Research Culture: People, process, impact... and knowledge too?

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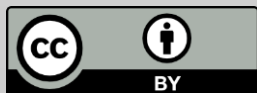
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Abstract

Subjective formulation of research culture drives momentum for positive person-centred change. A common articulation is one, which emphasises cultural problems arising from overemphasis of the 'lone academic', exploitation of 'lesser-academics' and invisibility of enabling roles. This article considers systemic implications of this dominant narrative for research leaders and research leadership, giving specific attention to the nature, status and visibility of knowledge and its accompanying dynamics.

Two contrasting cultural formulations are considered respectively as 'People, Process and Impact' and 'The Knowledge View' with corresponding conceptual models proposed as 'Social Benefit Factory' and 'Knowledge Cooperative'. Concern is raised at the apparent dominance of the factory model within research culture discourse, and a vision is presented for the development of a balancing knowledge conversation: both to engage interdisciplinary thinking on research culture, and to contribute directly to cultural discourse. Opportunities for the latter are considered briefly in relation to research leadership, objectivity and collegiality. The author attended the International Research Cultures Conference to gain a sense of the agenda and to co-locate his professional interests. This reflective response to the event is grounded in personal academic practice rather than academic specialism. It aims to invite connections and conversation. It is at the same time a preliminary conceptual inquiry into the nature and flux of academic boundaries, whether subjective, objective, practical or institutional.

Keywords: research culture; research excellence; knowledge dynamics; leadership; objectivity; collegiality

Pilling. Exchanges 2024 11(3), pp. 333-343

333

Introduction: My Background, Warwick Conference, Knowledge View

I am based in the Department of Chemical and Biological Engineering at the University of Sheffield, where I support research development, design and delivery. I have a physical science background and have worked within industry, government, academia and the third-sector. I work explicitly from a systematic knowledge perspective, i.e., I am interested in dynamic processes of knowledge creation, sharing and application, and in finding conceptual system-based formulations, which support these processes and the researchers who drive them (**for examples, see: Routoula et al., 2020; Pilling and Patwardhan, 2022; Pilling et al., 2023**). I see strong links, in my work, to research culture goals, specifically: how can academics best collaborate, how can we tailor roles to individual strengths, how can we support diverse Early Career Researchers (ECRs) and enable them on diverse career paths. Equally, how can we support academics to establish and evolve ambitious research vision, capture funding, build productive collegiate groups, and ultimately ensure high quality research and maximise benefits for society.

I attended the International Research Cultures Conference (25 September 2023, Warwick) to gain a sense of the agenda and to co-locate my professional interests. The event proved valuable for the former but I struggled to do the latter. While themes, ambitions and challenges felt familiar, the agenda seemed like a different world, one in which knowledge creation is considered as something which 'just happens', when the right people (exhibiting their best behaviours), good process and impactful intent are brought together. I will refer to this as a People, Process and Impact (PPI) formulation of research culture. My own world adopts a contrasting view, which considers the dynamics of knowledge itself. While I suspect, few academics explicitly formulate these ideas, I believe that many share corresponding tacit relations in the doing of their work and associated day-to-day interactions. If we exclude these knowledge processes from our definition of research culture, even of research excellence itself, it feels to me that we are overlooking an essential perspective, which I am calling here the Knowledge View.

Dominance of Problem-Based Thinking within Research Culture Discourse

The first speaker (**Meyer, 2023**) set a tone, which echoed through the day. A bold statement of the need for cultural improvement and change. The second (**Ogryzko, 2023**) provided a more explicit diagnosis. **Figure 1** is my attempt to paraphrase their Problem-Based Model (i.e., a model of UK research culture formulated to describe a central problem affecting it).

