RESEARCH ARTICLE

The resonance of Mike Jackson′s work with the use of systems ideas in community operational research

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[Corrections added on 14 February 2025, after first online publication: The surname of Zoraida Mendiwelso-Bendek has been corrected in this version.]

Abstract

The body of work of Mike Jackson covers several major themes in OR/Systems Thinking and articulates key aspects of Critical Systems Thinking, with an interest throughout in applications to complex social challenges. In this paper, as a direct response to this Festschrift, and acknowledging his contribution to Community OR, five active UK-based researchers have engaged in their own process of community-based learning in order to articulate the ways Jackson's work resonates with their contemporary research and practice. The researchers used a variation of the Delphi method to reflect first on the ways that the body of work of Jackson *resonated* with their practice and research agendas. This produced a framework of ideas. Examples from the UK and overseas are then provided to illustrate these points. Ultimately, the researchers used these experiences and reflections to produce a series of statements for developing Community OR practice (and theory)—reflecting and extending Jackson's work.

KEYWORDS

Community Operational Research, Michael C Jackson, OR/Systems, Systems Thinking

Executive Summary

The work of Mike Jackson covers several important themes in Systems Thinking and Operational Research (OR) and articulates key aspects of Soft OR—arguably most notably, through differentiating problem-solving in different contexts (through The System of Systems Methodologies) and by encouraging the application of Systems Thinking to complex large-scale and contemporary challenges. Much of Jackson's work reflects his interest in working on complex social challenges, indicated by his support for Community OR as an emerging subfield (indeed bringing the Community OR Unit to Lincoln during his time there as Head of School). In this paper, as a direct response to this Festschrift, and acknowledging his contribution to Community OR, five active UK-based researchers connected to the Community OR Stream of the UK Operational Research Society have engaged in their own process of community-based learning in order to articulate the ways Jackson's work resonates with their contemporary research and

practice. In undertaking this self-organised process, researchers reviewed the literature and Jackson's contributions and articulated a number of ways his work resonates with their understanding about how Systems Thinking relates to sustainable communities in rearticulated contexts—looking increasingly now towards 2030 and 2050 global agendas. The researchers used a variation of the Delphi method to reflect first on the ways that the body of work of Jackson resonated with their practice and research agendas. This produced a framework of ideas that echoes through their own research. Examples from multiple Higher Education Institutions (in the UK and overseas) are then provided to illustrate these points. Ultimately, the researchers used these experiences and reflections to produce a series of statements and refreshed research questions for developing Community OR practice (and theory) that respond to this body of work in relation to current Grand Challenges, including environmental, social and economic ones that impact, and are impacted by, the communities we engage with. This reflective and scholarly process reinforced to us that Jackson's work resonates as much now as it did before. We conclude that what Jackson et al. did for critical systems and emancipation, the next generation of researchers needs to reshape and extend with a greater focus on marginalised/absent stakeholders, community-led research and with a co-creation and sustainability lens including future generations and non-human stakeholders. Systems Thinking also requires the OR/Systems Thinking research community to keep co-creating relevant and meaningful approaches that enable researchers and communities to work together, but that also enable communities to work by themselves—putting communities at the heart of understanding social challenges and the solutions co-created. What seems at risk of being forgotten is how to improve the abilities of our community partners to become independent-minded researchers—not dependent on external experts. This perspective focusses on enhancing self-organisation, participation and democratic problem-solving and decision-making, rather than favouring researchers' external interventions or impositions. In collectively reviewing the body of scholarly work from Jackson, we hope we have highlighted once more the value of re-connecting current work on these issues to the rich systemic literature that comes before.

1 | INTRODUCTION

This paper is a contribution to a special issue reflecting on the work of Professor Mike Jackson and his contribution to Systems Thinking and Operational Research. The paper's essential thesis or core proposition is that Jackson made a significant contribution to the field of Community OR, and we explore and theorise our views on the nature of this contribution. The paper adopts a reflective stance on our own diverse work in this field and highlights how we have found resonance with the work of Jackson.

In Part 1, we review the literature in the field of Community Operational Research and related Systems Thinking and provide a critique on the contribution of Jackson in the context of the work of others in OR and Systems Thinking over a 40 year period, starting from Jackson (1982), Jackson and Keys (1984) up until the present day (Jackson, 2022, 2023a–c, 2024).

In Part 2, we use a variation of the Delphi method (Dalkey & Helmer, 1963) and double-loop learning (Argyris, 1976) to help structure a collective reflective approach amongst five authors who are currently active in Community OR/Systems Thinking. All authors have identified their work as connecting in different ways to the field of Community OR, and so this allowed us an authentic way to reflect on the resonance of our activities with Jackson's ideas and so to highlight key points we wish to highlight (and in some cases rearticulate).

The main findings of this process take the form of refreshed research questions. These highlight the need to move from a view of Community Operational Research as the application of expertise, to a perspective where researchers work with or within communities to strengthen communities' knowledge and networked resources. It also emphasises for us the need to find ways to include the planet/environment and other non-human actors as active stakeholders in Community OR/Systems Research and to continue to find ways to include marginalised or absent stakeholders including future generations.

Leading on from the Literature Review (Part 1) and Methodology (Part 2), this paper presents a number of vignettes (Part 3) from the recent experiences of the authors, which are then used to identify points of resonance with the work of Jackson (Part 4) before finishing with more general conclusions (Part 5) for Community OR and Systems Research more broadly.

2 | PART 1 JACKSON'S CONTRIBUTIONS TO COMMUNITY OR

As current active members of the UK Operational Research Society's 'Community OR Stream', the five authors of this paper particularly wanted to undertake this collective activity in recognition of Mike Jackson's contribution to the development (and continuation) of Community Operational Research (hereafter referred to as 'Community OR') in the UK.

The Community OR initiative was started by Jonathan Rosenhead in 1986 during his presidency of the OR Society (Rosenhead, 1986). He supported the establishment of a Community OR Unit (CORU) at Northern College (Herron, 2011; Midgley & Ochoa-Arias, 2004; Rosenhead, 2009). Along with Rosenhead, Jackson contributed to the early thinking about this new initiative, seeing it as a creative subfield for developing OR thinking in support of communities (Jackson, 1988; Rosenhead, 1986; Rosenhead, 2009). By the time Jackson was Dean of the School of Management at The University of Lincolnshire and Humberside (now The University of Lincoln), he was committed to building a strong academic community of OR/Systems Thinkers there, and, as part of this, CORU moved to Lincoln in the late 1990s. Jackson's interest and support for the concept and practice of Community OR continued when he moved to The University of Hull and his later work pays testament to that continuing, enduring interest and support for the disciplines of OR/Systems Thinking and the subdisciplines of Critical Systems Thinking, Community OR and Soft OR as well as generally championing the social applications of OR/Systems Thinking (Jackson, 2003; Jackson, 2020c).

It would not be appropriate though, for us to claim that Jackson's contribution lay mostly in Community OR per se. Whilst undoubtedly a key champion for this, his contribution to the field is much wider and sits at the level of the application of Systems Thinking more generally (and especially Critical Systems Thinking and Critical Systems Practice). Jackson also joins a number of senior Systems Researchers in calling for more visible and accessible use of Systems Thinking in the service of large-scale social and environmental challenges (Jackson, 2020c; Jackson & Sambo, 2020).

However, it is worth emphasising that Jackson (1988) has compellingly argued that communities, often consisting of small collectives of people lacking a clear managerial hierarchy, operate within complex social contexts, prioritise participative decision-making and have limited tangible resources. This is seen to be in contrast to the characteristics of larger organisations, and the way issues are faced there. Communities espouse different purposes, desires and other meanings that result in different forms of functioning and operating. Naturally, the concerns of communities differ significantly from those in other organisational contexts (Rosenhead, 1986, Vilalta-Perdomo and Hingley, 2018).

