

# The evolution of Social Ecosystem Thinking and the Social Ecosystem Model in building place-based VET and imagining Just Transitions

**Stimulus Paper for the Symposium -  
'Skills Ecosystems and Just Transitions'**

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## Abstract

*This stimulus paper focuses on the conceptual evolution of an inclusive Social Ecosystem Model (SEM) to connect the worlds of Working, Living and Learning. The paper argues that the dominant human conceptual method of the 'metaphorical device' needs to be superseded by social ecosystem theory, capable of guiding the construction of inclusive and sustainable social ecosystems. The development of theory-based SEM results from the merger of spatial adaptations of the Bronfenbrenner human ecological scalars and extensions to Finegold's high skills ecosystems approach that are then situated within a wider '45-degree political economy framework'. The resulting full framework of the SEM suggests that skills ecosystems can be seen to function as an important sub-system within this overall model. The full SEM with its constituent Skills Ecosystem is applied to the development of TVET in England in order to chart a conceptual path away from the dominant top-down market model and towards a devolved, social and place-based approach. The final part of paper considers the potential role of Social Ecosystem Thinking (SET) in developing what is termed Post-4.0 Industry and TVET scenarios by allying SET/SEM with Socialised Technological Transitions in service of sustainable and fairer Just Transitions. Due to the speculative SEM modelling process and criticisms of its lack of groundedness, at various stages throughout the paper questions of 'emergence' or 'contingency' are posed to enquire about the required conditions for the development of the model in rapidly changing contexts.*

**Key words** – Social Ecosystems, Skills Ecosystems, 45-degree political change, Just Transitions, Anthropogenic Crises.

## Introduction

### **The structure and processes of the paper**

The paper reflects on the evolution and development of Social Ecosystem Thinking (SET) and a Social Ecosystem Model (SEM), the combination of which is referred to as SET/SEM. This ecosystem combination is then applied to understand the process of creating inclusive place-based VET and then more broadly to mapping a path to sustainable transitions. As it moves through these processes, the paper comprises five parts.

Part 1. The evolution of human ecological thinking and the ‘theoretical stage’.

Part 2. The development of social ecosystem theoretical stage (2007-2023).

Part 3. Conceptual construction of the Social Ecosystem Model (SEM).

Part 4. The application of SEM to place-based VET in the English system context.

Part 5. Social Ecosystem Thinking and Just Transitions – Post 4.0 scenarios.

As well as its explanatory function, the paper has several conceptual aims. They are to:

- Suggest that emergent social ecosystem theory has greater explanatory and conceptual power than the prevalent ecosystem metaphorical device.
- Demonstrate how the SEM has been theoretically constructed over time through the merger and adaptation of several constituent concepts, including the ecological systems work of Bronfenbrenner (1979, 1994) and Finegold (1999).
- Extend the Finegold-inspired High Skills Ecosystem model by the application of the 45-Degree political economy framework comprising horizontalities, verticalities and 45-degree mediation to build a fully operational SEM.
- Apply the SEM to English marketized skills development to create a more social and place-based model of TVET.
- Make initial responses to critiques of the SEM from colleagues in the Global South by posing questions of emergence and contingency.
- Explore the implications of Social Ecological Thinking (SET) in relation to Just Transitions and Socio-Technological transitions.

### **Key questions for the Symposium arising from the analysis**

1. How far does SET/SEM move into a conceptual or theoretical stage?
2. To what extent does SEM represent an expanded and improved approach to skills ecosystems?
3. How valid is the SEM treatment of Finegold's High Skills Ecosystems approach?
4. What has led SEM to be critiqued for lack of groundedness?
5. What are the consequences of the subsequent proposal for a *laminated ontological grounding*'?
6. How can the SET/SEM respond to the challenges of intersecting Anthropogenic crises?

## Part 1. The evolution of human ecological thinking and the theoretical stage

### Four stages of human ecological thinking

It can be argued that most recent human ecological thinking has relied on metaphorical use rather than theoretical frameworks. There are of course exceptions, and these will be explored later. In the meantime, it may be helpful to view human ecological thinking in recent decades as progressing through four interlinked stages (Hodgson and Spours 2016).

Stage 1. A dynamic ecological model of the natural world provides **natural system concepts** (e.g., balance, resilience, evolution, self-regulation and so on) ready for metaphorical transfer to the human-social world.

Stage 2. Nature-based concepts are applied to the human-social world through the **use of metaphorical transfer** to aid understanding of complex human activity and dynamic systems. This has been the dominant usage of the human ecological/ecosystem conceptualisation in recent decades.

Stage 3. A post-metaphor phase sees the development of **social ecosystem theoretical frameworks** to assist the critical analysis of economic, political, skills and technological systems operating at different societal levels. This is the SEM stage.

Stage 4. The SEM expands to become part of **society-wide and global ecological imaginings of transitions** to a post-neoliberal, post-Anthropocene societies that are more sustainable, self-regulating, collaborative and socially just. This represents the latest phase of Social Ecosystem Thinking.

### Beyond the metaphorical device

*'Ecological metaphorical thinking in relation to VET appears exhausted and thus it is necessary to progress social ecosystem thinking to a 'theoretical stage' (Stage 3)'.*

To date human ecological thinking has drawn on the metaphorical device – the transfer of concepts of natural ecosystem to help illustrate the complexities of the human and social

worlds. As we will see, however, ecological metaphorical usage may have reached its limits and may now inhibit the theoretical development of ecosystem thinking. What follows is a brief discussion of the transfer function of metaphors and their uses in order to identify the point at which their use-value declines.

The use of conceptual metaphors (the Greek root means to transfer or to carry) is widely recognised as an aid to human cognition by using images of concrete things as a 'bridge' understand the abstract (Zheng and Song 2010). More specifically, the ecologies-ecosystem metaphor has been used to advance knowledge of complex system problems, the relationship between parts and wholes and between order and disorder and adaptiveness (Proctor *et al.*, 2005). Metaphors also transfer meanings across discourses, arising out of an interplay of scientific and popular meanings. In doing so they can slip between rigorous and speculative meanings (Weingart and Maasen 1997).

