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Understanding 'transformation' in the social sciences

School of the Humanities and Social Sciences
Research Framework: Phase 1

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1.   Executive summary

This report presents the results of research into how the concept of 'transformation' is understood within the social sciences, which was conducted in support of the research framework of the School of the Humanities and the Social Sciences at the University of Cambridge (University of Cambridge, 2023). Beyond the School's research framework, transformation has become increasingly prominent with both scholarship and policy as part of a discursive response to major societal challenges including climate change (Feola, 2015; Vogel and O'Brien, 2022). As a central concept within UK Research and Innovation's (UKRI) 2022-2027 strategy *Transforming tomorrow together* (UKRI, 2022), momentum is growing behind transformation discourse as a driver of interdisciplinary and policy-focused research (Hölscher et al., 2021; Moser, 2016; Schneider et al., 2019; Torrens et al., 2021).

This research has focused on how the concept of transformation is understood and operationalised within social sciences research. It has drawn on an academic literature review, a review of grey literature including government policy and research strategy, and the reflections of academics working with the social sciences at the University of Cambridge. This report identifies a disconnection between the typical use of transformation at strategic level as a signalling device and its academic basis, which although heterogeneous, captures crucial dynamics which are generally not translated when transformation is used away from scholarship. Transformation discourse appears to be effective at communicating ambition and encouraging social science researchers to consider possibilities for change, however, it lacks power as a conceptual 'hook' to bring social science researchers together. Its superficial use within policy and research strategy often lacks definition and clarity, which risks researchers not identifying with the term and not viewing it as helpful for guiding their work.

This report therefore recommends next steps for how the unrealised potential of transformation as a driver of research could be capitalised upon. To generate effective interdisciplinary research to address major policy problems, the conceptual detail of transformation needs to be better understood, and ideally, communicated when the term is used in a strategic context. For researchers and policymakers, this means fuller engagement with the end goal of transformation, and the processes required to reach it, which requires the pluralisation and politicisation of transformation discourse (see Blythe et al., 2018).

Local engagement with transformation discourse through processes associated with the School of Humanities and Social Sciences' research framework should play a key role within this. A network of academics whose work engages with transformation, particularly those at an early career stage, should be developed. This could support a valuable exchange of ideas

to contribute to a more consistent understanding of transformation, to be applied through the members' research activities. Academics should also engage closely with key stakeholders outside of academia, including policy makers and politicians. This would help to ensure conceptualisations of transformation and research engaging with it responds closely to 'real world' policy challenges, as well as identifying the processes and practices which assist in enacting transformative change.

These processes must be iterative and responsive to existing and emerging need, maximising the value of feedback and support from the academic community. They should actively debate the key questions of politics, power, and social justice which are inherent to any transformation process, and re-harness the depth of meaning behind the term, so that it does not become simply a rhetorical rallying cry. The network of engaged researchers within the School of the Humanities and the Social Sciences is well placed to take this agenda forward.

2.   Introduction

2.1.   Background

This report presents the results of research into how the concept of 'transformation' is understood within the social sciences. The project was funded by the School of the Humanities and the Social Sciences at the University of Cambridge to support the development of the School's research framework (University of Cambridge, 2023), in relation to the theme of understanding social, cultural, and economic transformation.

Beyond the School's own research framework, transformation has become increasingly prominent with academic literature and policy as part of a discursive response to the major challenges associated with climate change, including the need to find new ways to live sustainably (Feola, 2015; Vogel and O'Brien, 2022). It is a central concept within UK Research and Innovation's (UKRI) 2022-2027 strategy titled *Transforming tomorrow together* (UKRI, 2022), and momentum is growing behind transformation as a driver of interdisciplinary and policy-focused research more widely (Hölscher et al., 2021; Moser, 2016; Schneider et al., 2019; Torrens et al., 2021). Transformation is therefore a commonly used term within policy and research strategy, but it is yet to be fully established how this is being operationalised from a high-level guiding concept within the social sciences.

The diverse academic roots of transformation, and the conceptual heterogeneity which existing scholarship highlights, render this an important area of focus. Although transformation has been considered across a range of disciplines and applied to various foci, including economic transformation (e.g. Christophers, 2015; Polanyi, 2001), social and cultural transformation (e.g. Castles, 2010; Williams and Cochrane, 2010), and digital transformation (e.g. Verhoef et al., 2021; Vial, 2019), it has found a particular home within research on climate change and sustainability (e.g. Braun, 2015; Fazey et al., 2018; O'Brien, 2012). In advocating endeavours to move "across, over or beyond the current state of affairs", in Vogel and O'Brien's (2022, p.657) words, transformation is "simultaneously practical, political, and personal". However, particularly beyond academia, transformation is increasingly used as a metaphor with little conceptual basis (Feola, 2015). This neglects the key questions of power and politics raised by scholarship on transformation (e.g. Blythe et al., 2018; Köhler et al., 2019; Patterson et al., 2017), with significant implications for how it serves as a strategic driver of research.

This project has therefore focused on how transformation is understood and operationalised 'on the ground'. It has taken a high-level view of how existing scholarship approaches transformation, how the concept is used within policy and research funding strategy, and has

also gathered evidence on how transformation is translated by researchers 'on the ground'. The focus has been primarily on the social sciences, broadly defined.

2.2. Research aims and methods

The research was funded by the School of the Humanities and Social Sciences, in support of the Humanities and Social Sciences research framework (University of Cambridge, 2023). Funding was awarded to support a 6-month project to map out 'transformation' in diverse social science contexts at Cambridge. This research was therefore intended to contribute 'groundwork' to the future development of the research framework, including a prototype interactive mapping tool currently being developed by the School.

The research aim was to understand how the theme of transformation is conceptualised and operationalised, internally and externally, in relation to the key policy challenges which reflect the School's research interests. This was guided by a series of research questions:

1) How does transformation feature in key national and international policy challenges?
   a. How is transformation framed (e.g. as a concept, method, mechanism, and objective) within relevant debates?
2) How do the School's key funding bodies understand transformation?
   a. What role does transformation play within funders' strategies?
3) How do institutions within the School approach transformation?
   a. How do key people across the School use transformation (e.g. conceptualisations, methods frameworks, vocabularies, and designs for application)?
   b. How do these approaches overlap with those of major funding bodies?
   c. How do they reflect the framing of transformation within key policy challenges?

The research was conducted over four smaller phases. Firstly, a period of initial conceptualisation was undertaken, to develop a basic definition and set of guiding principles to inform the subsequent research. This primarily required a brief review of academic literature, alongside documentation relating to the School's research framework, including records of workshops held during the planning stage.