Jackson's (1988) discussion also pointed out that contemporary challenges and problems facing governments and large organisations can share common characteristics with those confronting communities: Indeed, they too are often ill-structured, interrelated, difficult to formulate, with solutions that may not be evident, involve multiple stakeholders and operate within uncertain environments. By engaging with communities and learning from the experiences there, Jackson argued that OR can become more relevant to society, moving beyond a tactical and business-oriented focus. Jackson and Rosenhead saw and highlighted early on that the Community OR initiative could therefore be instrumental in revitalising the wider OR focus and impact. This is a message they have both repeated and reinforced subsequently (Jackson, 2004; Rosenhead, 2009).

Jackson's book chapter on the purposes, theory and practice of Community OR (Jackson, 2004 in Midgley & Ochoa-Arias, 2004) repeats his earlier reflection that what he calls 'impoverished OR', mainstream contemporary OR at the time (Jackson, 2004 p. 57) might be unsuitable in communities, due to the nature of these communities, but reflected that OR had started as an interdisciplinary science, with interdisciplinary teams—and noted that this was highlighted in the early textbooks such as Churchman et al. (1957) and Ackoff and Sasieni (1968). A systems approach could be applied to strategic problems too, including those of public interest. This continues an ongoing parallel and related debate Jackson has been continuously championing about the role and importance of Soft OR; highlighted for several decades (see Jackson, 1982) and also subsequent discussions about the role of Critical Systems ideas in various forms (e.g., Flood & Jackson, 1991a).

Despite the challenges, the potential importance of the Community OR initiative should be recognised. Many contemporary 'mainstream' OR approaches may seem irrelevant to the community context, not only because of their disciplinary emphasis but also because of their restricted community understanding, expert-oriented methods and their external-intervention approaches. Therefore, this paper aims to provide signposts to alternative possibilities by showcasing case studies that demonstrate the existence of suitable approaches for Community OR working with and within communities. This can hopefully help empower the Community OR initiative to continue to realise its potential in revitalising reflection for the wider profession.

2.1 | On multimethodology, pluralism, soft OR and critical systems methodologies

In terms of theoretical contributions to the field, the developments Jackson made in the 1980s, and 1990s have had particular resonance with us when thinking about our community practice.

Jackson drew the attention of the Systems Thinking community to the context in which their methods (and often their Methodologies) were being applied (Jackson & Keys, 1984). These authors highlighted that different Methodologies or practices were particularly suited to different situations and contexts of the participants. Specifically, through the concepts of Total Systems Intervention (TSI) and the System of Systems Thinking Methodologies (SOSM) they argued, it was valuable to consider the differences between situations where the participants come (a) from a *unified* position, (b) from positions with a *plurality* of viewpoint or (c) from situations where there are *coercive* power relations. Combining this with other cross-cutting distinctions, such as a consideration of the simplicity or complexity of the system in question, led to the opportunity to frame these as a matrix of possibilities—with the argument being that certain methodologies seemed particularly well-suited to lie within some of these positions on the matrix (Jackson and Keys (1984); Flood & Jackson, 1991b; Jackson, 2019).

Jackson has made a significant contribution to how we see systems and their stakeholders. In Jackson (2019) and Flood and Jackson (1991b), the two axes in the revised SOSM made the distinction between 'structure' and 'agency' for analytical purposes, whilst recognising they are both interdependent aspects of complexity. Stakeholders' agency in the system of concern will depend on how they are involved (can affect) or be affected. This is a core consideration when drawing boundaries, so to reflect on multiple perspectives and understand who the 'beneficiaries' or 'victims' of the system of concern might be (Jackson, 2019).

Whilst not all the various original methodological authors concerned (or their readers) might always have agreed with the details of this categorisation (which was ultimately itself a professional interpretative act), it was undoubtedly a very powerful and valuable model for stimulating discussion and contextualising methods. The authors of this paper have found the SOSM valuable, particularly for the attention it draws to the circumstances of the participants involved. It offered a reminder that the behaviour of researchers needed to take different viewpoints and power relations into careful consideration.

In his later works (The four 'EPIC' papers; Jackson, 2020b, 2021, 2022, 2023a), Jackson discusses a shift to a related framework based on five 'systemic

perspectives'—building on the theoretical foundations of Pepper (1943), Lakoff and Johnson (1980) and Burrell and Morgan (1979). This progression is argued in more detail in Jackson (2020b).

Jackson's championing of Soft OR/Problem Structuring Methods more generally (e.g., Jackson, 1982) has also had a key impact on researchers in the following years. Amongst others in the academic community, Jackson helped to create a space within the United Kingdom that was recognised for its work in the methodologically 'softer' aspects of Operational Research practice (Jackson, 1982; Jackson, 1987a; Jackson, 1987b). This was evidenced, for example, in the finding of the 2004 EPSRC Subject review (EPSRC, 2004) where 'Soft OR' was identified as one of the key distinguishing features of the subject in the UK, as Rosenhead recalls:

> 'Among its other conclusions it found "soft OR" to be among the strong sub-fields of the discipline here. But it went further—it identified "soft OR" as one of only two "unique selling points of significant strength within the British OR research agenda" (EPSRC, 2004)'
>
> (Rosenhead, 2009).

Alongside all this, Jackson also championed and developed the notion of Critical Systems more widely—in particular, his own take on Critical Systems Thinking provided both an original position based on a background and interest in Political Theory (Flood & Jackson, 1991a; Jackson, 1985; Jackson, 2019; Jackson, 2020a) and an ongoing desire for a critical synthesis included the encouragement of a connective narrative of related positions such as those of Ulrich (1983) and Midgley (1996).

The emergence of the notions of emancipatory systems thinking to address coercive problem contexts has been a major contribution by Jackson. In one of his latest books, Jackson (2019) highlights two other systems approaches for handling coercive complexity, namely, Team Syntegrity (Beer, 1994) and Critical Systems Heuristics (e.g., Ulrich, 2003, 2005) before closing the book by discussing Critical Systems Thinking (CST). CST focusses on different ways of analysing and intervening in organisations to bring about change. One of its commitments is to the emancipation of human beings. The importance placed on human-well-being and emancipation/inclusion has also been a key feature of Community OR with its emphasis on the *meaningful engagement of communities*.

In the Midgley et al. (2018) reimagining of Community OR business engagement with communities was also included in its scope. It could be argued that these can sometimes present coercive problem contexts,

particularly when businesses may hold considerable power and agency over the communities where they are involved in value-creating activities or are affected by its wider impact (i.e., economic, societal, environmental); however, it also provides a broader platform to consider.

2.2 | On grand challenges and the application of OR/Systems Thinking to social and environmental challenges

OR and Systems Research has had a long tradition of trying to address grand challenges. The received history of Operational Research in the UK is rooted in the defence of Britain and Europe in wartime and support for the development of UK industry after this (Lane, 2010; Rosenhead, 2009), with OR/Systems Thinking now including contemporary systems-thought straddling human, biological and nature-based systems.

Rittel and Webber (1973) and others have highlighted the importance of understanding the deep challenges presented by 'wicked problems'. These are problems for which traditional notions of rational problem-solving are unlikely to suffice. They are often characterised by conflicting perspectives, value systems and the absence of agreed final objectives. Examples abound; whether it be the challenges presented by climate change (and responses to it), or any situation where people are using common resources in diverse ways (tensions over fishing, population, migration, border decisions, limited health or education resources, etc.).