The ecologies/ecosystem metaphor can be regarded as robust 'correlational metaphor' in which complex natural systems speak to complex human systems. However, the process of metaphorical transfer certain meanings can change. For example, in nature-based ecological thinking, emphasis has been on resilience and adaptation, whereas in the social/human world the emphasis has been on growth and development (Folke et al. 2005). There comes a point that the differences between original uses and new ones become too big for the plausible continuation of transfer. In this situation the metaphor moves from being 'correlational' to a 'analogous' relationship (Casasanto 2014). In this weaker condition, the metaphorical device either needs to be theoretically developed or retired. Here I suggest that ecological metaphorical thinking in relation to VET is exhausted and that it is necessary to progress social ecosystem thinking through to a 'theoretical stage' (Stage 3).

## **Part 2. The social ecosystem theoretical stage (2007-2023)**

*The human ecosystem theoretical stage, in this case SET/SEM, emerges gradually over a decade – expanding outwards from highly localised concerns (local learning ecologies); to national systems constructs (the SEM); and now to historical transitions through a conceptual alliance with other transitions concepts.*

Here the paper explores Stage 3 - the theoretical stage. As part of this exercise, it is helpful to distinguish between Social Ecosystem Thinking (SET) – the overall socialised human ecological mode of thinking and the Social Ecosystem Model (SEM) - the application of SET in specific contexts to aid the conceptualisation of multi-level dynamics of societal and sustainable change. The relationship between the thinking and the active social ecosystem model will be referred to from now on as SET/SEM.

From its beginnings in 2006, SET/SEM had theoretical components rather than functioning metaphorically. Its conceptual base was, however, built in stages, with each intimately linked to political, educational and research contexts. SET/SEM also grew in scope over time – from Local Learning Ecologies to the Social Ecosystem Model; and now to Socio-Ecological-Technological Transitions.

### **Local Learning Ecologies (2007-2015)**

The earliest work concerned the development of 'local learning ecologies'(LLEs) with a focus on the role of further education institutions in localities in England and (Spours et al. 2007). The work originated in 2006 within the Teaching and Learning Research Programme (TLRP 2000-2010) during the time of the New Labour Government and its top-down managerial method of governance of the further education sector. This early work discussed concepts of institutional mediation applied to lifelong learning (Hodson and Spours 2009).

This local ecological perspective swiftly evolved under the impact of the Conservative-Liberal Democrat Coalition (2010-2015) to consider 'Three Versions of 'Localism' – managerial, market and democratic-ecological (Hodgson and Spours 2012), in which third variant promoted the idea local networked governance embracing a range of social partners. The

practical focal point of the LLE was the proposal to form ‘local progression boards’ (LPBs) in support of learner progression and transitions in localities (Hodgson and Spours 2013, 2015). This phase of the localised ecological/ecosystem thinking (the terms were then used interchangeably) was supported by partnership working with local education authorities (weakened by Conservative marketized governance) in deprived urban contexts in leading to concepts of ‘low and high progression equilibria’ environments, drawing heavily on the work of Finegold and Soskice (1988) and then Finegold (1999).

### **The emergence of the Social Ecosystem Model (2016-2020)**

The full Social Ecosystem Model (SEM) emerged in the context of research on the impact of parts of global cities (East London) on learning and skills development (Hodgson and Spours, 2018). The extant ecosystem conceptual frameworks were shaped by a critique of ‘elite entrepreneurial ecosystems’ (e.g., Maleki 2011, Mason and Brown 2013), giving birth to the idea of an inclusive SEM. This stage of model building also involved critical reflections on Skills Ecosystems (i.e., Finegold 1999; Payne 2007; Buchanan et al. 2017) resulting in conceptual extensions of the Skills Ecosystems to include sustainable living through what has been termed the ‘Working, Living and Learning nexus’. This extended framework was then embedded in a wider political economy framework (see Figure 3).

### **SEM becomes linked to societal and sustainable transitions (2020 – present).**

The most recent phase has seen the SET/SEM being linked to wider concepts of ‘societal transitions’ – the ‘Just Transition’ and the ‘Socialisation of Artificial Intelligence’, leading to the vision of a ‘Post-4.0 Scenarios (see Figure 7). At the same time, these conceptual developments have been assisted by a ‘thought experiment’ focused on ‘45-degree knowledge production’ involving the theorisation of dialectical relationships between horizontal and vertical knowledge worlds (Spours 2018, 2020).



### Part 3. Conceptual construction of the Social Ecosystem Model

*The theoretical construction of the SEM has involved a series of conceptual adaptations, fusions and extensions of existing human ecological/ecosystem ideas.*

1. The spatial and political economy adaptation of Bronfenbrenner's human ecological scalars to render them relevant to the local and regional terrains of economic development, further education and TVET (Hodgson and Spours 2013, 2015).
2. The linking of Finegold's concepts of High Skills Ecosystems (1999) and the Low Skills Equilibrium (Finegold and Soskice 1988) to these geo-social-spatial scalars to provide system dynamism.
3. A critique of 'Elite Entrepreneurial Ecosystems' leading to critical reflections on Finegold's High Skills Ecosystems and stimulating contrasting imaginings of 'Inclusive Social Ecosystems'.
4. Extending the 'Skills Ecosystems Model' socially and politically through the development of the 'Working, Living and Learning Nexus' applied through a '45-degree State and Civil Society Framework' (see Figure 3).