Continuing from this, the second component of the project was to identify the main policy challenges with which transformation is associated. For this, a high-level review of grey literature was carried out. This included online searches of documentation published by

bodies including the UK Government, the European Union, and the United Nations, and a list of policy areas and sub-themes was compiled as an outcome.

Thirdly, relevant research funding strategy was collated and reviewed. This includes UKRI strategy and that of research councils including the Economic and Social Research Council (ESRC) and the Arts and Humanities Research Council (AHRC), as well as a selection of other relevant funding calls such as Horizon and Collaboration of Humanities and Social Sciences in Europe (CHANSE). The analysis during these stages was conducted primarily as a traditional literature review, but was supported by quantitative text analysis using the online tool Voyant, a web-based text reading and analysis environment (Sinclair and Rockwell, 2023). Details of this analysis are provided alongside the relevant figures in sections 3 and 4.

Finally, the research sought to identify how researchers across the School of the Humanities and Social Sciences at the University of Cambridge approach the concept of transformation. This stage required a search of the University's webpages to identify academics whose work engages with transformation, broadly defined. This resulted in a spreadsheet of 40 academics whose work appeared to be of most relevance, which was streamlined into a shortlist of 22. This group invited by email to meet to discuss their research in connection with the project. This yielded 11 one-to-one meetings lasting approximately half an hour each, which were all audio recorded and subsequently fully transcribed (see Table 1). The transcripts were then analysed to highlight key themes which help to address the research questions. Ethical approval for this was given by the Ethics Committee of the Department of Land Economy.

Participant	Faculty/Department	'Transformation' research interests
1	Public policy	Sustainable development
2	Archaeology	Social transformation
3	Politics	Economic and industrial development
4	Law	Europe and constitutionalism
5	Public policy	Productivity
6	Education	Languages education
7	Public policy	Governance and territorial politics
8	Education	Education policy
9	Education	Conflict transformation
10	Education	Higher education transformation
11	Sociology	Global political structures

Table 1: *Academics who took part in this project. All are anonymised and referred to by the participant number in the following sections of the report.*

2.3. Structure

The remainder of the report is structured as follows. The next section provides a short review of academic literature on transformation, highlighting its emergence as a sub-field in its own right through its relationship to climate change and scholarship of sustainability transitions. This review raises crucial questions about how the key themes of power, politics, and social justice are translated when the term transformation is used away from scholarship, and presents a set of guiding principles which underpin transformation research. Section 4 then presents the review of grey literature, identifying the key policy challenges transformation is used alongside, and how it manifests within research strategy. Section 5 focuses on how the concept of transformation touches down at ground level, by analysing the reflections of the 11 academics who participated in this research. Finally, the conclusion draws the analysis together into a summary of key findings, and makes a series of recommendations for how 'transformation' research might successfully evolve, particularly within the context of social sciences research at the University of Cambridge.

3.   Academic literature review

This section reviews existing academic literature on the topic of transformation. It identifies key concepts and definitions, as well as important tensions and questions which scholarship raises. It draws these heterogenous ideas together through a set of summary principles which capture key elements of transformation's conceptual basis within the social sciences.

3.1.   Definitions and background

Within academic scholarship, transformation is typically understood to refer to a significant reordering which challenges existing structures to produce something novel (Blythe et al., 2018). This can be unpacked by considering the intensity or quality of change (depth), the distribution of change (breadth), and the timeframe through which change occurs (speed) (Fazey et al., 2018). Merkel et al. (2019) agree in defining transformation as a substantial change of social systems, which although it may evolve spontaneously, is usually the result of intentional decisions and actions. Vogel and O'Brien (2022, p.653) focus on the process-oriented dimension of transformation by highlighting the prefix 'trans-', which means moving "across, over or beyond' the current state of affairs". This is, they argue, "simultaneously practical, political, and personal" (p.657).

Transformation can also be understood as comprising both physical or qualitative changes in form or structure, as well as a psycho-social process (O'Brien, 2012). Transformation is therefore inherently relative and subjective, and spans social, environmental, and technical domains, which necessarily requires deep engagement with social processes (Fazey et al., 2018). It is a somewhat nebulous or fuzzy term, but existing academic definitions variously capture deep social change.

According to Merkel et al. (2019), transformation was first used in social science by Nikolai Bukharin (1989 [1920]) in analysing the collapse of the capitalist system and its replacement by communism. The concept later gained wider recognition through Polanyi's (2001 [1944]) *The Great Transformation*, in which he critiqued endeavours to disembed the market economy from wider social and political systems. While transformation has become particularly closely associated with research and policy discourse regarding environmental sustainability (e.g. Braun, 2015; Feola, 2015; O'Brien, 2012), this background shows that the concept has also been developed within scholarship covering a wider array of issues across various disciplines.

For instance, Christophers (2015) explores the political-economic transformation of the financial crisis, which, he argues, has taken place at all spatial scales and involves more than

the economy and class dynamics. In reference to global migration, Castles (2010, p.1576) defines social transformation as "a fundamental shift in the way society is organised that goes beyond the continual processes of incremental change that are always at work", viewing transformation as a step-change which questions and reconfigures existing social patterns. Similarly, cultural transformation has been understood as a process of meaning-making that reorientates people's fundamental norms and outlooks (Hammond, 2020); a conceptualisation which focuses on social rather than physical or environmental change.

As Figure 1 shows, transformation has become widely used within academic literature, and particularly through concepts including digital transformation (e.g. Verhoef et al., 2021; Vial, 2019) and transformational leadership (e.g. Anderson, 2017; Bass and Riggio, 2006). Digital transformation can be defined as the process where digital technologies create disruptions triggering strategic responses from organizations that seek to alter their value creation paths, while managing the structural changes and organizational barriers that affect the positive and negative outcomes of this process (Vial, 2019). Meanwhile, transformational leadership describes an organisational leadership style in which a leader identifies needed change with subordinates, creates a vision, and executes the change (Anderson, 2017).

Figure 1: '*Transformation' in academic literature. Visual representation of the most frequently occurring words in academic papers featuring the term 'transform' (and longer variations) in their title. Papers sampled are the 1,000 most cited in Web of Science's social science citation index published since the beginning of 2018 (as of 20 June 2023). The*

analysis and visualisation was conducted using online quantitative text analysis tool Voyant (Sinclair and Rockwell, 2023).

