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## RESEARCH LEADERSHIP: WHAT IT IS AND WHY IT MATTERS

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The academic sphere has in recent years become almost saturated in leadership-related processes, structures and positions. This is often explained through recourse to arguments concerning the pathologies of managerialism and the decline of academic autonomy. And yet one area where leadership-related thinking and development structures have not generally permeated is in relation to core research activities. As a result thinking about research leadership, especially in relation to self-leadership and the governance of large inter-disciplinary ‘team science’ projects, is emerging as an important debate within academe. This chapter seeks to develop this debate by exploring *what research leadership is and why it matters*.

### Keywords:

Research; diversity; inter-disciplinarity; teams; innovation

While the issue of leadership is of growing concern within higher education, this chapter adopts a very specific focus on *research* leadership. The paradox this chapter seeks to expose is that despite research (and teaching) being the *raison d'être* of universities, very little leadership-related scholarship has actually focused on how research endeavours are led. This reflects cultural and historical factors relating to intellectual independence and academic autonomy. It also explains why Tight’s long list of leadership related prefixes and suffixes (this volume) does not include *research* leadership as a distinctive sub-type or field of inquiry. This illustrates exactly the knowledge gap that this chapter seeks to fill.

This chapter provides a broad overview of a four-year study that was published in June 2020 by the United Kingdom (UK) Economic and Social Research Council (ESRC) – ‘Fit for the Future’ - that focused specifically on research leadership (Flinders, 2020). What’s interesting for this collection is the manner in which this project’s focus on research leadership resonates with many of the themes, issues and tensions that emerge in other chapters. More precisely, engagement across the academic landscape revealed the existence of a very specific (if generally implicit) leadership approach that was itself embedded within and reflective of a broader set of scholarly principles and values. This is reflected in the final report’s focus on ‘shared leadership’, ‘leading from the middle’ and the notion of *nurturing* different skills and talents within an inclusive team-based context (Flinders, 2020; for a discussion see Academy of Medical Sciences, 2012 and 2015). Given that the evidence review and final report from the ‘Fit for the Future’ project are available online (Flinders, 2020), the aim of this chapter is simply to explore *what research leadership is and why it matters*. In doing so, the chapter is structured around four themes and questions:

1. *Gaps* - What does the existing research base tell us about research leadership?
2. *Traps* - Why has research leadership emerged as a matter of concern?
3. *Barriers* - What are the main barriers to nurturing research leadership capacity?
4. *Progress* - What's happening to nurture new research leadership talent?

Taken together, these four sections focus attention on research leadership as an increasingly important, but generally still overlooked dimension of broader debates concerning leadership in higher education. Its main contribution is to identify the existence of a research leadership challenge *and* opportunity.

### **1. Gaps - What does the existing research base tell us about research leadership?**

What is research leadership? What are the key skills and attributes that underpin research leadership? How do people develop into world-class researchers who can inspire and nurture future generations? What does effective research leadership look like and how does it vary by discipline and topic? How might institutional conceptions of research leadership differ from those of individual academics? How have the demands and pressures on research leaders changed in recent years? Is research leadership the same as 'intellectual leadership' or 'thought leadership'? What is the link between research leadership and research performance? Why do some individuals have incredibly successful research careers and others not? How might different models of research infrastructure or investment help build research leadership capacity? What role might research leaders based beyond academe or research-users play in forging innovative new research platforms? The existing research and knowledge base generally offers a very weak foundation for engaging with these questions.

This gap is somewhat anomalous given the huge research literature that exists on 'leadership studies' in general, and leadership within higher education in particular. The main focus of this latter strand of research has been on what might be termed 'managerial' or 'organisational' leadership within higher education. When it comes to a specific focus on *research* leadership within higher education, the available scholarship can be set out very clearly as consisting of little more than a handful of articles and the following four books: Paul Ramsden's *Learning to Lead in Higher Education* (1988), Robin Middlehurst's *Leading Academics* (1993), Bruce Macfarlane's *Intellectual Leadership in Higher Education* (2012) and Linda Evans *Professors as Academic Leaders* (2018). Evans (2014, p.46) notes the anomaly presented by this dearth of research, data or evidence:

[R]esearch performance is a dominant preoccupation for research intensive universities and those with research focused aspirations. ... *Research leadership, then, would appear to be a legitimate – if not essential – specialised form of higher education leadership... Yet in one sense such leaders are inadequately equipped, for the knowledge base available to them is extremely limited* [emphasis added].

Evans is by no means unique in coming to this conclusion. Edgar and Geare (2011, p.2) note that our understanding 'of research and research performance remains largely uncharted territory' which dovetails with Evans' (2011) arguments about an under-developed scholarship of researcher development. This lacuna is corroborated by Lumby (2012, p.10), who noted that '[e]vidence of the impact of leadership and different forms of leadership on the extent and quality of research ... is slim', and by Akerlind's (2008, p.17) comment: 'there is relatively little ... literature addressing academics' understandings of research and being a researcher'. Writing in 2012 (p.424) Linda Evans suggested that the existing research and literature on research leadership was 'relatively emaciated'. Over a decade later, and despite transformational shifts in the wider research, development and innovation ecosystem, this argument remains true.