#### **1. Bronfenbrenner's ecological scalars and their spatial adaptation**

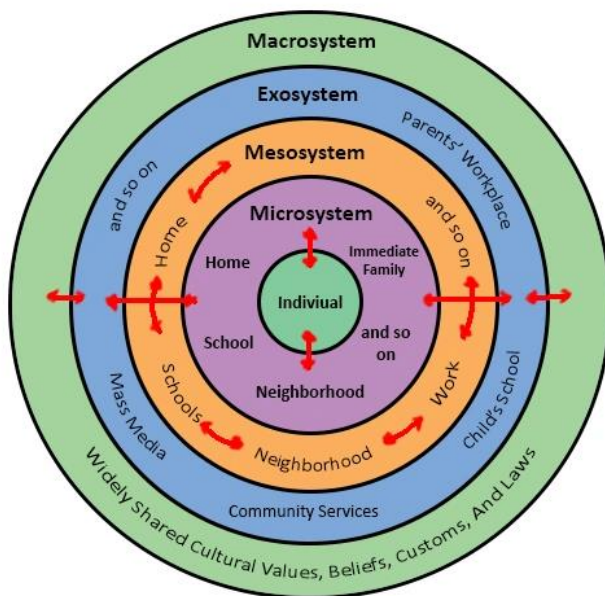
The seminal human ecological work of Uri Bronfenbrenner (1979) viewed child development within a set of nested human ecologies across four inter-linked scalars, each of which had an increasingly expansive character. This was to provide novel ways of conceptualising connections between the individual and wider societal influences, leading to an improved understanding of the interlocking environments affecting child development. In the context of this paper, Bronfenbrenner's interdependent human ecological scalars could be regarded as theoretical rather than metaphorical.

Concerned primarily with moving away English market model and the development of place based TVET, Hodgson and Spours (2013, 2015) gave Bronfenbrenner's ecological system levels an explicitly spatial and political economy emphasis to assist with the analysis of local and regional economic and skills ecosystem dynamics. In terms of education governance within England and the UK more widely, this political economy interpretation stressed the

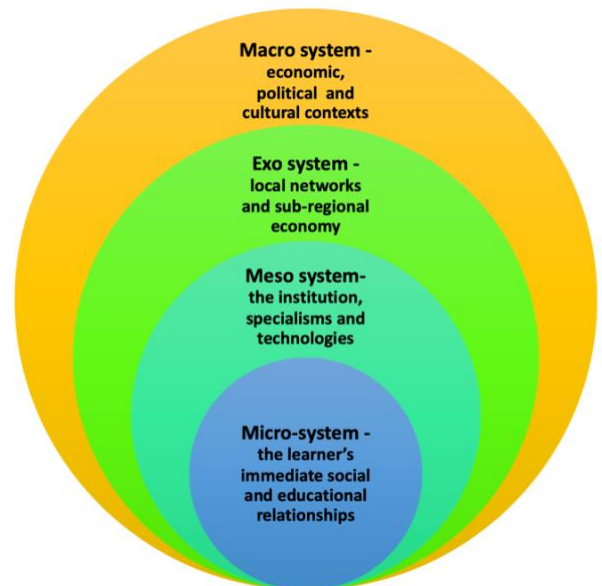
importance of the ‘middle tier’ of political and social relations; the local levels of state and civil society where factors and forces for skills, economic and social activity are essentially played out. These spatial distinctions also resonated with devolution debates and the importance of intermediate collaborative governance relations that lie between individual institutions and national governments that have been relegated in the neoliberal era (Hodgson and Spours 2012).

Figure 1. The spatial and political economy adaptation of Bronfenbrenner’s human ecological scalars

Original Bronfenbrenner Model



Hodgson & Spours Spatial Model



## 2. Four related elements in Finegold’s ‘High Skills Ecosystems’ (HSEs)

In his breakthrough 1999 ecosystem work, Finegold identified four inter-related ‘elements’ contributing to the creation of High Skill Ecosystems (HSEs) that have since given rise to global Platform Capitalist tech giants such as Google, Apple, Facebook and Uber. These growth dynamics were contrasted to the ‘Low Skills Equilibrium’ that had previously conceptualised systemic low demand for skill the 1980s UK economy (Finegold and Soskice 1988). Like Bronfenbrenner, Finegold’s HSE work was developing a theory of multiple factor interactions that progressed beyond metaphorical usage.

1. 'Catalysts' that trigger development (e.g., the original impulse of military spending, government demand and investment).
2. 'Nourishment' from world-class research universities that have provided a stream of new talent.
3. 'Supportive environment', including physical infrastructure such as transportation and housing.
4. 'Interdependence' and co-operation between the actors in the region based on flatter hierarchies within enterprises, together with strong local and regional networks.

These two important post-metaphorical approaches – spatial ecological scalars and dynamic system factors for change - were combined by Hodgson and Spours (2013, 2015) to develop the analysis of a 'Low Opportunity Progression Equilibrium' (LOPE) and the model of a 'High Opportunity Progression Ecosystem' (HOPE) in relation to the development of universal upper secondary systems and TVET in England.

### **3. Critiques of 'elite entrepreneurial ecosystems'**

The rise of Big Tech the early 2000s and the birth of the so-called Fourth Industrial Revolution (Schwab 2018), we can appreciate how Finegold's HSE analysis provided an explanation of the conditions that gave rise to clusters of high growth companies that would in subsequent decades develop into what is now termed 'Platform Capitalism' (Morozov 2015; Srnicek 2016). At the same time, however, reflections on the growth of Tech giants suggested that all types of human ecosystems were not necessarily an unconditional good.

The passage of time has revealed that the entrepreneurial ecosystem model, with its combination of finance and high tech (FinTech) and fed by a steady stream of educated elites, has resulted in an exclusionary economic, living and learning dynamic (see Figure 2). An interesting question at this stage is whether the Finegold HSE was an example of an elite entrepreneurial ecosystem? Interestingly, entrepreneurial ecosystem literatures do not cite Finegold, but his HSEs in Silicon Valley appear to be an early example of the FinTech conception on a regional scale.