Rather than avoiding these issues much of Jackson's work reflects his interest in working on complex social challenges (e.g., Jackson, 2020c; Jackson & Sambo, 2020), an interest, which was also indicated by his direct support for Community OR as an emerging sub-field. One emphasis of Jackson was on human activity systems and charting their origins in multiple disciplines, grounded in historical scholarship—for example, exploring the foundations laid by Habermas, Dewey, Pepper, Bogdanov and others (see, e.g., Jackson, 2020b, 2023a, 2023b and 2023c) as well as contemporary systems researchers, for example, Stafford Beer (Jackson, 2023b). Along with the work of other Critical Researchers such as Ulrich (1983) and Midgley (1996), these discussions have shaped the development of critical systems thinking and practice (Jackson, 2023a) and reinforce the historical connections and implications to Systems Thinking more generally.

With reference to the application of Systems Thinking to Grand Challenges, Jackson (2019) stresses that the UN, its agencies and many major organisations recognise the importance of Systems Thinking as a key leadership skill to address the United Nations Sustainable Development Goals (UN SDGs). The UN SDGs offers a shared blueprint of 17 goals that span aspirations relating to peace and prosperity, for people and planet, now and into the future (UN, 2015). These goals are complex and interconnected by their implicit nature.

Keys (1991) recognised that OR and Systems are complementary in nature; Keys' view being that OR is grounded in the scientific method, whilst Systems can help see problems holistically and address issues of organised complexity. This breath of ideas, concepts and approaches is likely be helpful in developing the skills necessary for 21st century thinking, such as those Jackson (2019) points out are associated with systems thinking: (complexity, multiple causality, interconnectedness, wholeness and seeing things differently). To attain the SDGs may require a significant mindset change in how we see systems from multiple stakeholder perspectives. For example, in acting on climate, (a UN SDG fundamental to the achievement of the others), the transition to a low carbon economy alone will present significant challenges that will question how we reflect on system boundaries and environments and reconcile different stakeholder concerns, resolve conflict and bring about purposeful action.

The systems community more broadly has raised to such challenges in the past, for example, researchers such as Meadows et al., (1972) stressed the 'limits to growth', and more recently with calls for transition from ego to eco thinking (e.g., Scharmer, 2018; Weaver et al., 2021)—the moving from an individualist perspective to a more systemic one. The 'Doughnut Economics' of Raworth (2017) brings together traditional thinking on economic growth with those of the natural environment, with the aim to try to meet the needs of all, within the planet's means, creating a 'safe and just space for humanity' (Raworth, 2017; p. 11). This space sits between a social foundation of human-well-being and the ecological ceiling presented by planetary pressures. A difficult challenge, this calls for change that needs to be realised and put into action so that humanity can evolve and co-exist with nature-based systems that sustain life. As Jackson also highlights (Jackson, 2020b), this challenge is grounded in how we see systems and their stakeholders in both pluralist and coercive problem contexts. Such transitions will require considerable thought in the 'emancipation' and meaningful engagement between and with communities. This all echoes a concern for human dignity, ecological connectedness and a sustainability/planetary lens involving future generations and non-human stakeholders. Indeed, Jackson explicitly calls for the move away from an emphasis solely on human activity systems to more ecological considerations in the 'Explore' phase of his EPIC approach (Jackson, 2020b):

'The societal/environmental perspective also responds directly to the environmental crisis facing the planet. We all depend upon the natural environment, which we endanger when we exploit natural resources and create waste. The sustainability of life on earth relies upon us nurturing the natural world and protecting it for future generations. If we ignore these issues, in addressing problem situations, the impact on the world's flora and fauna, pollution and climate change will overcome Gaia's regulatory capacity, and our blue planet will be no more. The societal/environmental perspective is used, as part of *Explore*, to identify neglected stakeholders, discrimination and inequality and to suggest that interventions take into account the lot of the disadvantaged and the consequences for the environment'.

(Jackson, 2020b, p. 851)

Grand Challenges are not however just restricted to the climate and the environmental challenges humanity face. Jackson has also highlighted the need to rise to a number of other social/economic challenges—particularly health challenges including responding to disease outbreaks (such as Ebola), global pandemics, improving health systems and other interconnected problems (Jackson & Sambo, 2020; Sambo & Jackson, 2021).

3 | PART 2A—THE METHODOLOGY UNDERPINNING THIS PAPER

The authors of this paper have all contributed to the 'Community OR Stream' of the UK Operational Research Society's conferences in recent years and decided to respond together to this call for papers. We have designed and engaged in our own process of reflection and articulation of how the work of Jackson resonates with our own research and practice in communities. This process has followed a number of formalised stages, as well as several (less formalised) regular meetings and discussions between these stages to enrich and extend our learning and find and examine common ground between us. In many ways, this can be seen as a self-organised process, using the ideas drawn from a combination of the Delphi method (Dalkey & Helmer, 1963) and double-loop learning (Argyris, 1976) in a reflexive manner to help us to articulate and combine our ideas in a semi-structured manner. It also builds on other discussions of community-based learning we have presented elsewhere (see, e.g., Herron & Mendiwelso-Bendek, 2017).

The data collection process started by recognising ourselves as suitable individuals to consult. In this case our relevant 'expertise' lay: (1) in our interest in the work of Jackson and our varied understandings and academic encounters with these ideas over the years and (2) in our interest and practical manifestations of Community OR/Systems Thinking in several different forms and (3) in the different perspectives on Community OR, OR/systems, VSM, Cybernetics, SSM, complexity and PSM more generally that we each have (and sometimes share).

The process we followed is shown in Table 1.

Whilst the description in Table 1 of the protocol naturally makes this look a very linear process, in fact, it was a very fluid (and sometimes very nonlinear) process with information and ideas flowing between us in several formal and informal ways. This nonlinear and iterative process enabled all parts of the emerging paper to be available for editing and development as our ideas as a collective developed. However, the distinct rounds of data

TABLE 1 Research process following a Delphi method and double-loop learning.

Phase 1—Initial discussions and agreement on method and data collection/paper protocol

Phase 2—Data collection point 1—Initial points of resonance with Jackson's work

- Collation and discussion
- Identification of initial common themes and an initial framework of ideas
- Discussions and identification of candidate vignettes to include in relation to the framework of ideas identified

Phase 3—Data collection point 2—Written vignettes of Community OR/Systems practice

'Vignettes and resonance'

- Collation and discussion
- Group members' reading of Jackson's recent writings for further discussion
- Contributions and iterations of the emerging paper text

Phase 4—Data collection point 3—Identification of statements of importance and new directions

'Ways to move forward'

- Collation and discussion
- Reading/sharing Jackson's recent writings—Further discussion of resonance
- Contributions and iterations of the emerging text

Phase 5—Editing and extending (and curtailing!) the emerging paper

collection (on clearly defined themes) helped us to keep focus, enabled distinct individual contributions, avoided excessive divergence (!) and overall encouraged a convergence of ideas between us, without limiting too much what these might be. Jackson's work has evolved through his many books and articles, so as part of this iterative process, we also revisited the old in light of the new.

4 | PART 2B: THE INITIAL FRAMEWORK OF IDEAS CREATED

As outlined above, the five co-authors of this paper each reflected separately (and together) on the ways that the body of work of Mike Jackson resonated with their own work.