This knowledge gap is a reflection of the manner in which research leadership has itself never been formally recognised within academe. Indeed, what the existing research base tends to reveal is the manner in which research leadership has generally been the realm of a rather *laissez faire* approach through which research leaders emerged largely through a mixture of trial-and-error, osmosis and luck. Research funders presumed that employing universities would ensure their scholars had the requisite mix of skills and training; universities were often led by academics who themselves had little formal leadership training or experience; and a traditional emphasis on professional autonomy and intellectual independence led to something resembling a 'muddling through' approach. The unsustainability of this approach has been recognised in relation to general management and teaching but not in relation to research leadership which still very often depends on the goodwill of colleagues. An increasingly pressurised academic environment, a changing funding landscape and an awareness of the need for greater connectivity across the research, development and innovation landscape (especially in relation to researcher/research-user interface) has led to a recognition of the need to take a leadership lens into research processes. Extensive evidence already suggests that researchers very often feel isolated, unsupported and vulnerable, a dimension of modern academic life that risks accentuating concerns regarding the mental health and wellbeing of academics (Morrish, 2019).

A key reference point for this chapter's focus on research leadership is A.H. Halsey's classic *Decline of Donnish Dominion* (1992). This was a 'dominion' that was traditionally elitist, masculine and arguably inefficient. A focus on nurturing a more professional and inclusive approach to research leadership is therefore possibly part of a new and more inclusive approach to academic life. But historical patterns of behaviour tend to be embedded culturally and institutionally in ways that can be resistant to change. With this in mind it is worthwhile briefly noting three issues that emerged out of the research and consultation undertaken for the 'Fit for the Future' project

First and foremost, very few academics initially seemed able to grasp what the concept of research leadership actually meant, or why it mattered. 'Research' was generally viewed as what academics 'did' and some scholars would progress to become recognised 'leaders' in their discipline, while most would not. There was

little comprehension of the key skills or competencies attached to research leadership or how these were changing in light of broader shifts in the research funding landscape. Leadership development was interpreted as relating to managerial or teaching duties. This might reflect the fact that where formal leadership-related professional development opportunities exist, they are generally focused on university governance or teaching (through the professional competence frameworks based within Advance HE). The provision of explicit high-quality training or professional development opportunities in relation to *research* leadership appeared, by contrast, extremely limited (discussed below).

The second issue is that a very large proportion of academics defined the concept of ‘leadership’ in pejorative terms, and this appears to be particularly prevalent within the social sciences. The strongly embedded character of the social sciences – as with the arts and humanities – engenders a natural mistrust of leadership (Evans’ focus on ‘critical leadership studies’ in this volume is highly relevant to this point). A significant literature exists on the tension between traditional academic norms and values, and the introduction over recent decades of a broadly neo-liberal reform agenda within higher education, with Richard Watermeyer’s *Competitive Accountability in Academic Life* (2019) and Richard Hall’s *The Hopeless University* (2021) providing particularly strident interpretations of this dilemma. This sense of a mismatch between values and professional direction has created a strong sense of mistrust towards concepts of ‘leadership’. This mistrust creates a potential cultural obstacle that may infect and influence conversations and discussions about potentially supportive or ‘neo-collegial’ (see Bacon, 2014) forms of research leadership. This is because any discussion of ‘leadership’ is very often immediately interpreted as relating to a top-down mode of individualised, neo-liberal, masculine and bureaucratic leadership that risks eroding traditional conceptions of intellectual autonomy and professional freedom. Interestingly, a common view emerging out of focus groups, conversations and the national consultation was that academics look for leadership in relation to values, identity and inter-personal trust, and not in the allocation of tasks or the management of processes. The role models identified by participants as research leaders were very rarely senior or formal institutional leaders, and research leadership often occurred through informal channels and support structures.

The third issue emerging out of the ‘Fit for the Future’ review focused attention on ‘collaborative’ (or ‘distributed’) leadership within higher education (Archer and Cameron, 2009). Collaborative leadership represents part of a broader challenge to what has been termed ‘leaderism’: a single-person focus that has emerged in both the public and private sectors in the UK and beyond (O’Reilly and Reed, 2010; McFarlane, 2014). The understanding of ‘collaborative’ leadership is based on the acceptance that the skills and expertise required to deliver complex research projects successfully are unlikely to be found in any one individual. The notion of the ‘incomplete leader’ (Ancona et al., 2007) therefore recognises this fact and promotes a focus on actively cultivating, co-ordinating, and blending the skills of a range of people in order to fill the leadership gaps and secure success. It therefore provides a perspective that (re)frames, (re)interprets,

(re)constructs and even (re)imagines the concept of leadership in a manner that may defuse dominant cultural antagonisms within academe and replace them with a far more positive, inclusive, and future-focused approach. ‘Collaborative’ leadership also provides a way of thinking about a flatter model of research leadership in which the notion of ‘leading from the middle’ - or even ‘leading from the back’ - resonates with traditional academic notions and values of collegiality, while also clearly dovetailing with the contemporary shift towards ‘team science’.