The following accompanying description uses emotive language for emphasis: Research is centred on a lone academic, supported by a bubble of lesser academics, and a peripheral sphere of non-academic enablers. Problems arise because of an overemphasis on the lone academic, exploitation of lesser-academics and invisibility of non-academic roles. This is a situation, which we need to move away from, and better research culture is a vehicle by which to do so. My cartoon fails to encapsulate the nuance of the speakers' presentations, but I suggest that it does describe an influential underlying narrative, demonstrated by the tone and content of the first two plenary presentations, and echoed through the day.

Figure 1: A Problem-Based Model of UK Research Culture.
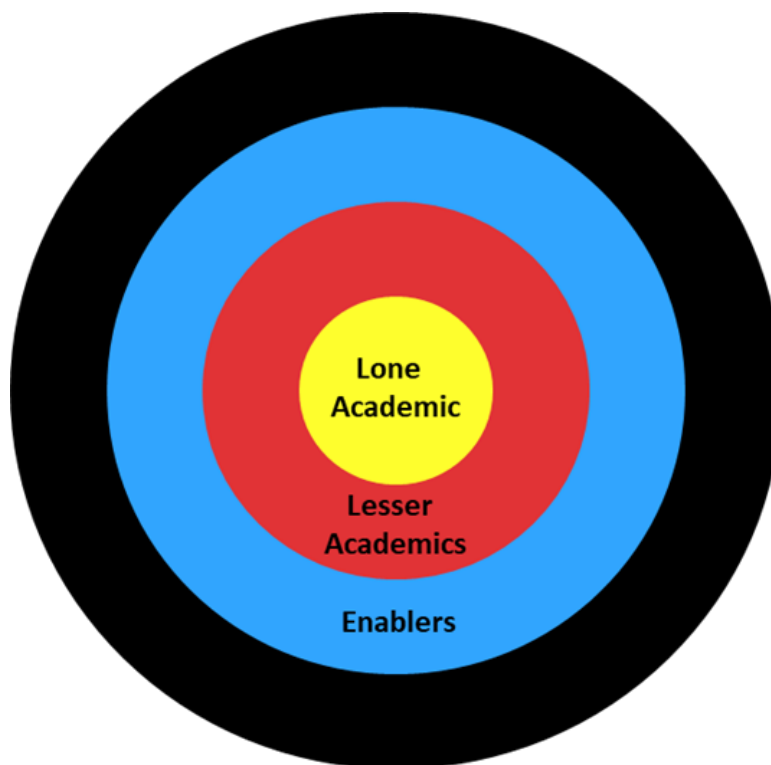
I work closely with several research leaders, for whom I have much professional respect. Faced with a starting assumption that their established and traditional day-to-day role represents the epicentre of an intrinsic problem, I found myself on the defensive. Emphatically, this is not to deny that problems and challenges exist. Rather it is to question whether, by the same logic that deficit thinking is not a solid foundation for the development of individual researchers, whether it is necessarily a good one for how we talk about research culture and cultural change? Ultimately research leaders are people too. They have within their midst some of the most complex workloads and lowest morale.[i] They play a central and essential role within the research system. This is not to downplay wider factors, circumstances, and experiences. It is simply to express that, which I did not hear during the day. There is a danger in this

Pilling. Exchanges 2024 11(3), pp. 333-343

335

omission, in that the resulting deficit-based critique, comes to represent its own implicit form of exclusivity.

From here, I consider systemic implications for research leaders and research leadership, giving specific attention to the nature, status and visibility of knowledge and its dynamics.

Two Alternative Views of Research: Social Benefit Factory and Knowledge Cooperative and the Dominance of the Factory Model within Cultural Discourse

Leadership theory emphasises positive social influence deployed in pursuit of a common goal (**Grint, 2010: 1-14**). Within an institution, leadership roles may be formal, reflective of administrative authority, or informal, reflective of individual capacities and initiative (**Ibid**). Within an academic context, the situation is further complicated since hierarchy and authority are themselves ambiguous. Are research leaders responsible to the corporate institution, to the people who work there, to the academic discipline or to society at large? To what extent do we expect, respect and trust them to show leadership, in response to this complex array, as independent and principled researchers?