This critique of the entrepreneurial ecosystem model triggered imaginings about the key features of an alternative, inclusive Social Ecosystem Model. This comparison can be found in Figure 2. They have some similarities in that both models link the worlds of ‘Working, Living and Learning’ albeit in differing ways. But they also have important methodological differences in relation to retrospective and prospective thinking. The elite ecosystem approach reflects retrospectively on the existing and historical phenomenon of FinTech by utilizing the ecosystem ‘metaphorical device’ to interpret growth dynamics. Inclusive social ecosystems, on the other hand, have been conceptualized but do not yet fully exist in practice. Here the ‘prospective imagining’ about a potential future social ecosystem model requires the development of ‘social ecosystem theory’ as a guide to a future ecological construction process.

*Figure 2. Contrasting elite entrepreneurial and inclusive social ecosystem models*

Characteristics	Elite entrepreneurial ecosystems	Inclusive social ecosystems
Purposes	Focus on private wealth production – aspect of new forms of ‘sharing’ Platform Capitalism.	Focus on public good and social inclusion with market shaping role.
Functions	‘Natural’ inter-dependencies and feedback loops involving tech entrepreneurs, finance capital and ‘spin-offs’.	‘Constructed/nurtured’ inter-dependencies and feedback loops involving a range of social partners.
The economy	High-end technology and central role for venture capital.	Combinational economy (high/low) and strategic mix of public, private and third sector inputs.
Environment and place	‘Place using’ - importance of environmental attractiveness for key intellectuals - urban ‘supernova’ effects.	‘Place-making’ involving local integration of education, economy, housing and transport to counter urban ‘supernova’ effects (e.g., 20-Minute Cities).
Relationship with education and training	Innovation and graduate production roles of prestigious universities.	Involves range of education partnerships including VET providers to build inclusive local education and training systems.
Economic, social and environmental effects	Wealth production + tech innovation = widening inequalities, social displacement and environmental distorting effects.	Social and economic outputs to promote sustainable growth and reduce inequalities.

Role of time	Time bound – dynamic elite ecosystems degeneration & regeneration cycles, but social displacement effects could endanger long-term futures.	Long-term and gradualist project - social ecosystem ‘building’
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The comparative analysis and subsequent speculations made clear the kind of elite human ecosystem we did not want. However, these imaginings of inclusive opposites could lead to methodological problems.

*Q. How far and in what ways does this comparative analysis affect the ‘groundedness’ of the emergent SEM?*

#### **4. Extending the Skills Ecosystems approach within the overall SEM**

##### ***Strengths and limitations of Skills Ecosystems***

This comparative exercise was to lead to critical reflections on the Finegold HSE model and the Skills Ecosystems approach that drew heavily on his work. The fact remained however, that the concept of Skills Ecosystems has, over the past two decades, captured the imagination of academics and policymakers in relation to skills formation and economic innovation in Anglo-Saxon type economies (e.g., Australia, UK and US). The skills ecosystem ‘analogy’ aimed to utilize key ideas of the life sciences to capture the organic and dynamic relations associated with the ‘skills-political-economic development nexus’ (Buchanan et al. 2017: 3) to draw attention to the importance of the wider context or settings in which skills are developed and have been used in order to move the policy and practice debate beyond the prevailing policy orthodoxy of ‘skills supply’ (Keep 2015).

The strengths of skills ecosystems have been in its holistic approach to skills utilization and its development in companies with links to the VET system. Moreover, it has moved beyond Finegold’s original HSE work that focused on high-skill environments to recognize more diverse economies (high, medium and foundational) with their differing skills requirements. However, while Hodgson and Spours saw theoretical potential in Finegold’s HSE four-element

model, Buchanan and colleagues (2017) continued to view skills ecosystems through a metaphorical lens.

However, the passage of time has laid bare several limitations. The most significant proved to be the confinement of ecosystem pilots to private sector firms in which owners and managers elected for less progressive routes to business viability. At the same time, the focus on the private sector under-estimated the role of the public realm and the role of the national and local state in develop skills ecosystems in less favourable economic environments than those of Silicon Valley. But there were also conceptual limitations. The skills ecosystem approach continued to utilize the ‘analogous metaphorical device’, focusing on Finegold’s four ecosystem elements to examine how far these existed in any particular skills context. Metaphorical usage thus lapsed into empiricism. This non-theoretical ecosystem thinking proved less able to consider the wider economic and political system conditions required for its future effectiveness.

These limitations revealed some of the challenges facing the SEM - notably the need to extend the conceptual boundaries of the skills ecosystem approach by introducing a more explicit political economy analysis focused on ‘Working Living and Learning’ and the conceiving of wider public-private-third sector partnerships rather than a dependency on the private company.

*Q. What is the status of Skills Ecosystems in relation to the Social Ecosystem Model?*

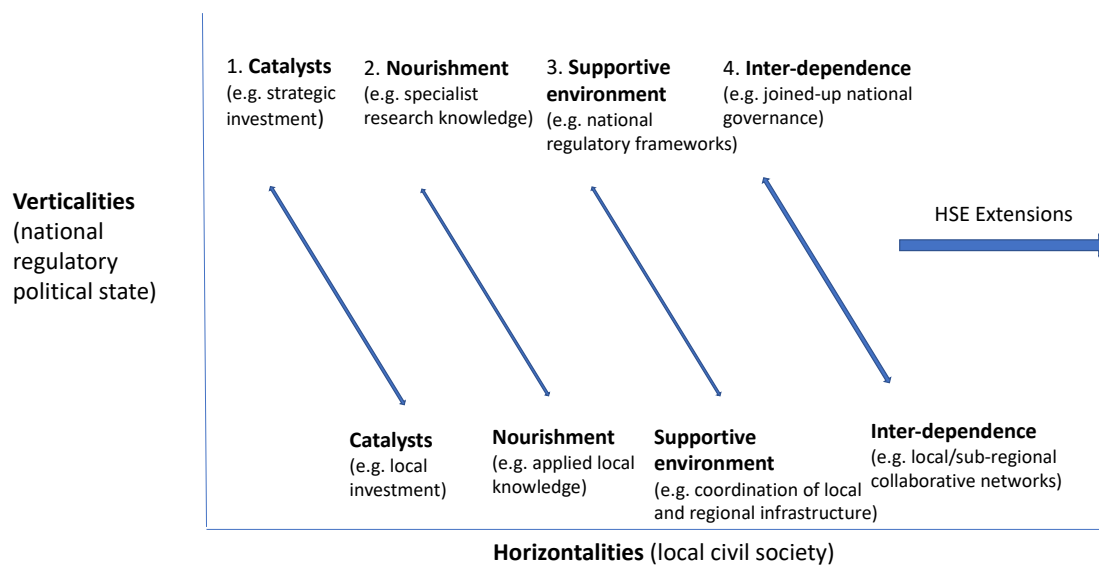
This next section suggests that, as a result of this critique and subsequent conceptual development, Skills Ecosystems - as represented by the Finegold HSEs - can be located within the expanded Social Ecosystem Model, operating mainly on the meso- and exo- scalars that link the enterprise to the local/regional economy and to local government strategies.