## 2. Traps - Why has research leadership emerged as a matter of concern?

The previous section made two main arguments: first, universities and funders have generally adopted a ‘hands off’ approach to research leadership; and secondly, this may explain the relative dearth of scholarship on this specific topic. This section focuses on why traditional ‘muddling through’ approaches have become the topic of increasing debate and disquiet in the last decade or so. Its key argument is that the socio-political context has shifted in ways that place new expectations on academics and universities, especially in terms of connectedness and mobility. Put very simply, traditional discussions of the role of ‘universities’ or ‘higher education’ have, as a result, been subsumed within far larger discussions concerning the research, development and innovation ‘ecosystem’. Universities are just one element of this ecosystem and they exist alongside an array of research-focused and research-related organisations and environments. As a result, it is possible to identify a recent step-change or shift in the nature of the expectations placed upon all parts of the scientific spectrum as their potential role in terms of scientific excellence *and* social impact is recognised. This shift is reflected in the emphasis that research funders – in the UK and beyond – are increasingly placing on the importance of *scientific breadth*, *viewpoint diversity* and *knowledge utilisation* (Box 1).

### Box 1. Cornerstones of the Emerging Research Funding Landscape

*Scientific breadth*: ‘How do the parts contribute to the whole and serve to produce more than the sum of their parts?’

*Viewpoint diversity*: ‘How do we stress test research in terms of methods and findings in order to increase its scientific quality and social relevance?’

*Knowledge utilisation*: ‘How do we maximise the public value and social relevance of publicly funded scientific research?’

The rationale for this ‘step change’ is very simple. It stems from an acceptance of complexity and an awareness that tackling major societal challenges and producing world-class scholarship will only occur by not only working *across* disciplinary boundaries but also by working *with* potential research-users (including the public) who have the ability to utilise research insights. It therefore focuses on *the nexus* between traditional disciplinary borders and *the intersection* between existing organisational structures as the space in which major transformative scientific breakthroughs, with the capacity to deliver major social benefits, are most likely to emerge in the future. Operating at the nexus or interface demands a different, or at the very

least more considered and supported, approach to research leadership. Recent reports by a large number of research funders, professional reviews and policy-makers - the Global Research Council, International Social Science Council, European Commission, League of European Research Universities, United Kingdom Research and Innovation (UKRI), etc. - all emphasise this 'step change' shift in emphasis. As Sir Paul Nurse's report - *Ensuring a Successful UK Research Endeavour* (2015, p.3),

The most effective research systems at producing knowledge for the public good are characterised by freedom of action and movement: they need to be permeable and fluid, allowing the ready transfer of ideas, skills and people in all directions between the different sectors, research disciplines, and various parts of the research endeavour.

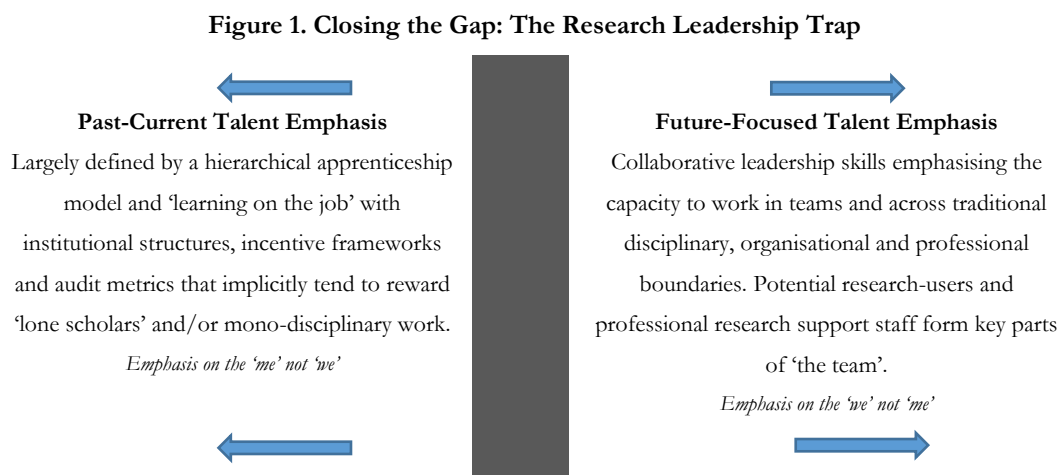
What we might therefore call 'the research leadership challenge' stems from the fact that operating at the nexus or at the intersection *between* disciplines and professions – what the former Nobel Prize winning economist Albert Hirschman (1981) labelled 'trespassing' - demands a very different skill-set to that which has in recent decades been prized or incentivized within academe (and especially amongst those disciplines which traditionally have worked primarily through a 'lone scholar' model). The challenge also stems from a sharper realisation that significant scientific discoveries are generally driven by talented individuals who combine a number of qualities *beyond and in addition to* in-depth specialist knowledge of a particular topic. The need for these 'beyond and in addition to' capabilities is illustrated by the manner in which research funding is increasingly being channelled to projects that exhibit the following characteristics:

1. They are large, ambitious and complex.
2. They are inter-disciplinary and inter-sectorial in nature, and international in scope.
3. They involve close engagement with potential research-users (co-design, co-production, etc.).
4. They combine a dual focus on *knowledge-creation* and *knowledge-utilisation*.
5. They involve a range of funders and participating (academic and non-academic) institutions.