This has produced an **Initial Framework of Ideas** that we felt echoed (resonated) through our own research. This framework highlighted, in particular, three initial domains of shared interests:

- **1. Developing community-based research with vulnerable or marginalised groups and individuals.** Using community-based research to support increased human capacity, agency and dignity—including building community capacity building to recognise resources within communities or available to them. *This resonated for us with Jackson's work on Emancipation, Empowerment and Coercive contexts.*
- **2. Including the environment and considering resources for future generations.** Making sustainable development a central concern within Community OR; this includes considering the concerns of future generations and other wildlife/biodiversity in our support for community actions; recognising non-human stakeholders, stewardship and the likely concerns of future generations. *This resonated for us with Jackson's work with systems in different problem contexts and his calling for environmental systems, not just Human Activity Systems to be considered. It also resonates with the Critical Systems/boundaries thinking evident throughout his work.*
- **3. Using Systems Thinking in new ways of teaching and learning to support new actions**; supporting sustainability and community education (including developing effective pedagogy). We are all interested in community support and community development/empowerment using different forms of community-based learning, training within HE and strengthening community knowledge and capacity for future actions. This includes student and lifelong learning and community learning. *This resonated for us with Jackson's work on Multimethodologies, addressing UN SDGs, Systems Education and coercive problem situations/Emancipatory Methodologies.*

This Initial Framework of Ideas was the inspiration for identifying examples (given below) from our own research experiences to act as illustrations of these points and how to expand and reflect on them. These illustrations (given here as 'vignettes') are given in the next section (Part 3). In Part 4, we use these self-reflections to generate further (and finer) points of resonance before returning in Part 5 to draw conclusions considering the theories and ideas discussed.

5 | PART 3A: THE VIGNETTES— ILLUSTRATIONS OF IDEAS HIGHLIGHTED IN THE INITIAL FRAMEWORK OF IDEAS

Vignette 1. Developing community-based research with marginalised groups and individuals (Community OR/Systems learning from apparent failure). Development interventions—with and by students of a remote secondary school in Mexico:

> **El Mineral de la Luz, Guanajuato, Mexico. A piece of community *resistance*.**
> El mineral de la Luz (MdlL) is a historic mining town of around 1500 inhabitants, located 20 km (13 miles) from Guanajuato, the state capital. Founded by Spanish colonists in the late 16th century, when silver was found in the area, MdlL grew to over 20 000 inhabitants; however, after the 1929 crisis, the interest in its mining capacity was lost and MdlL almost became a ghost town. Students and teachers from the local school decided they wanted to recover MdlL's cultural and historical heritage to attract tourists interested in Mexico's colonial past. The aim was to increase the possibilities of employment in the area, by developing local businesses, mainly focussed on eco-tourism activities. In addition to its architectural and eco-tourism offer, MdlL is also on the route where a round of the World Rally Championship runs. Its gravel roads and the hilly geography make the MdlL area a perfect place for this activity, which is attended by close to 600 000 fans and leads to more than 60% of the hotel occupancy in the state.
> For this purpose, MdlL students enrolled in an entrepreneurial training programme funded by the state government and run by a university. This programme involved the conception of a series of business plans, one per student that supported each other in their future development. University academics provided a perspective on how to support each other, by looking at each other as free resources, something similar to what can be found in farmers' markets—where the presence of different producers together selling an increased variety of products create bigger interest in potential customers.
> After the training, students presented their business plans to governmental agencies and NGOs, supported by their schoolteachers and university academics. The reception to such

plans was positive and the bureaucratic machine began to move. The initial improvement actions suggested by the government were however first to invite a hotel chain to build one of its facilities in MdlL; second, to pave the road with asphalt and install high-quality signalling.

As expected, none of these suggestions were acceptable under the MdlL students' original plans. Their interest was in becoming owners of their own destiny as entrepreneurs, rather than becoming workers of a multinational chain. Furthermore, improving the roads to modern standards would be likely to exclude the town from involvement in the world rally!

An external set of proposed actions, even with good intentions, was resisted because the community members were not fully listened to.

Comment: *In this example, the researcher's role was to support the learning of students so that they could interact effectively with local decision-makers. Ultimately, the students resisted what was proposed and were able to do this in a knowing way that built their capacity for future actions. This experience shows that Community OR can be a vehicle to develop 'requisite resistance'; the resistance required by a community and its members to maintain their individual and collective identities against external centrifugal disturbances. In the longer term, they were able to develop better outcomes.*

Vignette 2. Using community-based learning to support knowledge articulation in remote rural UK communities.

Community-based learning—*The social issues network* in South Lincolnshire fenlands, UK:
In 2011, the Community Operational Unit (CORU) was approached by a Lincolnshire Anglican Minister who wanted to explore with others the pressing social issues in his locality (the Lincolnshire fenlands). This minister had previously completed a short course with us on *Community Organisation and Leadership* as part of the National 'Take Part' programme (see also Mendiwelso-Bendek & Herron, 2015, Mendiwelso-Bendek, 2015). The Community Leader's initial activity was to undertake a survey across the local churches (in three deaneries) identifying the urgency of different known social issues in these fenland parishes. This initial work was shared with local authorities and organisations in a multi-partnership meeting we organised at the local University campus (involving members of the Police, Local Government, Voluntary Sector organisations, churches, schools and health partners). From this initial meeting, the participants agreed to participate in a series of follow-up Forum/Network meetings in the local town (approximately 2 per year)—organised in partnership between the minister and the University—but led by the former. These meetings where organised using a format where we invited local, regional and national speakers on the issues identified as the leading theme for each session—with a Steering Group

(Continues)

identifying the new themes of focus for the forthcoming events on a rolling basis.

CORU had a continued presence in this forum, helping facilitate early meetings and taking notes of discussions. These notes were thematically analysed and summarised in a 'rapportage' that was shared with the forum at their next meeting. As such a low-key (community-validated) record was kept of emerging themes and points of discussion over the years. This has continued for more than a decade with discussions moving online during the pandemic. Issues raised, discussed and shared between participants have included isolation and loneliness, transport and delivery of public services challenges, the implications of BREXIT on rural communities, housing, mental health, debt, access to food, modern slavery, social inclusion and new-arrival communities, planning and development, flooding and COVID/emergency responses. The minister has also helped organise and promote a local food bank to respond to immediate community need (Herron & Sibley, 2023).

The discussions have also created a means for local and national participants to create a louder voice for rural, isolated, fenland communities in the east of England. The minister has been invited and involved in discussions at Westminster about rural social issues. Despite being a small, somewhat isolated town, national and regional speakers have been engaged in conversations—including the local member of parliament, the high sheriff of Lincolnshire, the deputy chief constable and the former archbishop of Canterbury. The network created a new presence for itself on Facebook and continues to share information and insights on local issues throughout the year, alongside the face-to-face or online meetings.

In other contexts, CORU researchers have also been working with international researchers working with vulnerable groups and developing and re-articulating community-based knowledge. This includes an ongoing partnership in Valencia with university and faith-based researchers working with migrant communities, with Co-labs in Colombia and with Libraries for Peace in the United States (see Mendiwelso-Bendek and Espejo, 2015 and Mendiwelso-Bendek & Herron, 2021).

Comment: In this vignette the role of the University was a long-term civic engagement (for more than 10 years) with people in a specific locality (the Lincolnshire fenlands). The role has been to support community-based learning and the building of a Social Issues Network. The academic involved was involved as a member of this network (although living outside of the geographical area). The use of OR/Systems Thinking here has been in a reflective mode here—guiding, informing and documenting the development of community-based learning (detailed further in Herron & Mendiwelso-Bendek, 2017).