### ***Horizontal, vertical and mediating dimensions extend the Finegold HSE model***

The full SEM model was essentially built in three steps. The first involved the fusion of adaptations of the ecosystem work Finegold and Bronfenbrenner. The second concerned the critique of elite entrepreneurial ecosystems and the subsequent extension of the four

elements of Finegold’s HSEs. The third step sees the embedding of the Working, Living and Learning Nexus within a wider political economy framework derived from ‘45-degree change analysis’ (Lawson 2019). The expanded 45-degree framework comprises three related dimensions – collaborative horizontalities, facilitating verticalities and 45-degrees mediation that has been applied here to extend the Finegold HSE model (see Figure 4).

Figure 4. Extending Finegold’s HSEs within the 45-degree framework



### ***Collaborative horizontalities***

The most important revision of Finegold’s model has been to amplify the role of ‘collaborative horizontalities’ in the model. ‘Inter-dependent relations’ and ‘nourishment’, that focused on entrepreneurial networks and talent from research intensive universities, now include a wider range of collaborative horizontal factors and forces (e.g. local networks, civic anchor institutions, workplace and community participation, socialised digital technologies) to support diverse skills development in local and regional economies (Hodgson and Spours, 2016, 2018, Grainger and Spours 2018).

At the same time, it is recognized that ‘network-building’ needs to progress to ‘institution-building’ because the future stability of the SEM will depend not only on dynamic networked relationships, but also on the development of stable inclusive civic anchor institutions that

play a significant and recognised role in a locality by making a strategic contribution to the local economy and supporting a sense of local identity (Stringer et al. 2006).

*Q. How are collaborative horizontalities actually built in the contexts of neoliberal domination?*

### ***Facilitating verticalities***

Finegold's 'Catalysts' and a 'Supportive Environment' referred to state actions including financial boosts of military spending, key infrastructure projects and regulatory regimes to encourage risk-taking. This dimension was also been extended by proposing a more comprehensive role of the State, including forms of public risk-taking in areas in which the private sector is reluctant to tread (Mazzucato 2011); supporting fundamental research; undertaking strategic long-term investments; providing regulatory regimes that protect the environment and 'market shaping' rather than simply 'market fixing' (Mazzucato 2016). The emergent SEM, therefore, thus envisages an extended role for the State through what is referred to as 'facilitating verticalities'.

*Q. By the same token, how are progressive vertical relationships built in relation to the Governmental State?*

### ***Mediation and 45-degree relations***

Due to its organizational and stakeholder diversity the SEM is conceived as a 'managed' environment and thus contains additional elements to Finegold's HSEs. These include the mediating role of 'common mission and purpose' (Mazzucato 2016) and 'ecosystem leadership' (Doel 2018) by key individuals and institutions operating between the horizontal and vertical dimensions. This can also be understood more broadly as a form of 45-degree politics that connects the horizontal and the vertical in state and civil society (Lawson 2019).

Socialised digital technologies can also play an important connective role. While it will be important to create 'talent pipelines' in digital skills and to utilize apprenticeships to help fill envisaged skills gaps, the SEM suggests more fundamental connective and participatory roles for digital technologies in what might be described as their 'socio-technical' function. These



could include becoming an integral part of polycentric urban developments through devolved clustering of digital entrepreneurs linked to innovations in public services and the new local economy (Deloitte 2016) and the concept of 'City as Platform', in which the networked city sees citizens as co-designers, co-producers and co-learners (Bollier 2016).

*Q. Who and what are effective mediating forces in differing societal settings?*

### ***Ecosystem construction and evolution over time***

Elite ecosystems are viewed as both highly dynamic and 'time bound', insofar as they are dependent on degeneration/regeneration cycles that produce entrepreneurial spin-offs and recycling (Mason and Harrison 2006).

In contrast, the SEM should be considered as a long-term historical project in which continued intellectual and political effort is required to understand the configuration of forces required for the flourishing of such a system and the nurturing of complex relationships over time. By recognising this evolutionary character, the new SEM may be able to address some of the barriers facing the skills ecosystem approach by: (a) broadening the range of social forces involved; (b) using a long-term chrono-dimension (Ecological Time) in the form of a staged ecosystem construction process that suggests not all components of the social ecosystem have to be assembled simultaneously; (c) and creating mechanisms for self-renewal and evolution through problem identification and its solution.

*Q. In what ways is the concept of ecological time helpful to SET/SEM?*

In terms of a working definition, the SEM could now be defined as follows.