It could be asked – as Robert Hewison and John Holden (2013) have done in relation to the Clore Leadership Programme – 'in this new world, what can the older generation teach the younger?' With this generational emphasis in mind, the Global Research Council published a *Statement of Principles and Actions for Shaping the Future: Supporting the Next Generation of Researchers* (2014). The report represented the most developed statement regarding the skills, training and support that will be required by world-class researchers in the future rather than the skills that may have been required in the past: 'GRC participants should be actively thinking about the types of skills and training *that will be needed over the coming decades*, ways to promote socially responsible research, and how research will contribute to and be transformed by a shifting social, cultural, political, economic, and environmental global context (p.1) [emphasis added]'. But the pace of national adaptation appears to have been slow. In the UK Vitae's *Five Steps Forward* (2017), based on successive Careers in Research Online Surveys (CROS) and Principal Investigators & Research Leaders Surveys (PIRLS), concluded, 'Research leaders consistently think nurturing the career development

of their researchers is an important aspect of research leadership, but many do not feel recognised or valued by their institution for supervising or managing staff or providing career development advice to them (p.19)'. In June 2018, the League of European Research Universities published *Delivering Talent – Careers of Researchers Inside and Outside of Academia* which highlighted the need for a stronger focus on research leadership as it relates to positions within and beyond academe.

What each of these reports were highlighting was a lack of alignment and a potential leadership trap. A lack of alignment in the sense of the dominant cultures, processes and ways of working within academe, on the one hand, and the requirements of society and funders for far more agile, flexible and inclusive approaches to research, on the other hand. The research leadership trap emerges from that lack of alignment (Figure 1, below), and the realisation that non-adaptation by universities and scholars is likely to lead to a withdrawal of funding, or the imposition of greater external controls (audits, reviews, etc.).



### 3. Barriers - What are the main obstacles to nurturing research leadership capacity?

The aim of this section is to highlight just a few of the key challenges to escaping the research leadership trap (Table 1). This matters for at least three reasons. Firstly, at the broadest level these barriers matter because they prevent the ready flow of ideas, skills, and people which is central to the existence of a vibrant research endeavour. Secondly, at a more basic level the evidence suggests that introducing individually or institutionally-focused reforms to nurture research leadership capacities will have little impact unless accompanied by measures which seek to address some of these broader *structural* or *systemic* issues. Thirdly, identifying key obstacles provides a first step towards addressing the research leadership challenge.



**Table 1. Main Obstacles to Nurturing Research Leadership**

<b>OBSTACLE</b>	<b>IMPACT</b>	<b>EVIDENCE</b>
Precarity & Unbundling	Academic career paths are being ‘unbundled’. Moving between pathways is difficult. Increased vulnerability amongst early career staff may result in ‘lost leaders’.	HEA. 2016. <i>Shifting Landscapes: Meeting the staff development needs of the changing academic workforce</i> , London.
Pressure & Risk	Academics exist within an increasingly pressured environment. Dedicating time to research leadership roles is often viewed as a risky endeavour	Nuffield Council 2014. <i>The Culture of Scientific Research in the United Kingdom</i> . London.
Silos & Audit	Despite the emphasis on inter-disciplinary and collaborative research the institutional architecture of academe remains forged around discipline-based units and audit structures.	McLeish, T and Strang, V. 2014. <i>Leading Inter-Disciplinary Research</i> , Leadership Foundation.
Recognition & Reward	Reward and recognition frameworks remain individualised. This acts as a major blockage in forging more innovative and vibrant team-based research platforms.	Academy of Medical Sciences 2016. <i>Improving Recognition of Team Science Contributions...</i> London.
Entry & Exit	Despite a growing emphasis on ‘open knowledge processes’, inter-sectoral mobility remains difficult. It is very difficult for ‘lost leaders’ to re-enter academe.	European Commission 2018. <i>Study on Fostering Industrial Talents in Research at European Level</i> . Brussels.
Equality & Diversity	Embedded structural inequalities continue to ensure that the researcher development and leadership landscape is not a flat one. Intersectionality compounds impacts.	Rollock, N. 2019. <i>Staying Power</i> . London.

*i. Precarity & Unbundling*

The first obstacle revolves around the changing structure of higher education both in the UK and globally and the emergence of two trends that have combined to fundamentally alter the notion of an academic career. The first of these is the ‘unbundling’ of academe whereby it is now possible to identify a much clearer separation between ‘teaching-related’ staff and ‘research-related’ staff. A shrinking proportion of academic staff have a formalised research component within their contract, tenure is increasingly hard to secure, and an increasing number of academics, particularly at the beginning of their careers, are employed on fractional temporary positions. The 2020/2021 Higher Education Staff Statistics data reveal that of the 224,530 university-based academics almost exactly a third (i.e. 72,610) were employed on fixed-term contracts. (What’s also interesting is that a third of all academics – including both permanent and temporary positions - were employed on teaching-only contracts, an increase from 26% in 2016.)