Vignette 3. Taking action with multi-actors, appreciating wider ideals such as the UN SDGs and recognising non-human stakeholders. Building meaningful cross-sector engagement in Edinburgh to accelerate progress on the SDGs:

"In 2019, Edinburgh became the first UK city to be awarded 'Cities CAN-B' global sustainability status. The CAN-B network exists so that all the actors in the city can participate collaboratively in its sustainable development (Cities CAN B, 2022). The initiative was supported by a university, the local council, Chamber of Commerce and two national SDG/B-Corp network organisations. By 2021, Edinburgh CAN-B had been established with members from across the sectors, with the launch of a 'Business for Good' programme and had formally incorporated as a charity.
'A first-of-its-kind initiative has been launched to help Edinburgh businesses play their part in contributing to a "sustainable and successful city."'
(The Scotsman, 24th April 2022)

Prior to 2019, research had been conducted on how to build meaningful engagement between and with businesses and communities with a national grant-maker (See Weaver et al., 2018). The 'Connect model' was proposed for strengthening the relationships between businesses, communities and the third sector. The research demonstrated the importance of a conduit for investing in social capital to build relationships, identifying shared issues of concern and facilitating shared spaces when stakeholders can coalesce around issues and shared values, leading to co-creation of joint business-community value.
Edinburgh CAN-B was established to take this role as a conduit in the city, taking action in line with the ideals of the UN sustainable development goals (local to global). CAN-B recognised that one actor cannot address the challenges in one city alone—it requires multi-agent partnership working in orchestrated 'shared spaces'. However, three issues became apparent: (1) the difficulty in holding this 'shared space' (the facilitation of a process for co-creation); (2) mission drift away from acting as a conduit (to appreciate and co-create a host of actions that could be taken by multi-actors in the movement) to actual delivery of that action by the charity itself (from bid development to implementation); (3) losing sight of CAN-B purpose to encourage and facilitate collaboration for the SDGs (implicitly linked to issue 2). For instance, two business training programmes were created, one by the local university (who succeeded in gaining significant funding for the programme) and secondly, by steering group members themselves. Although, working together for the same means, both initiatives were getting blurred and competed for similar audiences. Other initiatives were 'born by CAN-B', those that succeeded were orchestrated and became independent, whilst those that struggled were attempted to be undertaken by the charity itself with limited resources.
In the year of COP26, when Scotland was in the world's spotlight, there was a lot of noise around the environmental SDGs, expectations plus distinct activity (e.g., talks, events). Edinburgh CAN-B took the decision to focus on social issues, steering away from COP26 activity. In retrospect, some orchestration was needed in the city, sweeping in underrepresented groups and highlighting the interconnectedness between issues (across the SDGs). Particularly, it is valuable to incorporate Raworth's (2017)

doughnut economic thinking, such as appreciating that action is bounded by not overshooting its ecological ceiling and undershooting on well-being. This momentum could have been followed up beyond COP26, utilising its membership, delivering on its purpose and in bringing about more impact.

Comment: *In this case, the role of the academic was to support businesses and others in a specific geographical area. The practical activity involved creating a charity and supporting its development. Despite shared commitment to the UN SDGs, it is not always easy to see how best to act.*

Vignette 4: 'Social Lab for Sustainable Logistics' (SLSL) at Tecnologico de Monterrey in Mexico City. Using Systems Thinking in sustainability/experiential education (developing OR/Systems Thinking Pedagogy).

In the current landscape, logistics and supply chain management (LSCM) operations grapple with an array of sustainability challenges, which also have a community impact. These challenges encompass waste reduction and disposal, resource reuse and recycling, carbon footprint and emissions reduction, energy conservation, efficient land utilisation, resource conservation and adherence to integrity and legal compliance standards. Recognising the need to address these multifaceted sustainability challenges in the context of communities, a novel educational approach has emerged, emphasising aspects that extend beyond technical efficiency and economic considerations from a systemic perspective.
At the Tecnologico de Monterrey in Mexico City, this educational approach has materialised in the form of the 'Social Lab for Sustainable Logistics' (SLSL) (Salinas-Navarro et al. 2019; Salinas-Navarro and Rodriguez Calvo, 2020; Salinas-Navarro et al., 2022). The SLSL represents an integration of Logistics and Supply Chain Management (LSCM) with sustainability education within a community-based learning framework. Consequently, the SLSL facilitates the convergence of participants in a shared learning space, where they engage in experiential learning and collaboratively address community challenges. The participants in the SLSL assume distinct roles, encompassing students, mentors, instructors, evaluators and community members, who act as educational partners. These individuals collectively interact within the learning space to undertake educational activities, primarily centred around LSCM from a systemic perspective. Their primary objective is to develop practical solutions to real-world challenges faced by community members.
A notable aspect of this approach is its social dimension, as participants collectively work towards their own educational objectives whilst contributing to community betterment. It is worth highlighting that students frequently hail from the very communities whose challenges they seek to address, actively identifying and working on pertinent community issues in pursuit of their academic goals.
The implementation of learning experiences in the form of 'learning challenges' under the SLSL framework led to the

establishment of the SLSL at Tecnologico de Monterrey in Mexico City. These learning challenges revolved around topics such as consumer preferences in nanostores/corner shops for food supply, the competitiveness and survival of corner shops in neighbourhoods, the impact of high-calorie products on malnutrition, disruptions in supply deliveries to supermarkets and their effects on food security and strategies for reducing the carbon footprint in supply deliveries to retailers. These challenges effectively recreated urban logistics and operational retail experiences, shedding light on contemporary issues in LSCM specific to the Latin American context. Students employed a Systems Dynamics approach by using causal loop models, systems archetypes and stock and flow models for problem-solving and decision-making.

The assessment of the SLSL's impact on learning relevance yielded positive results, as evidenced by feedback received from students, module evaluations and opinion surveys measuring motivation, interest, learning relevance and commitment to citizenship skills. This innovative approach, anchored in community-based learning and systems thinking, holds promise for addressing sustainability challenges in the realm of Systems Thinking and Community OR, whilst fostering active community participation, awareness and experiential learning amongst students.

Comment: *In this case, the role of the academic was to train and support students so that they could explore and develop suggestions for improvement within a number of neighbourhoods that each had personal connection to. The students were usually part of these neighbourhoods and the academic connected to them through a challenge-based learning teaching role.*

6 | PART 3B: REFLECTIONS ABOUT THE VIGNETTES

On first inspection, these vignettes demonstrate considerable variety and difference in approaches. On reflection though there are features they share that are worth emphasising. In order to do this, we use the 'Communities, Roles, Methods' distinctions outlined by Vilalta-Perdomo and Salinas-Navarro (2023) for discussing Community OR:

Communities: The communities being supported varied in key ways. In Lincolnshire and Guanajuato, the communities are located in geographically remote/peripheral locations. In Mexico City and Edinburgh, they were in large cities. However, all involved combinations of local residents, businesses, government officials and other interested parties. In both cases in Mexico, the communities were those of the students involved, whilst the academics worked supporting and facilitating the students working within these communities, whereas in the United Kingdom, they were communities of organisations, residents and interested parties connecting with

the university in some way. In both Lincolnshire and Guanajuato, the communities related to a particular very local context—a Lincolnshire fenland area and a Mexican historical town. In the case of Mexico City, there were many local contexts as each student worked in a different nanostore and with its local community and suppliers. The context in Edinburgh was wider perhaps (as it looked at a more city-wide response), but the context was still very specific in that it focussed on the responses from Edinburgh businesses.

Roles: In all cases, the academic partners were acting in a way to support learning; either the learning of community members directly or indirectly through the learning of students working in these communities. In all cases, there was an element of trying to build resources, to support community development. Two could be seen as direct engagements of academics (involved as part of the *civic engagement* of a university), and two can be seen as teaching engagements (involving academics as part of the *teaching role* of a University).

Methods: The methods used varied and included Systemic Ideas either directly or indirectly. They ranged from the application of structured observations (reports) creating opportunities for strengthening internal feedback loops and self-observation to the direct application of named systems methodologies. These were used flexibly and included the use of VSM (Viable System Modelling) and SSM (Soft Systems Methodology). They also included the merging of systems methodologies with other learning and reflection tools (such as developing entrepreneurial education and challenge-based learning) or the connection to and adoption of wider systems ideas.