Yet, in accordance with heightened interest in how researchers and society can effectively respond to climate change on the scale required, an important arm of social science scholarship has focused on, "how socioecological transformation might be imagined, anticipated, or enacted" (Braun, 2015, p. 349). Brand (2016) describes as a new "political-epistemic terrain" the umbrella terms of social-ecological or societal transformation (p.23), which uses the term transformation to place the ecological crisis in a broader context. Within these narratives, transformation has developed alongside other similar concepts aimed at describing and promoting deep societal responses, such as resilience and adaptation (Folke et al., 2010),

Transformation has also often been deployed interchangeably with transition, to signal that large-scale changes are required in order to achieve a sustainable society (Hölscher et al., 2018). Subtle differences exist between the two concepts, given their use by different research communities. Transition typically refers to change in societal sub-systems such as energy and mobility, while transformation generally captures large-scale changes in whole societies with interacting human and biophysical system components (Hölscher et al., 2018). For Escobar (2015), transition discourses such as degrowth and postdevelopment collectively contribute to calls for "significant paradigmatic or civilisational transformation" (p. 451), and according to Torrens et al. (2021), transitions and transformations approaches provide different entry points for analysing such radical systemic change towards sustainability.

Fazey et al. (2018) argue that the concept of transformation is valuable for opening new thinking on climate change by critiquing current social patterns. When transformation is not used merely as a metaphor, as Feola (2015) finds to often be the case, Feola identifies eight concepts which are most commonly deployed: deliberate transformation; progressive transformation; regime shift; societal transformation; social practice; transformational adaptation 1; transformational adaptation 2; and socioecological transition.

Therefore, the varied terminology used across disciplines in different contexts leads Blythe et al. (2018) to argue that transformation does not rest on sufficiently well-established theory, and O'Brien (2012) to suggest that the term means different things to different people. Figure 2 further illustrates this heterogeneous basis for transformation within scholarship. As with Figure 1, it highlights close associations with leadership, in addition to business and management-oriented terms such as digital and innovation. The process dimensions of transformation (see Vogel and O'Brien, 2022), including how change is achieved and who by,

are evidently significant to academic understandings of the term, even though a shared understanding of its specific meaning is somewhat challenging to pin down.
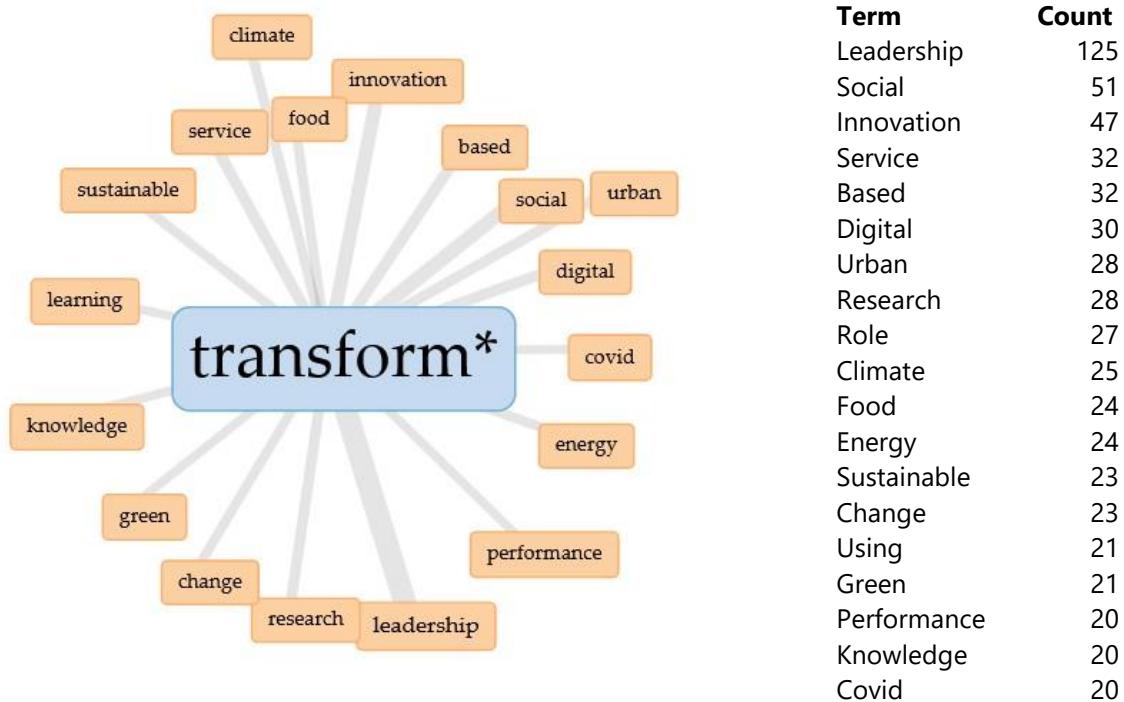

Term	Count
Leadership	125
Social	51
Innovation	47
Service	32
Based	32
Digital	30
Urban	28
Research	28
Role	27
Climate	25
Food	24
Energy	24
Sustainable	23
Change	23
Using	21
Green	21
Performance	20
Knowledge	20
Covid	20

Figure 2: *Collocation analysis showing the frequency of terms which appear in proximity (within 5 words either side) to 'transform' (and its longer variations), within the titles of papers which comprise the 1,000 most cited in Web of Science's social science citation index published since the beginning of 2018 (as of 20 June 2023). Compiled using bibliographic database Web of Science (Clarivate, 2023) and quantitative text analysis tool Voyant (Sinclair and Rockwell, 2023).*

3.2. Transformation research

Transformation research has subsequently emerged in its own right as a shared lens to study and support radical societal change towards sustainability (Hölscher et al., 2021). According to Hölscher et al., this provides a distinctive research lens to contribute to sustainability transitions which converges different disciplines and emphasises collaboration at the nexus between science, policy, and society. Research funding programmes therefore increasingly emphasise the need for transdisciplinary co-production of knowledge to make research part of much-needed societal transformations (Schneider et al., 2019). Moser (2016) accordingly argues that co-design within sustainability research can be an agent of transformation itself.

Advocating a research agenda for transformation in a changing climate, Fazey et al. (2018) identify several key focal areas: change theories; knowing whether transformation has occurred or is occurring; knowledge production and use; governance; how dimensions of

social justice inform transformation; the limits of human nature; the role of the utopian impulse; working with the present to create new futures; and human consciousness. This demonstrates how transformation has increasingly become a guiding theme within social research, despite its ultimately rather nebulous conceptual basis.

These diverse academic understandings of transformation raise a series of tensions and key questions for transformation research, including the unavoidably political nature of transformation (Patterson et al., 2017), the centrality of agency and resistance (Castles 2010), and issues over where power lies (Blythe et al., 2018). The potential for differentiated and unjust outcomes of transformation processes should therefore not be ignored, including the fact that transformation, as Christophers (2015) highlights in relation to the financial crisis, can have a regressive impact by deepening existing socio-spatial inequalities and creating new ones. Fundamental questions over power, politics, and agency therefore lie at the core of transformation.