What the evidence reveals is the emergence of an increasingly precarious and diversified profession – hence Whitchurch’s (2018) focus on ‘the rise of the itinerant academic’ – which underlines the increasing contextual pressures of academic life, especially for early career researchers. The *Concordat to Support the*

*Career Development of Researchers* was signed in 2008 in recognition of the vulnerability faced by fixed-term researchers and followed the 2005 *European Charter for Researchers*. However, the *Review of the Concordat to Support the Career Development of Researchers* that was published in June 2018 concluded that ‘progress in implementing the Concordat is variable across the Principles and inconsistent across employing institutions’. The review concluded that ‘additional drivers’ were needed to drive positive change. It also emphasised the breadth of research-related career options beyond academe and the need to facilitate greater inter-sectoral mobility (discussed below). With a limited number of post-doctoral fellowships available, and an increasing number of talented researchers in teaching-only positions, the potential for ‘lost leaders’ appears to be significant. The need to be able to demonstrate an independent research trajectory and a publications profile places huge pressure on these early career researchers to undertake unpaid work in the hope that they might maintain a position as credible candidates for research-related positions in an increasingly competitive job market.

ii. *Pressure & Risk*

It is not just those researchers who are trying to get their foot on the first rung of the academic ladder that are facing increased pressures. Light and Cox (2009, p.9) describe a millennium ‘storm’, in which, for academics, ‘the demands on their time and the complexity of those demands are changing and escalating almost exponentially’. These demands include the pressures to increase the number and standard of research outputs, deliver demonstrable research impact and knowledge transfer, apply for and obtain external research grants while also delivering excellence in teaching and coping with increasingly demanding administrative burdens. The evidence base suggests that in this context attending research leadership programmes or opportunities was a luxury that few academics thought they could afford. It also suggests that an increasing number of academics are reluctant to undertake research leadership roles for fear that engaging in this activity will not be recognised or rewarded by employers.

Academics have traditionally displayed what has been termed ‘a reluctance to lead’ (Burkill, 2017) but this may have been amplified by increasing pressures and expectations. The evidence emerging from the ‘Fit for the Future’ review suggested that academics are concerned that leading a major team-based project (or being part of the leadership team) itself represents a risk-based trap. With demand for research funding generally always outstripping supply several times over the concern is that the failure of the large project application may leave the ‘leader’ of the grant application vulnerable. Vulnerable in the sense of not only disappointing senior university managers but also in the sense of not having the publication outputs they might have produced if they had not invested so much time and energy in leading the grant application.

Senior management teams within universities were very often thought by respondents not to value the huge amount of time and energy that went into submitting large and complex research grants.

### *iii. Silos & Audit*

The simple argument of this section is that university structures, processes and incentive systems still remain overwhelmingly discipline-based and individualised. The challenges this creates for leading across boundaries is obvious, not least as very few academics have experience of working in research-related environments beyond their own discipline or beyond academe in research-related environments. The Royal Society report, *The Scientific Century: Securing our Future Prosperity* (2010) reflected the need to facilitate research at the intersection of disciplines, especially between the humanities, arts and social sciences, on the one hand, and the sciences, technology, engineering and mathematical disciplines. Subsequent reports on inter-disciplinarity and innovation (Wilson and Blackwell, 2017) has identified a shift in emphasis amongst funders towards facilitating mobility. The problem is, however, that a rhetoric-reality gap arguably exists between the high-level demands of funders and the low-level capacity of academics and institutions to re-orientate themselves away from discipline-based structures. This mismatch between demand and structure was highlighted in the Nurse Report of November 2015, and is likely to form a key element of the ‘Nurse 2.0’ report that was commissioned by ministers in July 2021 to review whether the existing research landscape was fit for purpose.

The standard single disciplinary focus that remains in the infrastructure of higher education has been recognised for some time as highly problematic. The evidence on this point is extensive (McLeish and Strang, 2014). A 2015 edition of *Nature* concluded that inter-disciplinary scholarship ‘is harder to fund, do, review and publish – and those who attempt it struggle for recognition and advancement’. The 2016 League of European Research Universities’ report on inter-disciplinarity emphasised that it also requires patient and flexible investment which is increasingly difficult to secure, and the impacts of work of this nature may not become evident for some time after the formal project funding period has elapsed. ‘Time and trust’ are viewed as forming the foundations of high-quality inter-disciplinary work but these values flow back to apprehensions about risk and behaviour. The evidence suggests that the existing national research audit framework (i.e. the Research Excellence Framework in the UK) and institutional performance regimes generally combine to ensure that inter-disciplinary research is viewed as being a professionally risky endeavour (Stern, 2016).

