiwan and Iran; the other on implementing inclusive planning in the attempt to build a more robust urban food system in Chiang Mai, Thailand. Both resonate strongly with the themed papers in this special issue. While these Feedback papers are not explicitly focused on socio-technical assistance, in both of them the implied need for such assistance is right there below the surface. The actual mechanics of successfully ensuring support for local people’s active involvement so often remains implicit in our accounts – an indication of the relevance of this issue.

The paper by Fakour, Imani and Yuan, focused on the shift to renewable energy, explores the need for social license or community consent in the implementation of successful transitional energy programmes. Poor engagement on the part of communities can mean public opposition and project delays, and technological innovation on its own is insufficient for gaining acceptance. Drawing on mixed method research from cities in Taiwan and Iran, the authors demonstrate the extent to which cultural, economic and political factors influence enthusiasm for these projects. In Taiwan, anxious for energy independence, transparent, participatory processes were considered most important, along with future environmental gains. In Iran, where fossil fuels were abundant, project endorsement was more dependent on alignment with local cultural norms and on economic benefits, including benefit sharing and job creation. For energy developers and policy makers to succeed in introducing renewable energy, they have to align projects with these local values. The authors include practical recommendations for building trust and obtaining social license to operate.

The paper by Boossabong, Chamchong and Promthed looks at efforts to implement inclusive planning in building a more robust urban food system in Chiang Mai, Thailand where disadvantaged groups face serious challenges in the face of food monopolies, unsafe food, rising prices and shortages during crises. The paper documents a collaborative initiative, set in motion by a public forum attended by representatives of public, private, educational and civil society organizations as well as active citizens and people from disadvantaged groups, over 100 in all, and facilitated by precisely the kinds of professional partners who are able to support the socio-technical bridge. The Chiang Mai Food Council emerged from this forum, and an urban farm, run by local residents, was established on land donated by the mayor. Associated efforts included a large compost making operation, a seed bank, the

development of two other community gardens and hundreds of household gardens, all contributing both to urban food production and strengthened connections among some urban poor communities. However, the authors acknowledge a failure to budge the structural impediments to more deep-seated progress – and point in particular to the difficulties in sustaining the kind of ‘collaborative ecosystems’ that require both horizontal coordination and the far more challenging vertical negotiations. They point to the kinds of supports that might help to achieve these sustained empathetic vertical relationships.