Yet, the term's capturing of deep society-wide change has proven of interest beyond academia, where, in contrast, it is often used as a metaphor with little conceptual basis (Feola, 2015). Transformation is inherently relative and subjective, and necessarily includes social, environmental, and technical domains (Fazey et al., 2018), which renders it attractive as a strategic driver of interdisciplinary and policy-focused research (Hölscher et al., 2021; Moser, 2016). This may go some way to explaining the concept's increasing prominence within research strategy (e.g. UKRI, 2022; University of Cambridge, 2023). For Hölscher et al. (2018), transitions and transformations are deeply political processes involving power struggles and value conflicts. Patterson et al. (2017, p.3) therefore contend that governance – "the structures, processes, rules and traditions that determine how people in societies make decisions and share power" (Patterson et al., 2017 p.3) – is central to understanding transformations towards sustainability, yet is not sufficiently understood.

3.3. A diluted concept?

In Feola's (2015, p. 387) words, "when transformation becomes a buzzword that is needed to be funded or published, coupled with a situation where any process of change can be labelled as transformative, the usefulness of the term becomes diluted". Transformation could therefore be described as "the new buzzword in contemporary sustainability debates" (Blythe et al., 2018, p. 1207). While such buzzwords can be helpful in generating political acquiescence and signalling intent (Lee, 2019), they can also serve to silence disagreement and clashes of values (Bensaude Vincent, 2014), and present apolitical 'one-size-fits-all' solutions (Cornwall and Brock, 2005). This is important, as normative notions regarding the desirability of transformation are inherent to such discourse (Hölscher et al., 2018), but

discussion and debate over this are frequently absent when the concept is translated into a policy or strategic context.

For Blythe et al. (2018), discourse and practice which constructs transformation as apolitical, inevitable, or universally beneficial carries several risks, including the insufficient treatment of power and politics, and neglecting social differentiation. For such reasons, Brand (2016) distinguishes between the use of the term transformation as a strategic concept, in providing ways of dealing with problems that are assumed to be effective and socially desirable, and its use as an analytical concept, to assess and explain past and present changes. This reflects, according to Brand, the need to consider how societies deal with the ecological crisis, and not just whether they do this or not.

The progressive aspirations of transformation discourse therefore arguably hinge on the politicisation and pluralisation of transformation discourse (Blythe et al., 2018). Greater knowledge of how the concept of transformation is understood and operationalised by academic researchers is an important starting point, which this report addresses. To support this process, a set of conceptual principles to identify key features of transformation scholarship was developed following an initial review of literature (Table 2).

Transformation:
refers to structural change in societal or institutional organisation, rather than societal or institutional sub-systems
is often, but not always, caused by intentional action
is an inherently social process shaped by agency and resistance
is experienced differently and unequally by those it impacts
is highly political
carries specific nuances across different disciplines and policy spheres

Table 2: *Key conceptual principles for approaching transformation*

4. Transformation in policy and strategy

As section 3 has explored, transformation's status as a "buzzword in contemporary sustainability debates" (Blythe et al., 2018, p. 1207) has seen it applied in response to various "wicked problems" facing society. Policymakers have therefore increasingly considered how they can "transform our societies rapidly and generate an equitable, inclusive, and sustainable world" (Vogel and O'Brien, 2022, p. 653). In this context, transformation has frequently been used within policy circles simplistically to signal the need for large-scale change (Hölscher et al., 2018), particularly in relation to environmental sustainability. This section firstly explores how transformation is used within government policy, and then within research strategy.

4.1. Policy

Transformation has become regularly deployed at various scales of government and policymaking. For instance, the United Nations sustainable development goals were adopted under an agreement titled *Transforming our world: the 2030 Agenda for Sustainable Development* (UN, 2015), while the UN's *New Urban Agenda* also pledges "transformative commitments for sustainable urban development" (United Nations, 2017, p. 11). Similarly, the European Union's *New Strategic Agenda 2019-2024* contends that "the EU can and must lead the way by engaging in an in-depth transformation of its own economy and society to achieve climate neutrality" (European Council, 2019, p. 5).

A review of grey literature reveals the malleability with which transformation is used in relation to myriad policy problems and aspects of government. In the UK context, the term appears to be invoked more commonly in relation to public service restructuring (Table 3) than it is regarding the policy problems such as responding to climate change which are most closely associated with the concept in academic literature (see section 3).

Document title	Policy themes	Date updated
Transforming Support: The Health and Disability White Paper	Welfare, economy	March 2023
Transforming Infrastructure Performance: Roadmap to 2030	Transport infrastructure	September 2021
National Infrastructure Strategy	Infrastructure	November 2020
Transforming the Public Health System	Health	March 2021
UK's Digital Strategy	Digital infrastructure	October 2022
Strategy for Defence Infrastructure	Defence	February 2022

Potential legislative changes for IPO digital transformation	Digital infrastructure	November 2022
Transforming the ONS's household financial statistics	Research	January 2023
Green Paper: Transforming public procurement	Procurement	June 2022
Future Soldier: Transforming the British Army	Defence	November 2021
Industrial Energy Transformation Fund: Finalising the design	Energy, economy	June 2020
New Plan for Immigration: Legal migration and border control strategy	Migration	November 2022
Falkirk Growth Deal: Heads of Terms Agreement	Devolution, economy	December 2021
Asylum accommodation support transformation: Policy equality statement	Migration	September 2020
Great British Railways: Williams-Shapps plan for rail	Transport infrastructure	May 2021
Economic Crime Plan 2023 to 2026	Crime	March 2023

Table 3: *UK Government policy papers and consultations published or updated since 2020 which feature the word 'transform' (or longer terms containing 'transform') in the document title or subtitle. Sorted by relevance, with duplicates (multiple publications from the same programme) removed. Source: UK Government (2023).*

At the time of writing, a search on the UK Government website for the term 'transform' (to include results for terms including transformation and transformative) within policy papers and consultations returns 624 results published since the beginning of 2020 (UK Government, 2023). Table 3 presents the top results when sorted by the 'most relevant'. The papers cover a wide range of policy themes, as detailed in the table, and demonstrate how the term transformation is used largely as a signpost, or a strategic concept in Brand's (2016) terms, with limited analytical or conceptual depth.

For example, the *Strategy for Defence Infrastructure* aims to achieve the "transformation and development of the Defence estate", while *Great British Railways: Williams-Shapps plan for rail* presents "the government's plan to transform the railways in Great Britain". In both instances, transformation is used superficially to indicate some form of change; it seems unlikely that changes to Britain's railways or defence estate would meet the criteria of academic definitions of transformation, i.e. a significant reordering which challenges existing structures to produce something novel (Blythe et al., 2018).