7 | PART 4: DISCUSSION OF *RESONANCE* WITH MIKE JACKSON'S WORK

7.1 | 'Ringing the Changes'—Still resonating with Jackson but now also modulating a little

To extend our resonance metaphor, still further we now wish to highlight some of the ways we might consider we are 'modulating' the ideas presented. What this means is that our language and practices may differ from that chosen by Jackson, but we still feel that there are noticeable and valuable connections and resonances to it. Identifying and highlighting these changes, we hope will extend and add to what has already been written considering new circumstances, contexts and practices.

The following are some ways that we feel we might be adapting (but still resonating) with Jackson's use of language and our perceived intentions in his research.

We frame this using the four commitments that Jackson outlines in his recent *Intervene paper* (Jackson, 2022).

Commitment 1: to Systems Thinking (Jackson, 2022, p. 1019):

'Methodological focus'. We perceive that much of the earlier work on Soft OR/Problem Structuring focussed on selecting a methodology appropriate to the problem in focus. We recognise that we have shifted from this *methodological focus* (articulating and defending the selection of an appropriate methodology) to a much more flexible *contextual focus*.

Experiential learning usually interests people by focussing on issues that they know about (that they are in some sense *the experts* in). In these cases, the academic/OR practitioner's role can be to see how systems-related ideas can support learning and address/improve these lived situations. Bringing systems beyond the classroom or bringing communities into new learning spaces creates a possibility of putting systems ideas in the service of the challenges (rather than the other way around). This is an ongoing endeavour that may cause difficulties (e.g., for rigour or visibility of systems ideas), but one we feel committed to if systems ideas are going to be of wider value outside academia.

Jackson (2021, p. 594) noted that CSP can be 'employed to drive an intervention ('Mode 1') or more flexibly, to reflect upon and improve everyday management activity ('Mode 2')', and we see the importance and similarities of this in the different ways OR/Systems Thinking ideas have been used in our vignettes.

Commitment 2: to Critical Awareness, (Jackson, 2022, p. 1019):

'Emancipation' and 'Empowerment' are important key concepts highlighted again in a renewed sense in the 'Explore' phase of Jackson's EPIC framework (Jackson, 2020b; p. 843). We recognise the importance of these concepts but reflect that in practice; we all tend to describe our work more in terms of building the capacity of communities to articulate, extend and share their knowledge of the situations they experience (i.e., as an act of community-based learning rather than an act of emancipating others from a supposed position of greater strength). For us, the concepts of 'capacity building', 'meaningful engagement', 'inclusion/participation', 'co-production of knowledge' and 'resource creation' are particularly important, as they enable communities to be more in control of the direction they wish to go in. We also believe it important that in reflecting on Community OR activities, we challenge ourselves to reflect on the extent and ways that we can put into practice these concepts.

'Coercion'/'Coercive contexts'. Similarly, we recognise the centrality of these concepts in Jackson's work. However, for us, this language and the concerns it reflects have more frequently found their expression in a recurring concern for working with 'marginalised' or 'absent stakeholders' (which Jackson also focusses on in later work). We recognise that this also links to the language of Critical Systems Thinking and practice—albeit in different forms and with altered emphasis.

The notion of marginalised people or stakeholders may be obvious or it may be more subtle; for instance, working with people in remote/somewhat peripheral locations or working with older or younger generations, resource-poor groups or with newcomers to a particular community. In this context, we also recognise the value of Community OR to support the building of 'requisite resistance', as in the case of Guanajuato.

Value and Values—When discussing purpose critically, we also think we need to discuss what *is valued* and what *value* is created by and for all the stakeholders (for more discussion see, e.g., Carney, 2021). In line with sustainable development thinking, value includes ecological value and the value for generations not yet existing. This discussion of *creating value* in many different forms is something we see as an important line of discussion for Community OR going forward.

Commitment 3: to Pluralism (Jackson, 2022, p. 1019):

'Multimethodology'. We recognise that Jackson (2020b) continues to encourage wider systems literacy; What we might call more a 'bilingual/multilingual' systems approach (where we encourage the understanding of different Systems Thinking 'languages' and through this, foster increased understanding about what each brings into focus). We acknowledge here what we perceive as Jackson's ongoing interest in connecting related Systems theories (CST, CSH, TSI/EPIC) and becoming more multilingual (considering Cybernetics, VSM, Systems Dynamics, Complexity, etc.), whilst also accepting that academic experience and specialisation will naturally create more 'fluency' in a primary 'systems language' for most individuals.

We also note when reviewing this work that Jackson and others revisit the arguments about Paradigm Incommensurability (Jackson, 2022). This has raised an important distinction in our minds. Paradigm incommensurability (as given by Kuhn, 1970, 2012 and outlined in Bird, 2022) is about the incompatibility of underlying ontological beliefs (Kuhn is discussing these in relation to building scientific knowledge). We contest that this ontological incommensurability is not necessarily at the level of Methodologies in themselves and the various diverse applications of methods reflect this (e.g., see as an example Jackson, 2021; p. 596).

Jackson's extended discussion of this issue (Jackson, 2022) draws a surprising and valuable

conclusion: 'Once the "spectator theory of knowledge" is rejected, then different 'paradigms' do not compete for one ontological truth. Instead, they offer alternative ways of engaging with the world and, according to the Pragmatists and Bogdanov, can be evaluated according to whether they 'pay' in life. The paradigm incommensurability argument becomes irrelevant, and at the same time, relativism is avoided' (Jackson, 2022, p. 1019).

Commitment 4: To Improvement in the real word (Jackson, 2022, p. 1019):

'Explore', 'Problem-Solving', 'Intervention'. These are important concepts underpinning much earlier writing on Community OR, Soft OR and Problem Structuring Methods. They are valuable concepts for us, but they are not without their challenges in being framed this way. Both 'intervention' and 'problem-solving' imply a position of authority where the analyst/researcher/problem-solver arrives in a situation and provides solutions to improve it. The underlying assumption is that there is an expert whose expertise—if shared—would help communities. Whilst we do not wish to undersell our abilities to do this sometimes, we also feel passionately that communities have their own knowledge-base, and it is often much richer than other 'experts' knowledge of the situation. Therefore, our focus has been more on working with communities to find ways that share and co-construct knowledge in a more even way than the traditional client/analyst relationship (finding new 'meaningful engagements' instead of undertaking traditional 'interventions', or trying to 'solve problems'). We are trying to work towards the meaningful co-creation of sustainable value through community-based learning underpinned by OR/Systems Thinking.

We have explored with community members the beliefs and perceptions within communities, finding ways to bring in new points of view and opportunities for dialogue. The aim has been to build the capacity of all involved (including ourselves and our students) to understand the situations that we are part of and contribute to suggestions for improvement. This improvement is often related to the quality of life in some way and as such is a complex interaction of views and ways of experiencing this. A view (Jackson, 2020b, 2022) seems to share.

So 'Explore' remains a key concept—and we emphasise in our understanding of Community OR that there are multiple stakeholders, including ourselves, the readers of our work, the other members of the community involved and those they interact with in their 'operational'/everyday environments (including decision-makers, sources of important resources and those championing or opposing any proposed actions or changes). Part of this perspective involves bringing resources to the use and attention of community members—including those they may already possess. Building the capacity of community members to articulate, use and extend their existing knowledge and find ways to extend this is a central concern of community-based learning and by extension Community OR. This changes our ideas of what it means to intervene or to solve problems and makes us focus instead on the various ways we can create and maintain meaningful learning spaces and other forms of meaningful engagement.

'Community OR Researcher'. Part of this even challenges the names we use to refer to ourselves. Whilst reflecting on the research element of our work, much of the aspects of these meaningful engagements are seen as more practical engagements by those we are working with (e.g., helping to set up networks, community organisations or engagements with students). Frequently, we find ourselves using terms such as 'Community Researcher', 'Academic Practitioner', 'OR/Systems Academic', 'Community OR Partner' or even simply 'University Partner' or 'Academic Partner'. The exact label remains uncertain and context dependent—but the *variety* of terms is important to note here (rather than the more traditional, terms in use in many earlier papers).