Polemically, is the traditional ideal of research independence (aka the lone academic?) academia's greatest asset, or a source of social toxicity and corporate threat? Dismantling the ideal, appears to reduce the role of research leader to that of administrator, securing and deploying funds, and merely coordinating those, who go on to do the real work. It is notable that this deflating description supports formulation of academic research primarily in terms of people, process and impact, speaks convincingly to pressing social justice and well-being concerns, and emphasises the indisputable importance of research investment delivering societal benefit. It also presents a view of academic research, which is conveniently and corporately commandable.

This unity of form and purpose, however, comes at a cost. It flattens the landscape and transforms academia into a social benefit factory. And an increasingly administered one at that. Contrast this, with an alternative description, (slightly paraphrased) from a guide for early career academics (**Patwardhan & Clare, 2021**), written by two successful and committed research leaders: If we wanted to describe universities in a single word, then we would say knowledge. Our role as academics is to create, translate, transfer and exchange knowledge for the benefit of society. This view is entirely consistent with the benefit factory model, yet explicit knowledge mechanics are entirely absent from the latter. Dominance of the factory model, within cultural discourse, thus eliminates space for

appreciating, examining and interrogating, the nature and dynamics of knowledge, including associated critical links to research leadership.

It seems that trees provide an engaging metaphor for describing cultivated and creative academic endeavour. **Figures 2 and 3** present contrasting examples, which illustrate two distinct worlds. My concerns are not that these different worlds should exist and be supported, but the extent to which, by their divergent formulation and pursuit, they compound tensions, intensify divides, overload individuals and otherwise undermine the very things they are intended to support. For one of these views to apparently dominate cultural discourse seems of itself problematic.

Figure 2: Value driven vision for research culture. Source: Heywood et al 2024, included with permission.

Pilling. Exchanges 2024 11(3), pp. 333-343

337

Figure 3: Knowledge mediated academic transfer function.
*Source: (**Patwardhan & Clare 2021**), included with permission.*

The Importance of Thinking About and Talking About Knowledge

Our intuitive familiarity with the term knowledge, belies its complex, slippery and contested nature. Different disciplines relate to knowledge differently (for example: broad delineation of science and humanities or, equally, the contrast of scientific and engineering mindsets). These differences affect the creation and translation of knowledge, and the processes and pathways by which these are best achieved. Differences are also personal: individuals have different knowledge motivations and sensibilities, and their access to knowledge tools, capabilities and experience may vary. Personality influences cognitive preferences and role specialisation colours professional outlook, as do working cultures and environments.

This smooth on the outside, crunchy on the inside characteristic is a reason why, on the one hand, the benefit factory model is superficially attractive, and on the other fails to deliver all that is needed. My point here is not to claim personal expertise in theory of knowledge (a point emphasised by my deliberate avoidance of academic references for this section). Nor to demand that everyone hold a sophisticated rationalisation thereof. Rather it is to emphasise that because we mostly don't have personal access to

such insight (and even those who claim to, may not always or easily agree with each other), we need to do more collectively than simply and conveniently wish complex dynamics and tensions away.

My attempt to articulate a corresponding vision is that of an active, dynamic and ongoing knowledge conversation, through which we come to understand and navigate the nature, role and significance of knowledge, the diversity and nuance of our relations to it, and of the particular importance of its dynamics within research. This conversation needs to work within and across roles and divides. It needs to be democratically accessible, blending and layering clarity and precision with inclusive generality.

Inspired by this vision, **Figure 4** provides an illustration of the benefit factory model (based upon looking at each other) and a contrasting knowledge cooperative (based upon looking with each other). The shifting block widths represent the convergent practical emphasis of the factory model, and the complementary divergent emphasis of the knowledge cooperative. A crucial challenge in considering these ideas is to resist the temptation to pick a winner or preferred form. While this is natural, there is simply no need. Both views (and others besides) have their potential role and value.