Document title	Policy themes	Published
Transformation post-COVID global value chains: harnessing innovation to protect and transform the backbone of global trade	Innovation, economy	2021
Protect, prepare and transform Europe: Recovery and resilience post COVID-19	Health, economy	2020
Advanced technologies can transform the chemical industry and its value chain. Sectoral watch: technological trends in the chemical industry	Industry	2021
Advanced technologies can transform the agri-food industry and its value chain. Sectoral watch: technological trends in the agri-food industry	Industry	2021
Transforming Europe's food system: Assessing the EU policy mix	Agriculture	2022
Everyone at the table: Transforming food systems by connecting science, policy and society	Agriculture	2022
Transforming the creative and cultural industries with advanced technologies. Sectoral watch: technological trends in the creative industries	Industry	2021
Transforming 'sympathetic interlocutors' into veto players	Governance	2021
Transforming the telecommunication sector with advanced technologies sectoral watch: Technological trends in the telecommunication industry	Industry	2021
Transforming the machinery sector with advanced technologies sectoral watch: technological trends in the machinery industry	Industry	2021
Transforming the textile industry with digital technologies sectoral watch: Technological trends in the textile industry	Industry	2021
Digitranscope: The governance of digitally-transformed society	Digital, governance	2021
Transforming the financial services and banking sector with advanced technologies sectoral watch: technological trends in the financial services and banking sector	Industry	2021
Transforming the automotive industry with advanced technologies sectoral watch: Technological trends in the automotive industry	Industry	2021

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Sustainability of (open) data portal infrastructures: A method for transforming principles into practice	Digital	2020
Reusing open data: A study on companies transforming open data into economic and societal value	Digital	2020
Transforming the measurement and mitigation of energy poverty: Executive summary of the EU Energy Poverty Observatory	Energy, welfare	2020
Game changing technologies: Transforming production and employment in Europe	Economy	2020

Table 4: *EU documents published since 2020 sorted by relevance in response to a search for 'transform'. Source: EU Publications Office (2023)*

Taking policy at a difference scale of governance, EU documentation demonstrates a similar use of transformation as a signifier of intended positive change. The documents listed in Table 4 include associations with specific industrial sectors such as the chemical and agri-food industries, and particular governance functions such as governing digital transformation. As with the positioning of transformation within UK Government documentation, the inexact use of the term across such a wide domain of policy areas and governance functions demonstrates a disconnection with academic understandings of transformation, which focus particularly on fundamental systemic change.

4.2. Research strategy

The positioning of transformation within recent UK research strategy demonstrates this tendency in an important context, given the key responsibility of research communities to shape real-world actors, systems and transitions (Köhler et al., 2019). Notably, the 2022-2027 strategy of UKRI, the non-departmental public body which sets the overarching strategy for research in higher education and research council funding in the UK, is titled *Transforming tomorrow together* (UKRI, 2022). The strategy responds to the theme of growing uncertainty created by challenges including climate change, threats to public health, and geopolitical and economic instability, and aims to generate "opportunities to advance technologies and sectors that will transform the future" (p.28). It therefore articulates transformation, at a high level, as a required response to major policy problems, for which it positions coordinated interdisciplinary research as a prerequisite.

Transforming tomorrow together is structured using five strategic themes around which the UK's research and innovation should develop: building a green future; securing better health, ageing and wellbeing; tackling infections; building a secure and resilient world; and creating opportunities, improving outcomes. It aims to "power transformative research" that will also

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"secure competitive advantage in key technologies and sectors, and strengthen clusters of research and innovation excellence" (p.11), with a particular interest in the digital economy through "transformative" and "disruptive" technologies (p.35).

A more inward-looking discourse on efficient research governance and delivery communicates how institutions themselves must transform in order to deliver wider societal or institutional transformation. This includes a UKRI commitment to "transforming our organisation", through which it intends to become more efficient and effective, and provide greater value for money for taxpayers (UKRI, 2022, p. 47). Here, transformation is used to indicate an intended change, with assumed positive implications, although the language associated with reduced budgets could be interpreted in other ways. This contrasts with the more ambitious positioning of transformation at other points of the strategy, and indeed within wider scholarship.

Overall, the term transformation appears to act primarily as a statement of ambition within *Transforming tomorrow together*. The analysis contained within Figure 3 supports this conclusion, as the term transformation (and similar terms such as transform and transformative) frequently appears in close proximity to a wide range of similarly general terms, including strategy, opportunities, and research. Technologies and sectors appearing among the most common collocations reflects the strategy's interests in digital innovation and industry, but otherwise, this again aligns with Brand's (2016) identification of transformation as a strategic concept, rather than an analytical one.
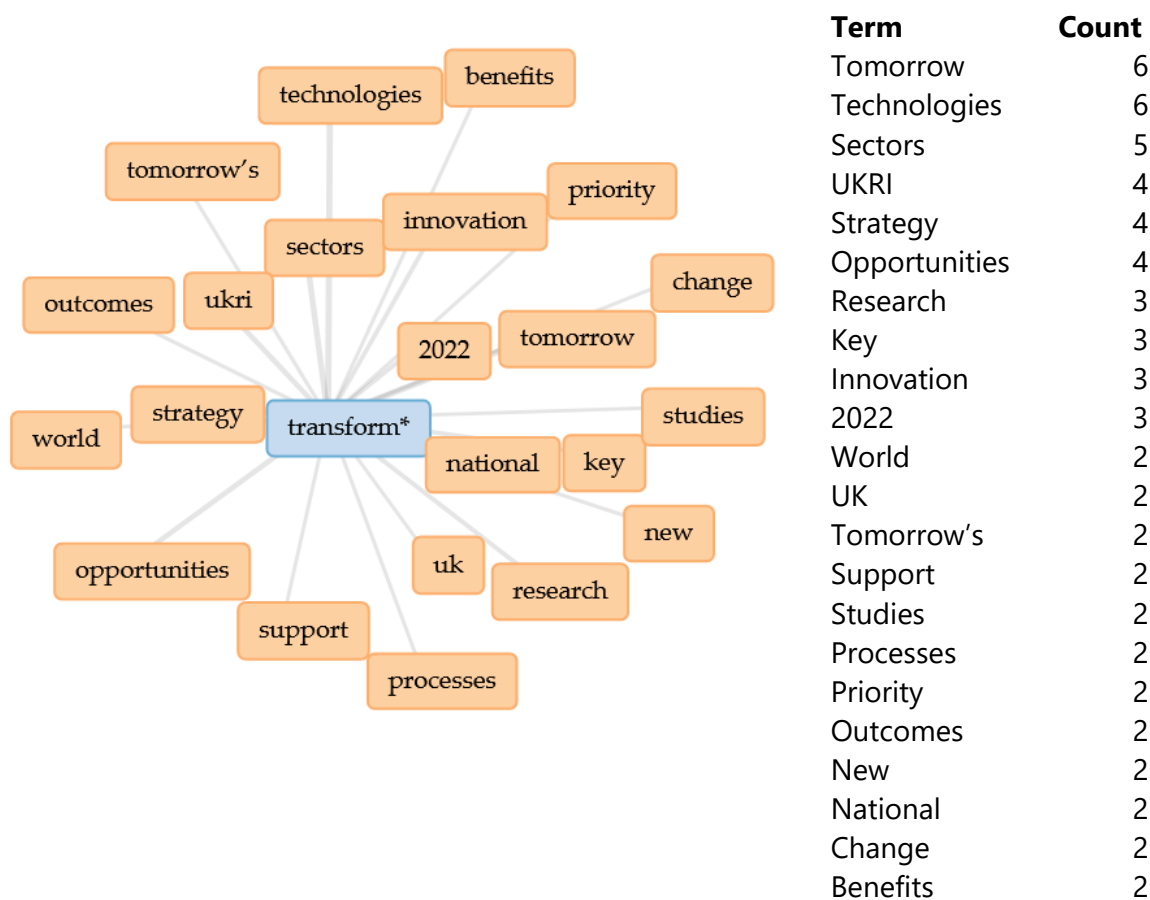
Figure 3: *Collocation analysis showing the frequency of terms which appear in proximity (within 5 words either side) to 'transform' (and its longer variations) in Transforming Tomorrow Together (UK Research and Innovation, 2022). Compiled using Voyant (Sinclair and Rockwell, 2023).*