*"A social ecosystem is conceived as an evolving, dynamic place-based social formation that connects the worlds of Working, Living and Learning with the purpose of nurturing inclusive, sustainable economic, social and educational development in diverse communities, localities and sub-regions. The Social Ecosystem Model (SEM) is currently conceptualized as a multi-level spatial system (micro-macro) operating within a wider 45-degree political economy framework that consists of four related dimensions. 1. 'Collaborative Horizontalities'*

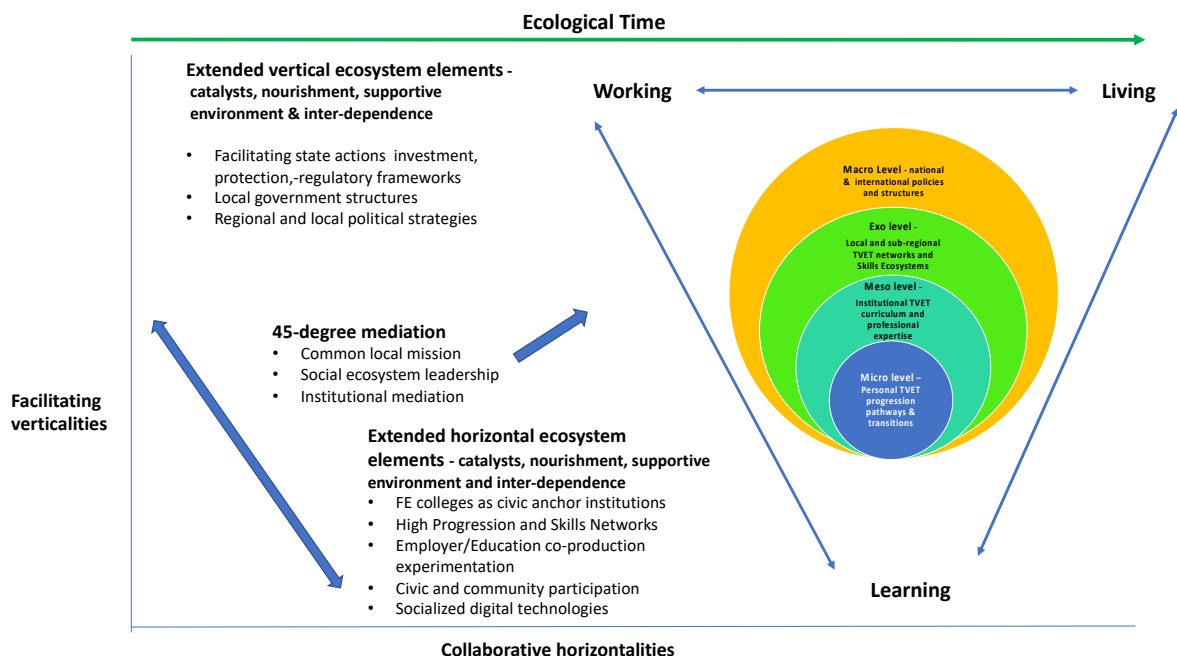
(education networks, local anchor institutions, a range of social partners/communities supported by the connective the role of digital technologies). 2. 'Facilitating Verticalities' (an enabling national state and empowered local state). 3. '45-degree politics and mediation' through common mission and ecosystem leadership. 4. 'Ecological time' that allows for processes of holistic and deliberative system evolution".

## Part 4. Inclusive place-based VET in the English marketised context

The prime function in the English context of this full working SEM is to assist the movement away from a top-down managerial market model and towards a more devolved social and place-based approach to TVET that connects Working, Living and Learning.

Figure 5 illustrates the dynamics of a full working SEM that places the extended elements of Finegold's HSEs within a 45-degree political economy framework, which is then applied to the multi-level spatial TVET system connecting Working, Living and Learning.

Figure 5. Connecting Working, Living and Learning for Inclusive Place-Based TVET



**Working** activities could include new partnerships between employers, education and training providers and local government to produce better jobs in a new sustainable and inclusive local economy. These could include attracting high-value companies to localities that work, for example, in the cultural or digital industries; developing new ecological enterprises that are part of a 'greening economy' and supporting improvements in public infrastructure and services transport, healthcare and construction. An integral part of the new working dimension will be co-production projects between workplaces, education providers and civic society organisations to stimulate the development of new high-value jobs and to improve skill utilization at work. Seen this way, Skills Ecosystems operate fundamentally along the Working dimension of the SEM in the Exo-level.

**Living** activities will need a strong anti-gentrification logic, including the local development of affordable housing; new transport systems; the regeneration of high streets; improved local health services and development of new green spaces. The aim should be sustainable lives that reinforce a strong sense of local identity; create an attractive environment and closeness to working life. It has been shown, for example, that high streets and the centres of small towns become sustainable when more work is taking place in the vicinity (Rushby, 2018). More recently, and coincidentally, the 'Working, Living and Learning nexus' finds expression in local policy promoting '20-Minute Cities (Calafiore et al. 2022). The linking of the Working and Living dimensions thus marks an important difference between the social ecosystem and skills ecosystem models.

**Learning** activities both drive and are dependent upon the Working and Living activities. One of the main objectives of learning activity is to support the participation of local people in the new local economy, requiring a high degree of consensus amongst local civic society actors as to the future purpose and shape of the local labour market. At the same time, the Living dimension adds to the educative mission by suggesting the need to create what might be understood as 'citizen pathways' (Rodwell 2018). A life-long learning perspective will enable local people to engage in education throughout the life course, not only to meet the needs of better jobs now, but also to prepare for even more purposeful sustainability employment in the near future. But the Living dimension suggests that 21<sup>st</sup> Century learning also offers the

opportunity to lead more purposeful and sustainable lives that can also be understood as a 'life well led' (Lawson and Spours 2011).

### **Inclusive growth, combinational VET and skills ecosystems**

Strategies for inclusive economic growth, which focus both on the rate of local growth and its social distribution (Metro Dynamics 2018), require a recognition the 'combinational economy' that embraces a variety of workplaces within the private, public and third sectors. Combinational economies will thus require 'combinational VET' prioritising not only high-skill approaches, but also development of the intermediate and foundational skill levels associated with technical and operational jobs and progression routes to them.