Role of Business Schools. Jackson has always maintained an important sub-thread of conversations about how OR/Systems Thinking developments fit with our evolving understanding of the role of Business Schools and their development (see Jackson, 2020b; p. 854–855). This is an important discussion also led by others (e.g., Gregory, 2008; Gregory & Miller, 2014) and also needs to be considered alongside other contemporary preoccupations of Higher Education: Such as how research and other academic activity help to address the *Grand Challenges* of our times, how research creates different forms of *Impact* (inside and outside academia) and how new forms of participatory research, Challenge-Based Learning and Community-Based Learning can be developed and put to the service of environmental and social/wellbeing challenges—including Social Justice, Cohesion and Environmental Stewardship. Jackson (2022) considers, and our examples echo that 'People have a responsibility to improve the world and should employ ideas that promote purposeful action to this end-in a spirit of hopefulness, even though we cannot be certain of success' (Jackson, 2022, p. 1020).

7.2 | Concluding remarks on Jackson's most recent work

Much of the above connects and resonates with what Jackson describes in his most recent papers on 'EPIC' (Jackson, 2020b, 2021, 2022, 2023a). In these papers,

Jackson outlines a detailed process for conducting Systems Research. Jackson describes the process as EPIC, that is, as requiring us to **E**xplore, **P**roduce, **I**ntervene and **C**heck. We found this to be resonating with our above examples in a number of valuable ways and reflect here on the following additions and distinctions:

Exploring (Jackson, 2020b). We add here to Jackson's views on exploring that we are also exploring perceptions, expectations and even illusions of community capacity building processes and how communities have been building their own capacity. We have been exploring what different approaches are taking place that are building sustainable futures (including what meaningful engagements help co-create sustainable value). We have also been exploring what community knowledge and practices have been successful, and how they have been.

Produce (an intervention strategy) (Jackson, 2021). We would also add that we are producing or codesigning rather than 'intervening'; developing practices together. These might include strategies for collective learning and action to produce democratic social transformations (social justice and solidarity, social cohesion and inclusion).

Intervene (flexibly) (Jackson, 2022). We also consider that it is important to co-produce a flexible journey where reflexion and reflective action aims to refine observation to improve action. We have not adopted a set dogma about methods to use for this, rather seeking to provide ideas that can be used and modified by others. We highlight the importance of embedding a sustainable development perspective (especially social and ecological thinking) into these reflections and actions.

Check (on progress) (Jackson, 2023a). We wish to highlight here the value of participatory evaluation processes. This is not only to have a monitoring process but also, perhaps more importantly, to support processes where the learning lessons are identified within all stages. Data may take many forms for this (stories, accounts, imagery, music, song, meeting outcomes, new activities, new roles or resources and other insights that need to be captured through a variety of creative methods)—and this can take us a long way from the mainstream idea of 'mathematical' or quantitative OR but resonates well with the earlier visions of OR as a transdisciplinary endeavour as outlined in Jackson's (2004) perspective.

On final reflection of the many works of Jackson, we have noted the value of this body of work in other ways. It seems to the authors of this paper that Jackson has been keen to find ways to bring ideas together (e.g., in discussions of Critical Systems) and find ways to explore the 'harmonies' (and sometimes the 'discordancy') possible when ideas are combined.

We feel on reflection that the large body of work of Jackson's work is notably accessible in two very specific ways: For the general reader, Jackson has sought to explain the ideas he presents in ways that can be directly made use of, e.g., in his writings for Managers—such as Jackson (2003) and his practitioners guide to Critical Systems Thinking (Jackson, 2024; Jackson, 2023a; p. 627). At the same time for academics, his extensive efforts to explore conceptual and historical foundations and create useful information trails for other researchers on these matters have been most valuable (e.g., see Jackson, 1991; Jackson, 2000).

7.3 | New statements emerging and refreshed research questions for Community OR

The researchers in this paper have used their experiences, and their reflections on these experiences, to produce a series of statements, which lead to refreshed research questions that have importance to us in developing Community OR practice (and theory). These refreshed research questions are therefore in direct response to the body of Jackson's work.

The refreshed research statements for communities (which extend and resonate with Jackson's work) include:

1. **Community-based research requires us to go beyond models of 'interventions' to models where knowledge is co-produced.** We recognise that we have all more broadly embraced the co-production and co-creation of knowledge through community-based learning and research. This changes fundamentally both the way systems research is conducted and how it is written up. The legacy of Jackson is a focus on the central role of the researcher/practitioner. We feel the need to now put community members at the centre of learning processes. This will require us to think more about the role of the Community OR practitioner in this case.

2. **Increasing capacity within communities.** We are trying to develop practices where, through some meaningful interaction, community members increase their capacity to act in some way. Rather than focussing on answering externally set questions or solving problems from an external viewpoint, we are more focussed on supporting learning environments where participants self-organise, to create with our support, their own sustainable resources and increase their agency to act (or resist action) as they choose. It becomes an ethical responsibility in

this case to try to introduce diverse external perspectives and improved connectivity for us all into this learning process. The design and focus of learning activities needs to be determined by those affected by, knowledgeable of and able to act, in specific community contexts.

3. **Our emphasis has become less on 'giving' marginalised groups (or absent stakeholders) a voice; but rather creating opportunities for more meaningful and equitable dialogues about what is needed to improve the quality of life within communities.** This may involve the creation of completely different lines of thinking/action than we initially imagined. This involves understanding possibilities for constructive change but also mutual understanding and responses to barriers and obstacles to it.

4. **We see that Systems Thinking can be used in different modes—both to guide the design of interactions** ('research design and evaluation modes') **and/or to help directly shape the concepts individuals and groups articulate** (through 'learning and teaching modes')—this is particularly relevant for helping shape responses to complex/wicked problems in such a way to respond to sustainable development issues or complex social issues such as community cohesion and addressing health, education or public safety.

5. **We recognise (as Jackson, 2004 had) that sustainable development may often require the consideration of non-human stakeholders (environment, wildlife/biodiversity, etc.).** It also demands the central respect for enhanced human experience and dignity (culture, living and working conditions, imagined futures) in its many forms. It is an ongoing and evolving process to learn how to do this and to develop and extend our OR/Systems thought and practice accordingly.

6. **Community OR requires an ongoing commitment to questioning and refreshing the boundaries of a situation** (both in terms of its framing of scope and issues and in terms of the people/stakeholders involved and the ways of involvement). Jackson also stresses the importance of meaningful engagement in various ways (Jackson, 2022 and 2023a). We need to extend this idea to the ways we include different actors and stakeholders (not just different voices) and how engagements can flex and adapt to the changing realities this produces.

7. **We do still face some ongoing challenges that have existed (albeit in a different form) in the earlier days of Community OR, but we also face a range of brand new challenges and**

opportunities. These include the challenges of digital transformations and anticipating other related future trends in communities. There will be new challenges for Community OR/Systems Thinking created by these new realities, and we should be ready to share, reflect and adapt (or resist) accordingly.

8. **We acknowledge that problems (particularly 'wicked problems') are not usually solved but often require continued input and energy from all involved** to find ways to take ongoing action to make improvements and to adjust to changing circumstances and unexpected outcomes. This often promotes a move to sustained, ongoing interactions (rather than one-off interventions). This can be frustrating but can also lead to a maturity of expectations and a renewed commitment to longer term engagements with communities (potentially relabelling 'problem-solving' in the process).

9. **There are many mechanisms by which communities can be engaged**—these include research mechanisms, intervention/consultancy mechanisms and teaching and learning mechanisms. Teaching and learning mechanisms have been found to be an effective way to use systems ideas inside community and student learning. We need to continue to share and learn from these practices and keep the OR/Systems Thinking discipline vibrant and relevant to the communities we serve.