The strategic delivery plans of the individual research councils aligned to UKRI develop the thinking within *Transforming Tomorrow Together*, with respectively more discipline and policy oriented foci. For instance, the Economic and Social Research Council's strategic delivery plan aims to "ensure that the full power of UK social science is brought to bear in tackling the most pressing global, national and local challenges" (ESRC, 2022, p. 21) across the five strategic themes identified by UKRI (UKRI, 2022). ESRC develops these with its own five priority areas: net zero; environment, biodiversity and climate change; digital society; health and social care; and security, risk and resilience (ESRC, 2022).

The language of transformation is often implicit, including the aim for research that "drives successful social and economic transition to net zero" (p.3). The term transformation itself is used sparingly with limited specificity, including the acknowledgement that technology such as artificial intelligence is "transforming the world in which we live" (p.23). The Arts and

Humanities Research Council's (AHRC) strategic delivery plan consolidates this tendency, including the objective of "transforming infrastructure to enable the best research" (AHRC, 2022, p. 12), and a broad commitment to "transforming our council through listening and learning, acting with care and empowering people" (p.6).

Furthermore, within a different jurisdiction, the EU Horizon strategic plan for 2021-2024 aptly illustrates the position of transformation as a key buzzword within contemporary research strategy. The overall framing has much in common with that of UKRI's *Transforming Tomorrow Together* (UKRI, 2022), particularly in its urging of measures to develop resilience in response to shock and uncertainty. The plan also aims "to accelerate the twin green and digital transitions and associated transformation of our economy, industry and society" (European Commission, 2021, p. 3). The joint green and digital transitions demonstrate the priorities of protecting the environment and growing the economy, with the plan prioritising "digitally transforming the EU industry" and becoming "climate neutral by transitioning all economic sectors" (p.12). As with UKRI, the relationship between research, society and industry is central, as "we need a strong research, education and innovation foundation, grounded in scientific excellence and competitive innovation policies for European citizens and businesses" (p.3).

The Plan contains 61 uses of words including the term 'transform' across 93 substantive pages, and distinguishes between the transition of individual sectors, and overarching "transformative changes" (p.91) (see Hölscher et al., 2018). Transformation therefore performs as a clear statement of intent but with limited elaboration on meaning, albeit with some comparatively nuanced acknowledgement that it should be "fair" (p.9), socially inclusive (p.8), and "depends crucially on the buy-in of citizens" (p.16). These ideas are crucial to academic conceptualisations of transformation, but often remain neglected when the term is operationalised strategically.

These examples show how transformation occupies a prominent position within research strategy, as a statement of ambition regarding ostensibly desirable change. However, usually absent at this level is elaboration of what constitutes a transformation, and what the end goal should look like. Indeed, transformation appears to perform similarly to related policy discourses concerning the governance of science, including impact beyond academia and its relationship with innovation as a source of competitiveness (e.g. Conceição et al., 2020; Oancea, 2013). As the following section will further explain, transformation at a strategic level can therefore serve as all things to all audiences, as a buzzword which urges a desirable and consensual future while side-stepping detail (Bensaude Vincent, 2014).

5.   Transformation in social sciences research

This section explores how academics working with the School of the Humanities and Social Sciences at the University of Cambridge understand and engage with the concept of transformation. It builds on the academic theory discussed in section 3 in making a series of observations about how transformation discourse touches down 'on the ground'. These observations are used as sub-headings to structure the following analysis.

5.1.   Transformation is seen primarily as a label when used in a strategic sense

As section 4 has identified, the term transformation tends to superficially indicate an intended change when it is used at a high level, including within UKRI strategy and wider policy documentation. As one public policy researcher remarked, within their field, transformation "is a signalling word more than it is an analytical word" (Academic 5, 2023). Similarly, highlighting the limited depth captured by transformation at a strategic level, an archaeologist reflected that "it's just a label … the concept of transformation, as it is, I don't think has any explanatory power in itself" (Academic 2, 2023).

This contrasts with the deeper, albeit not necessarily cohesive, conceptualisation within academic scholarship, which emerges through specific disciplinary concepts such as structural transformation within economics and international development, and wider theoretical understandings of transformation which participants drew on. For example, a sociologist reported that they were "always interested in how social bonds are created and transformed", because "as a sociologist, basically, not to think about transformation is next to impossible" (Academic 8, 2023). Other participants reported that they use different terms which capture similar notions to transformation, rather than transformation itself, for example, "we haven't used the term transformation in our work, but we have used negotiation and renegotiation … we haven't really used the word transformation, as much as development" (Academic 6, 2023).

This contrasts with less focused discourse, particularly within public policy, whereby the term transformation is used "in a very loose sense of 'there's been a big change'" (Academic 5, 2023). Participants tended to agree that this notion of change was important within social science, but in this sense, the term transformation lacks conceptual depth and consistency of interpretation. As one participant reflected, "in one sense, all social science is about trying to precipitate change in some form, and if that's what transformation means, then basically it's hard to be a social scientist and not envisage change" (Academic 5, 2023).

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This reflects Brand's (2016) distinction between transformation as an analytical concept and as a strategic concept. The latter promises effective and ostensibly socially desirable responses to crises, according to Brand, but without sufficient attention to structural obstacles or dominant rationales. This highlights a challenge for how strategic understandings of transformation could be consistently interpreted by researchers.