Early career researchers who adopt an inter-disciplinary approach risk not fitting into established disciplinary boundaries when applying for jobs. They also risk ‘not fitting’ when it comes to promotion criteria and (critically) external research assessment processes (described as ‘career suicide’ by one respondent to the British Academy’s 2016 review). This risk highlights the role of research leadership in

terms of creating the institutional conditions in which inter-disciplinary studies can flourish. ‘Leadership is critically important to supporting researchers carrying out interdisciplinary work’ as the British Academy’s *Crossing Paths* report of July 2016 concluded.

*iv. Recognition & Reward*

A key element of the changing nature of research is a shift towards ‘team science’ in which the talents and skills of a wide range of academic and non-academic staff are recognised, nurtured and co-ordinated. As Shearer West’s *Humanities Research Leadership in Europe* (2013) emphasised, an emphasis on team-based research presents a challenge for those fields traditionally linked to a lone-scholar model of work. Forscher (2020) and his colleagues have outlined the ‘benefits, barriers and risks of big team science’; whereas the work of Love *et al.* (2021) underlines the role of informal leadership and inter-personal relationships within team science. These insights underline the manner in which the ‘science of team science’ is itself emerging as a sub-field of intellectual inquiry, and as the 2015 report by Nancy Cooke and Margaret Hilton for the National Academies of Science, Engineering and Medicine – *Enhancing the Effectiveness of Team Science* – concluded, the leadership teams within ‘team science’ projects need to be carefully selected and supported. But the barrier this section raises is whether existing recognition and reward structures incentivise the present-future talent basis outlined in Figure 1 (above). Or do they essentially serve to ‘lock in’ a mode of undertaking research that is misaligned with contemporary needs and which actually inhibits innovation and mobility? The conclusions of the Academy for Medical Science’s 2016 report is unequivocal and dovetails with much of the evidence and testimony submitted to the ‘Fit for the Future’ review.

Our findings indicate that academic reward and recognition systems have failed to match the growth of team working; A key finding was that the likely lack of recognition for one’s contributions is the main challenge for researchers participating in team science. It appeared that career development issues were consistent, regardless of the size of teams. Therefore, academic recognition must embrace a fundamental change: it must provide improved information about the contributions of individual team members and use and value it in assessment (p.4).

The Nuffield Council on Bioethics came to a similar conclusion in 2014 after surveying almost a thousand people and holding fifteen discussion events at universities all over the UK. The final report concluded that scientists are motivated in their work to find out more about the world and to benefit society, and that they believe collaboration, multi-disciplinarity, openness, and creativity are important for the production of high-quality science. However, in some cases, the report concluded that the culture of research in higher education institutions does not support or encourage these goals or activities. High levels of competition and perceptions about how scientists are assessed for jobs and funding are reportedly contributing to a loss of creativity in science, less collaboration and poor research practices. Focus groups and interviews for the ‘Fit for the Future’ national review 2018-2020 revealed a similar sense of concern. These findings are

echoed in the League of European Research Universities *Delivering Talent* report of 2018 where there is evidence that the existing reward and promotion structures are blocking the creative and collaborative capacities of the next generation. This brings us to a focus on entry and exit.

*v. Entry & Exit*

‘Crossing Paths’ and ‘Creating Value Across Boundaries’ – to paraphrase the titles of reports by the British Academy and National Endowment for Science, Technology and the Arts (NESTA) (respectively, 2016 and 2010) - are hindered by the manner in which reward structures and professional development within academe remain heavily skewed towards individual appraisal and accomplishment. There is evidence that being an interdisciplinary scholar can still be detrimental in terms of career recognition (Lyll, 2019). This section looks at mobility from a different angle; not progression through an academic career but mobility in-and-out of academe which in itself introduces the theme of ‘open-knowledge processes’. The simple idea here is that in order for different forms of knowledge to be developed, tested and integrated there is a need for the wider ecosystem to exhibit a degree of porosity (i.e. knowledge, people and talent must flow).

Intra and inter-sectoral mobility provides huge opportunities in relation to researcher development and leadership experience, notably in relation to more disruptive forms of challenge-based leadership, as operating from a position beyond academe, even temporarily, can be transformative in terms of achieving a sense of perspective and fresh purpose. Working in other disciplinary contexts or in non-academic research related contexts can also provide insights into different cultural assumptions, institutional pressures and those ‘self-evident truths’ that need to be challenged. In many ways, what the ability to exit and re-enter academic environments delivers is exactly those forms of intellectual and professional ‘range’ that David Epstein demonstrates in his 2019 book of the same title. And yet the core point this sub-section seeks to underline is just how hard it is to *enter, exit or re-enter* academe. The system is closer to being impermeable than it is to being porous. Gaining insights, let alone research leadership experience, with a sense of range remains as risky as it is difficult. The evidence suggests that there are very few incentives for researchers to commit to a period beyond academe, whilst many incentives exist to encourage narrow career paths. This was the main finding of an exhaustive recent report by the European Commission in 2018 on fostering talent and was backed up by the research undertaken for the ‘Fit for the Future’ review. The root issue appears to be systemic in nature. As with engaging in inter-disciplinary research, participating in schemes that promote inter-sectoral mobility are viewed as risky due to the existence of recruitment and promotion frameworks that prioritise a relatively narrow view of ‘what counts’ (i.e. peer-reviewed research articles in top-ranked but generally esoteric journals, and external research-grant income). While the core academic currency remains so restricted there are few incentives for academics to invest their time and energy in research leadership activities. This flows through into a focus on equality and diversity.