While the social ecosystem conception is essentially played out on the local terrain, it is important to recognize the role of the workplace that become the focus of work-oriented skills ecosystems. In this sense, skills ecosystems, defined as a set of relations around the enterprise, could be seen as nested within wider local and regional social ecosystems. As part of the wider local/regional SEM, a skills ecosystem approach would stress both the processes of co-creation between employers and education providers that help improve working practices for all partners and also the forging of progression routes into working life for social groups marginalized in previous economic eras (see Hodgson and Spours 2018 for some examples of this type of activity).

### **Expansive and connective roles of education and training in social ecosystems**

In contrast to elite entrepreneurial ecosystems that depend largely on receiving outputs from elite universities, education and training in the SEM seeks to involve all sections of local populations to learn, to access better work and experience sustainable living. While there will be need to focus on intermediate technical forms of employment (Mayor of London 2018), the crucial role of education and training will be to provide support for local populations to move upwards and along a latticework of progression routes, to follow transitions between initial learning and access to employment and, subsequently, to engage in learning and progression within work. This transitions process of personal progression has been referred to as 'skills escalators' (Colechin et al. 2017).

In social ecosystems, with the aim of economic and social inclusion, further education colleges can be regarded as key institutions due to their commitment to skill development and educational progression. However, to fulfil this collaborative and place-based mission in the English context will involve a significant shift away from a competitive to a collaborative post-Incorporation mindset among further education institutions in England (Hodgson and Spours 2016, Doel 2018).

*Q. What evidence do we have of any of these elements being developed in differing national settings?*

### **The dangers of ‘network idealism’ - downplaying the role of political power**

As we have seen ecosystem thinking has become a highly contested terrain as various approaches, arising from differing social and political forces, offer competing versions of possible futures (Hodgson and Spours, 2018). The fact is that SET/SEM is currently an emerging conception and far from being an influential paradigm.

Moreover, the speculative nature of the SEM and its emphasis on collaborative horizontalities suffers from the dangers of ‘network idealism’. This refers to overblown ‘horizontalist expectations’ (Grote 2012) and the downplaying of the role of politics, power and the state in the neoliberal era (Davies 2011). This is why emphasis is placed on the vertical dimension in the 45-degree framework. But even here there are dangers. As the SEM seeks inclusive system improvement it has focused on the potentially positive role of the State – facilitating verticalities.

However, bitter experience to date suggests that State structures under neoliberal capitalism are more often than not oppressive and exclusionary. This is, therefore, an opportune time to invoke Gramsci’s famous dictum – *Pessimism of the Intellect, Optimism of the Will* (Gramsci, 1971 Translation). If we are serious about changing the world (optimism of the will), we need to see it as it actually is and not simply how might we want it to be (pessimism of the intellect).

## Part 5. Social Ecosystem Thinking - societal and sustainability transitions

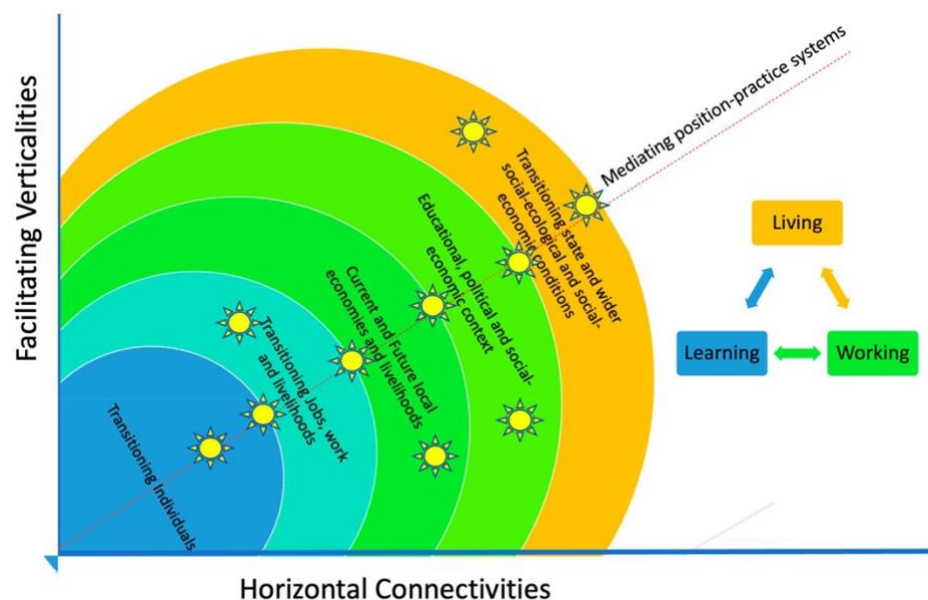
Thus far the SET/SEM approach has focused primarily on conceptualising place based TVET systems at the local and sub-regional levels. The theme of sustainability, while present in the analysis, remains relatively muted.

This final section of the paper attempts to bring the concepts of sustainability and Just Transitions into the foreground. To assist with this process, Part 5 contains two further Figures and narratives. The first concerns critiques of the current SEM; notably its lack of 'groundedness' and need to recognise the emergent and contingent nature of the model. The second, concerns a necessary expansion of the model to meet the requirements of multiple transitioning.

### The emergent expanded skills model and critiques of SEM

Figure 6 represents the expanded skills ecosystem concept of members of the Africa VET 4.0 Collective (Ramsarup and Russon 2022).