5.2. Transformation communicates broad ambition, but implementing this is far from straightforward

If the nature of a proclaimed transformation is collectively understood only in the broadest terms, key questions arise over the interpretation and implementation of the agenda. As a public policy researcher reflected, on their corresponding experience, "decision makers, MPs, the legal teams, the civil servants, NGOs, are all far more knowledgeable and too detail-oriented to be able to benefit from a nebulous term. They want specifics about, 'how are we going to deal with this?'" (Academic 1, 2023). These "specifics" are largely side-stepped by strategic level transformation discourse.

However, participants felt that there was some value to the scale of ambition communicated by the term transformation. In line with earlier reflections that social science is to some extent inherently concerned with precipitating change, one researcher explained that "the concept of transformation is essential, or something like it has to be ... otherwise there's no possibility of assessing what you're doing now and how it might impact the future" (Academic 11, 2023). This echoes Fazey et al.'s (2018) contention that the concept of transformation can help open up new thinking by critiquing current social patterns. This can serve to "excite people about the investments that are necessary" (Academic 1, 2023) to bring about change.

Yet, it could be argued that this limited definition is insufficient to bring about genuine transformation. According to one participant, the stakeholders they work with are "already past the point of knowing something's got to change" (Academic 1, 2023), suggesting that the signalling function of transformation now has limited impact. On this point, one researcher agreed that "it's easy for an organisation or institution to say 'we are transforming', but, transforming to what? Where is the starting point and what are the policies, the practices, and the processes?" (Academic 10, 2023). In this sense, the substance of transformation is very much in the detail, which is largely neglected when the term is deployed strategically, when "it's probably so nebulous that it can mean all things to all people, which really suggests to me that it doesn't mean anything at all" (Academic 1, 2023).

5.3. Transformation discourse feeds into wider trends in research governance

The language of transformation arguably speaks more naturally to the wider research governance and political contexts of which it is constitutive than to the societal or institutional challenges it ostensibly addresses. For example, particularly in applied social science fields, "we're always looking for impact, and I think people latch onto that" (Academic 6, 2023), in response to the imperatives of another buzzword within academic research — impact (Oancea, 2013). This, alongside the common function of transformation to signal ambition, carries the risk that such hyperbolic language may simply become the default. One academic reported the corresponding view that "transformation is often the used when people mean 'I'm going to make the system better, in my own terms, and I'm going to use transform because it will make it sound better'" (Academic 9, 2023).

This tendency was summarised by one participant as a form of "linguistic inflation" (Academic 7, 2023). Reflecting on the practical impact, the participant explained that "I read a lot of applications for funding councils … and you think,, 'is there part of us that is more likely to reward somebody who claims their research is transformational? And is that a calculation that applicants make?'" (Academic 7, 2023). The risk here is that, as appears to be the case, common interpretations of transformation lose nuance and audiences accept that it simply refers to change. Likewise, in the words of one researcher, this could mean "language like transformation being co-opted in order to maintain business as usual" (Academic 9, 2023).

This loss of specificity undermines the strategic aim of delivering coordinated solutions to major policy challenges. However, Lee (2019), argues that such buzzwords can be helpful in generating political acquiescence and signalling intent. For researchers and policymakers to collectively achieve change, "if you want to transform something, you have to think about it systemically, you have to get a lot of buy in from a lot of different places" (Academic 9, 2023). This increasingly includes business, as demonstrated by one aim of *Transforming tomorrow together,* to "secure competitive advantage in key technologies and sectors" (UKRI, 2022, p.11). This reflects the growing association between research and innovation as a source of competitiveness (Conceição et al., 2020), and provides further evidence that transformation at strategic level primarily serves to generate acquiescence, among diverse stakeholders, as a statement of ambition.

5.4. Transformation needs to engage with key issues of social differentiation, power, and politics

Using transformation as a signalling device therefore neglects important aspects of its conceptualisation, including inherent areas of tension and disagreement highlighted by scholarship. For instance, it does not engage sufficiently with the specific nature of the transformation being advocated; while transformation is often assumed to be necessary, questions over when, where, and how are side-stepped when it is used superficially. For Blythe et al. (2018), such discourse and practice which constructs transformation as apolitical, inevitable, or universally beneficial carries several risks including insufficient treatment of power and politics, and not paying enough attention to social differentiation. This is a significant shortfall given the direct relevance of these issues to many key concerns of social science research.

With this limited conceptual definition comes the challenge that disagreement and clashes of values could become silenced (Bensaude Vincent, 2014). This is an important problem for social science to address given the inherently political nature of transformation (Vogel and O'Brien, 2022), and the potential for regressive outcomes (Christophers, 2015). In the words of one researcher, "I find that you tend to miss quite a lot of the nuances in the discourse of transformation, once you have that top down approach" (Academic 10, 2023). Similarly, another participant elaborated on the importance of the particular conceptual distinction their own work uses: "what we think it means is important, or what we want to convey, when using words, I think that's important because very often we recognise the transformations that are very rapid … but there are other revolutionary things that happen at a much slower scale, they're more cumulative, but by the end of their transformation there's a huge qualitative leap" (Academic 11, 2023).

It is therefore important for transformation discourse to engage more actively with the term's underlying meanings. This should look beyond transformation's universalising tendencies and take account of social differentiation, and the key issues of power and politics which are the focus of much social science research. For one researcher, their approach to transformation was centred on the research context they were studying: "you have to operationalize it one way or the other in the different context, the definition of transformation has always been restricted to that context … it's always linked to what participants within those contexts identify as the issues and the things that need to be changed" (Participant 10, 2023). This more contextual approach to transformation could hold great potential for developing the concept's theoretical basis, but is somewhat in tension with strategic understandings of transformation.

5.5. Further debate on the outcomes and processes of transformation is needed

Given the often superficial and ill-defined uses of transformation in a strategic context, it can be difficult to interpret what the concept, or the direction it implies, actually encompasses. In the words of one researcher, "the need for radical transformation couldn't be more evident, but we haven't even begun to think about what that would look like" (Academic 9, 2023). Vogel and O'Brien (2022, p. 653) focus on the prefix 'trans-' in developing solutions for moving 'across, over or beyond' the current state of affairs, but the ultimate end goal of such processes, or their 'form', must also not be overlooked. One researcher accordingly felt that transformation discourse lacked "conversations about where the endpoint is, and as a result of that, what ends up happening is that transformation discourse and conversations about transformation become a box-ticking exercise" (Academic 10, 2023).