Figure 4: Research Perspectives – Social Benefit Factory and Knowledge Cooperative models
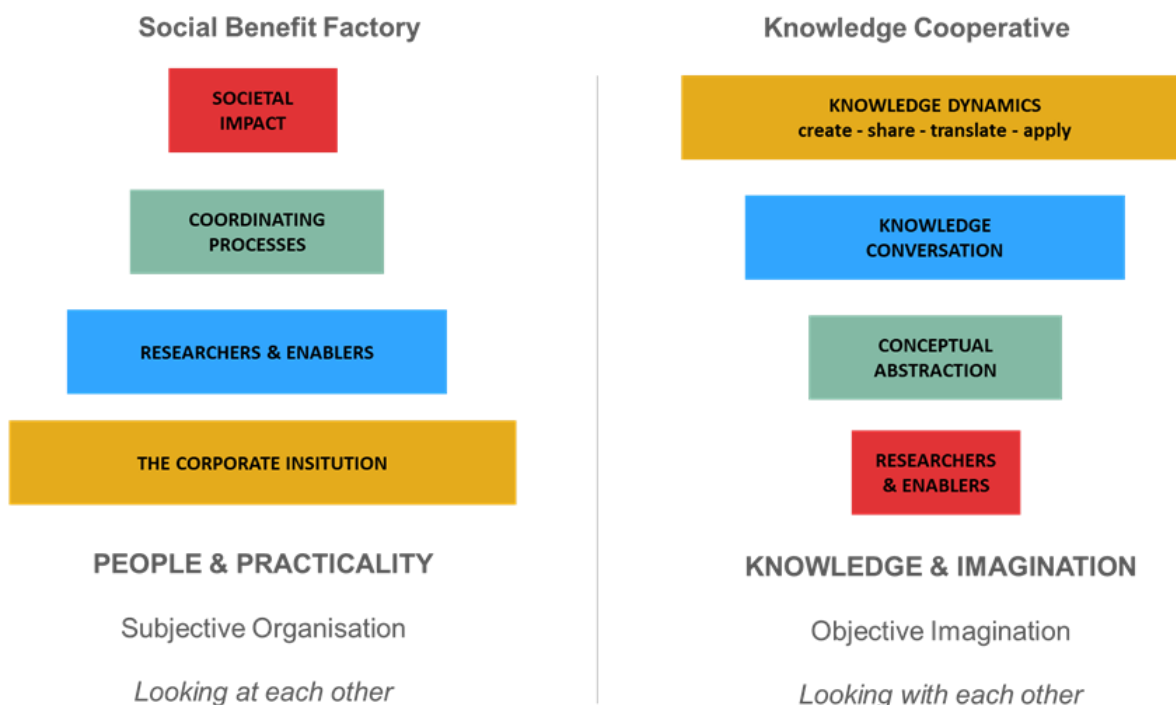
The idea of establishing an accessible and coherent knowledge conversation within our cultural formulation raises practical challenges in that knowledge specialisation and method sophistication work in tension

Pilling. Exchanges 2024 11(3), pp. 333-343

339

with accessibility. Also, divergence of methodological (and ideological) commitments present barriers to mutual coherence (and, potentially, mutual respect). At the same time, our cultural knowledge conversation must complement not antagonise the person-centred vision for research culture and excellent research overall.

A possible response to these challenges, mirrors that which I have been working with in the context of ground level knowledge integration and research support. Here, my primary tool is that of working overtly and imaginatively with conceptual abstraction: excavating the knowledge conversation from its concrete methodological roots and bringing it towards an abstracted surface. Reducing reliance on ground-up fixed-system expert mindsets, on the one hand, and building necessary trust and acceptance to overcome person-centred resistance to, otherwise potentially invasive, systemic thinking on the other. In this way, we are not choosing between objectivity and subjectivity but building collaborative and dynamic abstractions, which support intelligent and inclusive ways of working.