Embedded structural inequalities ensure that leadership challenges are more acute for specific sections of the academic and professional community than for others. The evidence and data for this argument is extensive (Advance HE, 2021). It also reflects the centrality of cultural factors, the existence of implicit biases and its impact in terms of creating what Turner (2002) describes as ‘multiple marginality’. Taken together, these factors serve to create what Griffith, Mickey and Dasgupte (2022) find to be a ‘chillier’ and less inclusive research environment for under-represented groups.

Many of these issues are not new but the changing socio-political context (i.e. heightened precarity and professional flux) risks exacerbating long-term inequalities (see Menges and Exum, 1983). Research by the League of European Research Universities (2018b) reveals that only 21% of full professors are women, and even fewer are heads of department. Several studies have revealed that, compared with men, women tend to receive significantly lower salaries, are less likely to hold tenured positions, and generally have to wait longer for promotion (Shepherd, 2017). The evidence suggests that women of colour face even greater challenges (see Solanke, 2017). Showunmi, Atewologun and Bebbington (2015, p.917) link gender imbalance with race and class disadvantage, arguing that ‘women and in particular women of colour face a ‘glass ceiling’ in higher education’. Recent data from Advance HE indicates that there are just 85 black professors in the UK (i.e. 0.6%, the smallest proportion of the professoriate). Less than 5% of black academic staff are appointed to a full chair, compared with 11.2% of white staff. This statistic appears to support findings from the University and College Union that white academics are approximately three times as successful in their applications for a professorship when compared with their peers from BAME backgrounds. In 2019 just 25 UK black professors were women (Rollock, 2019). Discipline specific studies reveal that even where initial recruitment patterns tend to be fairly broad in terms of social diversity embedded barriers, blockages and biases appear to ensure the existence of an *une*level playing field when it comes to equality of opportunity around subsequent career paths (see Flinders, 2016).

Qualitative studies suggest that even when women are in senior positions, their authoritative power is often downplayed which has been interpreted as suggesting that their academic career path is structured in line with male perceptions of success. In February 2019 *The Lancet* published a research article that found specific evidence of inequalities within academic and recruitment pathways and called for the introduction of some form of ‘diversity rating’ within national audit frameworks to catalyse action. What is clear from the evidence is that BAME staff in higher education report being undermined, marginalised and held back in their careers, and their scientific knowledge and experience is often called into question (Leathwood, Maylor and Moreau, 2009). Perceptions of bullying and harassment are also higher, and academics from BAME backgrounds are more likely to consider taking posts abroad than their white colleagues (Bhopal, Brown and Jackson, 2015). Thus, research leadership cannot be detached from the existence of embedded structural inequalities and inter-sectionality that already prevent some sections of the academic community from assuming any leadership positions. And yet the link back into the specific topic of *research* leadership

as a specific sub-field in higher education is provided by the manner in which welcoming and embracing diversity (disciplines, backgrounds, experience, talents, etc.) provides one of, if not *the*, core element of the future-focused talent emphasis outlined in Figure 1 (above). This point encourages us to focus not just on the challenges that exist but also upon the opportunities that exist for addressing some of these barriers.

#### **4. Progress - What's happening to nurture new research leadership talent?**

Research leadership *is* the activity of supporting and facilitating the production of research in an inclusive manner that maximises the scientific quality and social impact(s) of that endeavour. It relates to both individual development (self-leadership) but more commonly to the contribution of an individual to supporting and nurturing the research careers of others. It may also refer to activities in relation to a specific project or programme of research, or to broader roles within research funding organisations, learned societies or academies. One important dimension of research leadership vis-à-vis broader understandings of the wider ecosystem is that it occurs in a number of organisational and professional contexts and is in no way restricted to academe. A key element of research leadership relates to leading across boundaries and in facilitating and sustaining connectivity between institutions, organisations and communities of practice. This is also exactly why research leadership matters. Unprecedented social, technological, security and environmental challenges demand a different type of leadership model to exist within research and research-related contexts. That is, a model of leadership that facilitates the mobility of people, ideas and talents across traditional organisational, professional and disciplinary boundaries. But multiple barriers exist that currently frustrate mobility.

It is, however, possible to identify positive innovations and attempts to facilitate mobility. These can be interpreted as an attempt to align the processes, procedures and practices of academe with the demands of a new environment. Drawing on recent developments in the UK, this section outlines recent reforms and highlights a number of issues that are critical to any future-focused consideration of research leadership anywhere in the world.