Likewise, strategic aims for transformation can create a false sense that effective action is being taken; a "false haven of consensus, the mirage of the win-win" (Lynch and Veland 2018, p.137, cited in Vogel and O'Brien, 2022, p. 655). Scholarship on socioecological transformation holds that it must encompass both the social and natural worlds, and as one researcher ominously reflected, "the transformations we are facing might be bad … transformation could be imposed upon us by our actions, and might not be the sort of transformation we seek deliberately" (Academic 9, 2023). This highlights the need for further critical attention on the normative assumptions of much policy and strategy that transformative change is desirable (Hölscher et al., 2018).

The academic basis for transformation, albeit complex and not universally agreed, demonstrates that the concept contains significantly under-utilised potential, which is frequently lost when translated into a policy and strategic context. In the case of a similar buzzword 'inclusive growth', Lee (2019) argues that "the precise definition … is fuzzy, but the overall goal is clear" (p.432). However, the definition of transformation and its overall goal are arguably more open-ended and contestable, given transformation means different things to different people (O'Brien, 2012). Indeed, the end goal is often bypassed altogether when the term is used in policy and strategy.

High level calls for transformation therefore require closer engagement with the nature of anticipated or desired change. This process must be inclusive and socially just, and not a top-down imposition, nor simply ambitious language covering a lack of action. To ignore the crucial dimensions of social differential, inequality, and power would compromise the progressive aspirations of the transformation agenda. The ability of transformation to inform

research beyond signalling ambition for some form of change arguably hinges on this politicisation and pluralisation of transformation discourse (Blythe et al., 2018).

6.   Conclusion

This section sets out the main conclusions of this research. It also outlines suggested next steps for developing the conceptual basis of transformation and for how it can best serve as an effective guiding concept for researchers within the Cambridge context.

6.1.   Conclusions

Transformation discourse has been effective at encouraging people to consider possibilities for change within the social sciences. However, while the notion of transformation communicates much-needed ambition, particularly regarding the scale of change required in response to climate change, the limited definition with which it is frequently accompanied in a strategic context compromises its impact. This risks transformation becoming a buzzword which acts primarily as a signalling device, and more critically, buzzwords within policy discourse risk displacing debate and disagreement (Bensaude Vincent, 2014), as well as creating a false sense of confidence without corresponding meaningful change (Lee, 2019).

This presents a major challenge for social science researchers, given the nature of their work. Transformation discourse needs to more robustly engage with the issues of politics and power which are fundamental to the ostensible aims and processes of transformation discourse itself, and to social science. Particularly in the case of UK research strategy, transformation appears more comfortable alongside related discourses within research and scientific governance, including impact beyond academia and the relationship with innovation as a source of competitiveness (e.g. Bensaude Vincent, 2014; Conceição et al., 2020; Oancea, 2013).

While to an extent there will always be a lack of clarity given the complex systemic changes transformation speaks to and the unpredictability of outcomes, this nonetheless highlights a missed opportunity to develop the strategic concept of transformation within social sciences research. If it is to generate effective interdisciplinary research to address major policy problems, the conceptual detail of transformation needs to be better and more commonly understood. For researchers, this would include a fuller consideration of the end goals of transformation, and the processes required, which necessitates open debate and engagement with the communities involved. This necessarily requires understanding of conceptual distinctions between transformation 'as process', to describe mechanisms to achieve a particular outcome, and transformation 'as outcome', when the mechanisms by

which it could be achieved are less clear. Attention should therefore be given to the necessary coordination and resource to support this.

The academic basis for transformation and the often simplistic way it is operationalised at strategic level show a clear divergence. The experiences of academics discussed in this report highlight the ability of transformation to raise ambition and bring disciplines and actors together, but also that its limited consistent conceptualisation can limit potential for generating meaningful interactions among researchers. Unless this unrealised potential is capitalised upon, transformation will likely remain a rhetorical rallying cry, and its limited operationalisation within research will continue to represent a missed opportunity.

6.2. Next steps

Several opportunities exist for responding to this scenario, both in developing the conceptual basis for transformation strategically, and in terms of more practical steps in a Cambridge research context.

In conceptual terms, there is a risk that transformation becomes an end in itself, as clarity regarding the final destination is often lacking. The procedural dimension of transformation is often therefore the primary object interest, such as that of Vogel and O'Brien (2022, p. 653) in focusing on the prefix 'trans-' in developing solutions for moving 'across, over or beyond' the current state of affairs. Yet, this aspect is inseparable from the ultimate end goal of such processes- their 'form'. Brand (2016) acknowledges limited agreement on this "beyond a general consensus that fundamental system change is required" (p. 24).

Scholarship should engage with the complex issues regarding the aims of the societal or institutional transformation it studies, with clear attention on the inherent inequalities and power dynamics. The politicisation and pluralisation of transformation discourse (Blythe et al., 2018) should be accompanied by a sharper focus on what this ultimately means for people and planet. The field of sustainability transitions offers fertile ground for deepening theoretical understandings of transformation, particularly in the relationship to policy and implementation. For example, the typical meso-level interest of transitions research, on socio-technical systems (Köhler et al., 2019), perhaps provides a more approachable focus than the broader approach of society-wide transformation. Transition analyses can therefore contribute insights on how agency and governance shape change (Hölscher et al., 2018), more clearly rooting the ambition and scale of transformation discourse in real world delivery mechanisms, at they key level of institutions.

On a more immediate level, researchers could engage more closely with transformation discourse locally. At Cambridge, local strategy such as the School of Humanities and Social Sciences' research framework (University of Cambridge, 2023) should play a key role in supporting this. A network of academics, particularly those at an early career stage, whose work engages with transformation should be developed as part of this process. Sharing ideas across disciplines, with a common purpose, would help to establish a research agenda around transformation. With the necessary funding and personnel, this could ultimately lead to the creation of a research centre or consortium on the theme of transformation research. The social sciences represent a natural home for this, given the subject matter and the focus of the School's research framework, but wider interdisciplinary working across the University should also be sought.

This network should also engage with key stakeholders outside of academia, including policy makers and politicians. This would help to ensure that conceptualisations of transformation and the research centred on it responds closely to 'real world' policy challenges. Given the identified importance of leadership and organisation to transformation scholarship (section 3), greater understanding of the professional learning processes and contexts which support frontline practitioners to enact transformative change is also essential; both for developing academic knowledge and for delivering effective policy and research outcomes.

Finally, these processes must be iterative and responsive to existing and emerging needs. Given this report has identified how transformation is used strategically in a way which can be superficial, further work in this topic should take care not to fall into the same trap. Transformation researchers must therefore look for opportunities to receive critical feedback, including through testing their ideas at conferences and through publications, for academic and non-academic audiences. Further development of the conceptual and practical transformation agenda will not be straightforward, but represents an intriguing and necessary opportunity to shape society for the better.

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