If this description appears unconvincingly fuzzy, it may help to recognise (via something of a meta-contortion), that this article itself is an example of exactly how such an abstract view can be both constructed and proceed ahead of a more concrete or specialised implementation. The result, which inevitably asks more questions than it answers (i.e., invites discussion) in no way replaces a more traditional and academically authoritative treatment. However, approached with imagination and curiosity, it can offer an anticipatory platform, stabilising and supporting diverse, creative and dynamic thinking, interactions and workflow. More prosaically, it can provide a useful conversational prop. These are exactly the tactics, which have proved valuable to my own work, supporting nascent knowledge creation and research design. It would be exciting to explore their wider application (and more rigorous grounding) within the scope of research culture, both to stimulate interdisciplinary thinking, and for adding directly to cultural discourse itself.

Collective Knowledge Conversation is Vital for Achieving Cultural Goals.

In closing, I sketch three opportunities for knowledge conversation contributing to cultural goals:

Leadership: Without the knowledge view, it is possible to lose sight of the complexity of research. We may fail to acknowledge the contingent, dynamic and multi-scale nature. We may fail to recognise that progress builds on intellectual vision, incremental attrition and sustained persistence over years, if not decades. In this light, benefit flows heavily

Pilling. Exchanges 2024 11(3), pp. 333-343

340

towards, as well as from, early career researchers. This dynamic, while not overriding, has ramifications for how we interpret and respond to the Problem-Based Model. Not least, can knowledge conversation help to reframe and more overtly recognise knowledge leadership by strengthening, diversifying and celebrating formal influences, and at the same time building status and visibility for informal modes and contributions?

Objectivity: A particular challenge within research groups can be to keep the personal and the subjective out of (at least some) conversations. In the sense that defensiveness, sensitivity, or lack of prior-exposure can hamper clarity and criticality of research discussion. In this there is a balance to be made in terms of respecting modern sensitivities around inclusion, adjustments and personal boundaries, and at the same time staying true to the necessity of rigorous, critical and objective research discussion. What was perhaps in the past a tacit learning process, no doubt facilitated by more homogenous researcher populations, may now benefit from an increasingly overt and skilful knowledge conversation (and this in tandem with building the inclusive, trusting and respectful environments upon which such interactions rely).

Collegiality: An analogy is that of a hospital. Whether one is a medical student, nurse, administrator, hospital porter or consultant, there is an easily accessible and understandable sense of common and shared commitment to the health and well-being of patients. There seems to have been a strange leap, within universities, whereby we are intent on throwing our equivalent baby (i.e., knowledge) out with its bathwater. This is a shame, as it is arguably the most powerful unifying thread running through academia. If instead we were to emphasise and rejuvenate this thread, make it accessible, dynamic, diverse and engaging, would this not provide a common bond of the sort, from which collegiality cannot help but arise?

Acknowledgements

Dr. Robert Pilling is based in the Department of Chemical and Biological Engineering at the University of Sheffield. His interests span research design and strategic management, researcher development, and processes of knowledge creation, capture, sharing and application. Robert gained his first degree in Chemistry (1994) and a Ph.D. in Synthetic Organic Chemistry (1998) both at University of Nottingham, and supplemented this with an M.Sc. in Environmental Science, Policy and Management at Imperial College (2002). He returned to the academic sphere in 2017 following a varied career initially in the manufacturing industry (1998–2002) and then the environmental sector (2002–2017).

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Endnotes

[i] An internal University of Sheffield study identified 'mid-career researchers' feeling 'swamped by teaching, admin and supervising students' finding that 'time to focus on research gets lost' and feeling that 'their research careers are stuck'. Impact of time pressures were also noted by ECR/PGR as a 'trickle down' into supervision. In a related survey G9 researchers recorded considerably less positive than average responses. Again, workload pressure stood out.