First and foremost, the creation of UKRI has led to the rapid emergence of a major distinction between *funding research* and *research infrastructure*. The former element relates to the traditional and fairly restricted role of arm's-length research funding agencies, whereas the latter relates to a more holistic focus not just on funding research but on making sure the underpinning foundations and infrastructure are in place to ensure the effective utilisation and impact of public investments in research. UKRI has not only shifted the balance from funding research to research infrastructure but it has done so in a way that has been explicitly focused on nurturing research leadership and facilitating mobility. The first major investment launched by UKRI was a £109 million Future Leaders Fellowships programme that was explicitly designed not to be like a traditional post-doctoral research fellowship. The Future Leaders Fellows are different in that they focus on facilitating the mobility of talent within and beyond academe. This emphasis on navigating the broader

ecosystem is reflected in the fact that the Future Leaders Fellows can be based in non-academic institutions. Added to this is a broader Future Leaders Fellows Development Network that works to connect and share learning and professional skills between participants while also forging a long-term positive ‘cadre effect’ amongst participants (i.e. informal post-fellowship relationships and support structures). The UK government’s *Research and Development: People and Culture* strategy of July 2021 sought to further promote an explicit focus on facilitating mobility and fostering research leadership skills (see BEIS, 2021); while UKRI’s strategic plan for 2023-2027 – *Transforming Tomorrow Together* - is explicitly based on catalysing change through partnership, leadership and the facilitation of forms of mobility.

And yet simply facilitating mobility is not the answer to the research leadership challenge. Even with the creation of the Future Leaders Fellows and related initiatives such as the Academy of Medical Sciences path breaking FLIER scheme (Future Leaders in Innovation, Enterprise and Research) or the Scottish Crucible, major questions still surround equality of access to such schemes, and the need to recognise that the skills and demands of research leadership vary between a post-doctoral researcher and a senior professor. Nurturing research leaders with a more future-focused skill-set takes time. A ‘leadership lag’ of around a decade is generally to be expected between the beginning of a major shift in priorities or direction and the maturation of new cohorts of leaders with the requisite skills. There is also a risk of seeking to identify ‘future leaders’ too early in their research careers. Different people take more time to flourish and thrive; others peak early or even burnout. ‘Talent management’ frameworks that focus on early career ‘research stars’ – as the Future Leaders Fellows scheme, as just one example, does - therefore risks overlooking people whose talents or capabilities do not emerge until later in the career structure.

The most surprising finding emerging out of the ‘Fit for the Future’ review was the argument that the biggest challenge in terms of building research leadership capacity did not involve early career researchers but mid-career scholars. The challenge laid at the door of research funders by university vice chancellors and deans was how to motivate the research careers of those mid-career staff that had for one reason or another plateaued. With the majority of career stage-related opportunities targeted at early career researchers, and then the academic equivalent of the Matthew effect serving to ensure that early research funding success tended to attract subsequent funding, there was a need to think about how to rejuvenate the research passion, creativity and capacity of mid-career staff. This might involve tailored mid-career fellowships or even discipline-hopping opportunities that allowed scholars to adopt a completely fresh research focus. Part of this agenda might even connect back into the equality and diversity agenda by creating opportunities for those who wanted to return to academia after either career breaks or spells in cognate professions. Although UKRI launched a ‘Return to Research’ bursary in 2020 the level of investment or innovation in relation to ‘Research Re-Entry Fellowships’ (or ‘Returnships’) remains limited.

This leads us into the research leadership challenge: research leadership reaches well beyond academic staff. One of the core shifts within academe in recent years has been the growth of what is often referred to as



‘third space’ staff which highlights how the traditional dichotomy between ‘academic staff’, on the one hand, and ‘university administrators’, on the other hand, no longer reflects the reality of workforce composition. The emphasis on mobility, impact and collaborating across boundaries has led to the appointment of an increasing number of professional research support staff whose role it is to facilitate mobility and to work at the interface of research and policy. This is a new staff grouping formed in universities that remains somewhere in between the traditional categories of academic and non-academic personnel, as a kind of a hybrid that possesses features of both. The interesting dimension here is that a large proportion of these ‘third space’ staff will have initially trained as academics and have completed PhDs before leaving academe to work in research-related environments. It is this knowledge of working within and navigating across research-related environments which then forms the basis on which they are later appointed back into knowledge-brokerage positions within universities. They are in many ways ‘para-academics’ or ‘pracademics’ who operate at the interface between research and research-users and who therefore bring new and additional leadership competencies and challenges (Flinders and Chaytor, 2021).

This brings us to a final point and to a focus on what might be termed ‘the *politics of research leadership*’ in the sense of returning to well-established concerns regarding managerialism, commodification and the neo-liberal university. The risk is that a focus on research leadership serves as little more than a Trojan horse for the imposition of external controls, over-simplified structures, a one-size-fits-all approach and a generally managerialist worldview. A narrow and instrumentalised approach to research leadership would fixate on processes not relationships, emphasise intellectual muscle not emotional intelligence, and see success in terms of world rankings and audit performance rather than scientific ingenuity and public value. To adopt such a narrow approach would be to have fallen into a research leadership trap rather than to have forged a fresh approach to building and sustaining world class research environments. As research leadership continues to emerge as a matter of both concern and investment only time will tell if those charged with delivering on this agenda around the world can avoid this trap and realise the promise of a more inclusive and engaged approach to scholarship.

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