Figure 6. Multiple transitionings of across work and societal contexts



Source. Ramsarup, Lotz-Sisitka and McGrath (2022)

While Ramsarup and colleagues appreciate the potential role of the SEM in expanding the skills ecosystem approach through the inclusion of the Living dimension, they argue that it has *'an inadequately differentiated theory of emergence'* (2022: 572). They go on to suggest that what is required is a process of *'laminated ontological grounding'* arising out of reviews of multiple research stories and national cases (Lotz-Sisitka et al. 2021). This research-based procedure gives rise to a *'political economy ecology'* perspective of nested relations of potential emergence (578) that reflect a:

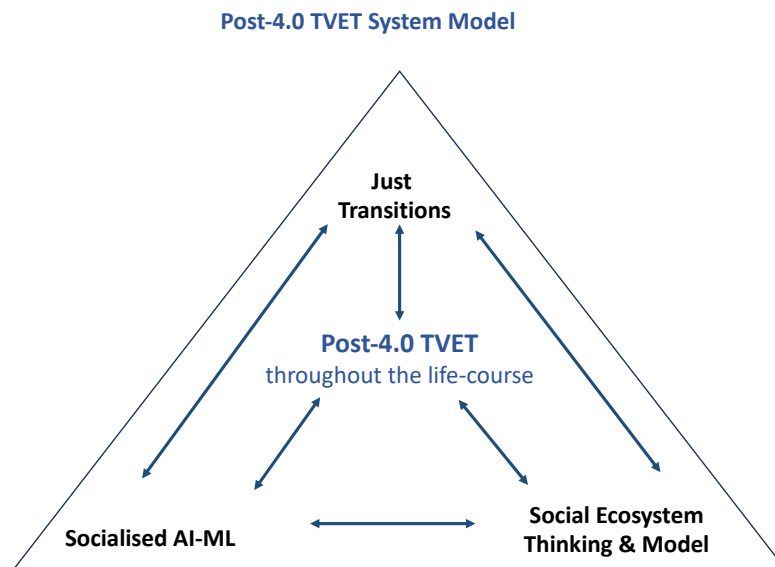
*'strong emphasis on the intersection of social and environmental concerns and the immanent confluence of political-economy-ecology relations that are shaping VET within the wider laminated totality'* (583) that operates as a *'functioning social-ecological ecosystem model for skills... reflecting current demands for giving greater attention to the transitioning experiences of learners, changing jobs, livelihoods and work, institutional, and political-economy-ecology or environmental concerns in skills system development'*.

The value of this perspective is that it brings social ecosystem model building down to earth. Interestingly, the final phases of SEM development (2018 onwards) were without the influence of practical research projects and its shows. One obvious answer to this theory-practice dilemma is to organise research into the totality of existing TVET realities in multiple contexts to understand how vocational learning might be reformed in a sustainable and human-centred direction. This however is complicated by two factors - recognising the challenges of its emergent nature and the power of wider political and economic forces and rapidly changing contexts as a result of intersecting global crises.

### **Multiple transitioning to address multiple global crises**

This leads to the case for imagining beyond current contexts to conceptualise the necessary reinforcing relationships between differing transitions and processes of change. These imaginings thus functioning as the dialectical opposite of groundedness. Figure 7 represents an argument about the need to relate differing transitional processes in support of societal and global sustainability to recognize the intersecting nature of global crises. These transitional imaginings lead to consideration of Post-4.0 scenarios, including a Post-4.0 TVET.

Figure 7. Relating three transitional processes to create Post-4.0 scenarios



The three corners comprise three differing transitions – socio-ecological, technological and the concept of ecosystem change – that need to be related to support the development of a Post-4.0 TVET.

1. 'Just Transitions' that are the fusion of Green Transitions and Social/Climate Justice.
2. 'Socialised Artificial Intelligence Transitions' represents the Fusion of Human Intelligence and Machine Intelligence applied to sustainability development.
3. Social Ecosystem Thinking & Model comprises multi-level societal model of implementation with the expanded scope – Working, Living and Learning -for sustainability futures.

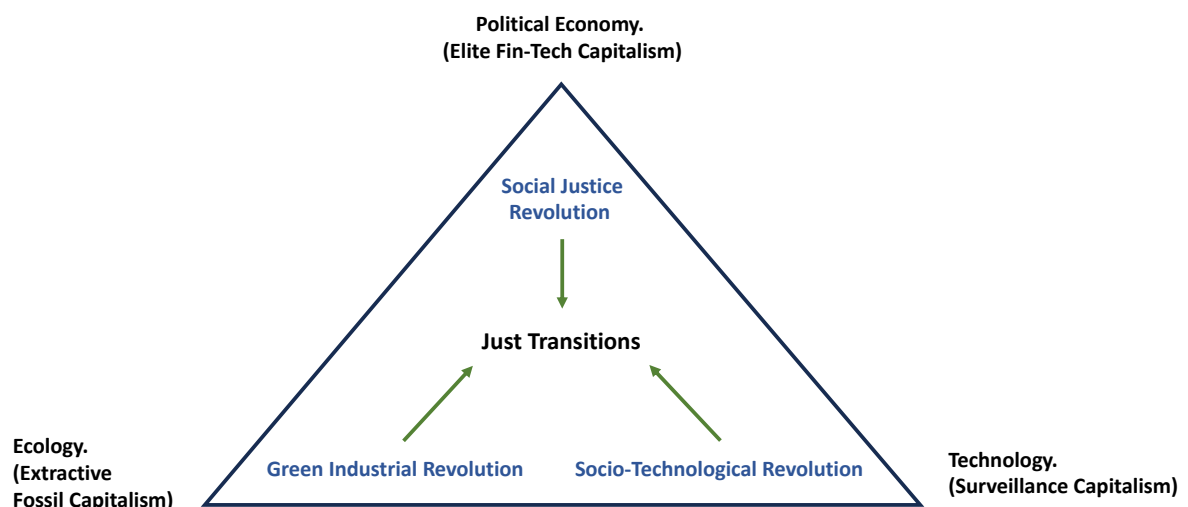
*Q. What processes are required to relate the different transitions and who should do what?*



## The three capitalisms and three revolutions

But a quick snapshot of reality suggests that we need to finish by exercising the ‘pessimism of the intellect’. Each of these transitions – social justice, ecological and technological – that constitute an expanded version of the Just Transition face particular aggressive capitalisms of the neoliberal era.

Figure 8. Three capitalisms and three revolutions



The impact of regressive dominant forces suggest that any profound transitioning should be seen as underpinned by necessary progressive revolutions that strip away any notion of transitions happening by some ‘magical’ process and instead pose the question ‘how’?

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