10. **Interventions can often get stuck in the exploring stage, with conversations that can be seen as disconnected from actions**. Focussing on reflecting on how activities can develop participants' capacity and new resources should hopefully enable and encourage new emergent situations and responses that we can evaluate in a participatory manner—this can be seen perhaps as part of our version of Jackson's 'Check' stage (Jackson, 2023a).

8 | PART 5—CONCLUDING REMARKS

8.1 | Emancipation revisited—Building capacity for meaningful engagement within communities

Jackson (2019, 2020b, p. 843) continues to recognise the ongoing importance of the concept of 'emancipation' for work with communities. 'In particular, although CSP has tempered the hyperbole associated with its early calls for 'emancipation', it still regards putting fairness and empowerment on the agenda of systems thinkers as one

—WILEY—

of its major achievements and continues to insist that such matters receive constant attention' (Jackson, 2020b, p. 843).

We agree that the consideration of power dynamics and participation is important. We would argue that, for us, a slight change in emphasis and language is valuable. We focus on the concept of 'meaningful engagement' with a range of community actors (sometimes 'participants', often learners). We focus on the building of capacity for these community actors and the articulation and sharing of knowledge through learning and the subsequent possibilities of new resources or courses of action. We find that we are often working with marginalised groups or individuals or with absent stakeholders (including the environment and future generations).

We conclude that we feel that what Jackson et al. did for 'emancipation' the next generation of researchers needs to reshape and extend with a greater focus on marginalised and completely absent stakeholders, on human dignity/community-led research, meeting the needs of future generations and ecological connectedness and constraints.

8.2 | Co-creation and the shifting role of the researcher—No longer 'interventions'

We have argued that Systems Thinking for Community OR requires the OR/Systems Research community to keep co-creating relevant and meaningful approaches that enable academics/practitioners and communities to work together. However, we also see the key importance of ensuring that our activities also support communities to be able to work by themselves—putting communities at the heart of understanding the challenges and the solutions we co-create.

As Jackson highlighted the importance of *interventions*, we wish to highlight the importance of co-creating learning (and potentially the emergence of new forms of knowledge). This moves the focus away from the expert/consultant/researcher and more to the strengthening of understanding within communities themselves.

This essential (almost paradigmatic) shift echoes and strengthens shifts made by Jackson throughout his work calling for awareness of the power dynamics. However, we go beyond this and highlight the need to give the locus of control to communities themselves, to support the development of learning capacity and resource creation, rather than focussing on the knowledge acquisition of the researcher/expert/practitioner.

What we fear might have been at risk of being forgotten is how to improve the abilities of our community members to become independent-minded researchers—

not dependent on external experts (i.e., the OR/Systems Thinking 'expert'). This was highlighted by earlier writers on Operational Research (e.g., Ackoff, 1970) but needs re-emphasising with each generation. This perspective focusses on enhancing community self-organisation, participation and idea/resource generation, rather than favouring researchers' external interventions (which may indeed be experienced as impositions—even when well-intended).

> 'Perhaps we should not tell [others] how to use us, but rather involve them in systematic efforts to find out what we can best do and how they can best use us'.
> (Ackoff, 1970; in Midgley and Ochoa-Arias (2004), p. 117)

8.3 | Building a sustainability/ sustainable development lens for considering wicked problems

Our thoughts (i.e., Jackson's and the authors of this paper and other writers) are apparently focussing increasingly on how OR/Systems Thinking can respond to this body of work concerning the grand challenges we now face, including new and evolving social, environmental and economic ones that impact, and are impacted by, the communities we engage with. Our understanding of how Systems Thinking relates to sustainable communities in rearticulated contexts is constantly developing—looking increasingly now towards 2030 and 2050 global agendas.

We recognise and highlight that wicked problems (as described by Rittel & Webber, 1973) by definition tend not to be solved, or to simply 'go away', but are constantly evolving and being worked on and effected by a range of people and situations—and that the contribution of our discipline must be seen in this context.

What we have demonstrated we can all add though is a range of ways of seeing systems, creating deeper contextual learning and building new resources and capacity to act or understand. This includes a flexible approach to the use and development of systems methods and ideas—including enabling students to find ways to use OR/Systems Thinking methods to address familiar local problems in new ways, stimulating awareness of other stakeholders and perspectives or as a driver for building and maintaining community-based learning.

The contemporary imperative for us all is to include a sustainable development perspective within all our activities (research, teaching and other practices)—acknowledging the need to explicitly consider the stewardship of resources for future generations and non-

human stakeholders. We recognise that Jackson has been part of the generation of Management Science researchers laying the foundations for this new zeitgeist within our subject domain.

8.4 | Lessons for OR/Systems and Community OR, 20 years on?

In the spirit of Jackson's (1988) paper on Community Operational Research and later echoes of this (Jackson, 2004), we also feel this is an important conclusion for the discipline of OR/Systems Thinking more generally.

We are not creating systems to *research the world* but using systems ideas to help strengthen the capacity of other actors *within the world* (whilst at the same time, of course, learning ourselves from the experience). Of course, other academics have also made this transition (including Jackson himself, in our interpretation of the EPIC intentions), but we reiterate and amplify them here.

Jackson highlighted the need for OR to be transdisciplinary and to use systems ideas within transdisciplinary teams. The value of coming from different traditions and translating into different contexts is vitally important if OR/Systems Thinking is to be seen as of wider value. Engaging with different sectors and connecting to different social, economic and environmental traditions are key to developing our own disciplinary capacity to do this.

What Jackson called for in relation to critical research also applies to others within the discipline. Whilst it is important to make conceptual distinctions and delimitations within our discipline, in practice, it is most valuable to strive to see past these, to work on genuine issues of concern and to learn what each OR/Systemic background can add. This requires us to be open to new uses and understandings of methods and patience and skill to translate and mobilise insights to new contexts.

8.5 | The value of the 'resonance' device in our collective research reflections—And the ability to draw out learning this way

The reflective and scholarly process undertaken in this paper reinforced to us that Jackson's work resonates as much now as it did before. The process of writing this paper has itself been an act of self-organisation and an application of complexity thinking—(even if how each of us has individually experienced this depends on our personal understanding of these terms). What we have generated was a reflective process, with lots of feedback (and feedforward) loops, where some collective ideas emerged

and acted as further resources for us all to use in different ways going forward.

We have taken the leitmotif of 'Resonance' as a central theme of this paper. Both in our writing-up and in our reflections and data collection process through our internal iterative rounds of idea production. This connects well to the use of language such as amplification/attenuation and dissonance/resonance. These concepts link to a discussion of cybernetic thought (Beer, 1972; Espejo, 1990; Herron & Mendiwelso-Bendek, 2017; Mendiwelso-Bendek, 2011; Salinas-Navarro, 2010; Vilalta-Perdomo, 2010) that whilst outside the main scope of this paper to discuss more fully does require acknowledgement. We also think this echoes (no pun intended) the clear desire of Jackson throughout the body of his work to make connections between disparate fields of expertise within the systems communities and provide mutually beneficial learning opportunities within them.

In summary, the process of writing this paper has reinforced to the authors the importance of emancipatory and Critical Thinking (albeit taking on new forms). The role in trialling different methods and approaches that OR/Systems Thinking (and in our case especially Community OR) can take in supporting learning around Grand Challenges and the value of connecting current work to the rich systemic literature that comes before.

In collectively reviewing the body of scholarly work from Jackson, we hope we have highlighted in this paper once more the value of reconnecting current work on these issues to the rich systemic literature that comes before, including the extensive body of work of Mike Jackson, and considering how to extend, diverge and build on these foundations to better inform our future endeavours.

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