

The Precarious Postdoc

Interdisciplinary Research and Casualised Labour in the Humanities and Social Sciences

by

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'The Precarious Postdoc' A Project Short by Sophie A. Jones and Catherine Oakley

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The Precarious Postdoc: Interdisciplinary Research and Casualised Labour in the Humanities and Social Sciences

1. Introduction

That does it mean to begin an academic career in an age of interdisciplinary research? The question can be flipped: what does it mean to do interdisciplinary research in an age of casualised academic labour? These two trends—interdisciplinarity and casualisation-are, separately, the subject of much debate in the contemporary academy, but their fraught intersection has received little attention. A Guardian investigation published in November 2016 found that 53% of academics in British universities are on some form of insecure contract. While this statistic included researchonly staff, the newspaper's analysis focused largely on precarious teaching positions.¹ The experiences of people employed on postdoctoral research contracts, who often do little or no teaching, sometimes occupy the margins of our debates about working conditions in the contemporary academy.

Postdoctoral researchers in the Humanities and Social Sciences have often been considered the lucky ones: prestigious fellowships - typically three years in duration - have been framed historically as passports to permanent jobs, giving doctoral graduates the opportunity to publish and develop individual research without the pressure of a heavy teaching load. But the nature of postdoctoral research is changing. Traditionally, a postdoctoral post has been understood as a transitional role between the PhD and an academic lectureship, but a new reality is supplanting this trajectory. The European University Institute has noted the low ratio of permanent to temporary academic positions in the UK in relation to other European countries.² Compared with other disciplinary groups. Humanities and Social Sciences doctoral graduates have been most affected by the Higher Education (HE) sector's increasing reliance on short-term contracts.³ As fewer permanent jobs materialise, the serial postdoc, who takes on a string of fixed-term appointments, is now a common phenomenon in these fields.

Another dimension of the changes in postdoctoral employment is the growing emphasis in the Humanities and Social Sciences on interdisciplinary research. On one level, this means that candidates for the traditional threeyear research fellowships are being encouraged

to pursue interdisciplinary work. The Leverhulme Trust, for instance, states that it places special weight on 'the removal of barriers between traditional disciplines' when evaluating candidates for its Early Career Fellowship scheme.⁴ At the same time, the expansion of large-scale collaborative projects has brought with it new postdoctoral research jobs, which range from short-term or part-time research assistant positions to four- or five-year fellowships which might involve both collaborative research and the development of individual projects. Such projects can engender what one principal investigator (PI) we consulted terms 'the creep of lab culture' into large-scale research projects in the Humanities and Social Sciences. The uncritical adoption of collaborative working models from STEM has generated new challenges for postdoctoral researchers in the Humanities and Social Sciences, and for those who employ them.

This Project Short argues that collaboration across disciplines, institutions, and departments does not have to be a race to the bottom: indeed, the lack of a fixed blueprint for interdisciplinary projects means they are well-placed to model best practice for employing postdoctoral scholars. In what follows, we set out the current state of things, and—drawing on data from early-career researchers themselves—propose some best practice guidelines for Pls, funding bodies, and universities.

2. Methodology and key findings

In developing this guide, we conducted semistructured interviews with three PIs on two major UK collaborative projects employing postdoctoral researchers in the interdisciplinary field of the Medical Humanities.

We also conducted an online survey of 94 respondents from a wide range of disciplines who are either currently employed as postdoctoral researchers in the Humanities and the Social Sciences in UK Higher Education, or have been employed in these roles in the recent past.⁵ The survey, which we circulated via email lists and social media, aimed to generate data on the terms of postdoctoral employment in the Humanities and Social Sciences, and to gather insight into individual experiences of this type of employment. Combining multiple-choice and free

text questions, the survey invited respondents to comment on a number of topics, including:

- the duration of their contracts and their salaries;
- the remit and expectations of their roles laid out by their job criteria, and the extent to which this met the realities of their day-to-day experience of their work;
- any training and mentorship opportunities available to them;
- their future career plans;
- the changes they would like to see in the ways that postdoctoral roles are conceived, funded, and supported.

All survey questions were voluntary, and respondents had the option to submit their answers anonymously. Of those respondents who gave information about their current circumstances, 84% stated that they were currently employed in postdoctoral roles. 7.7% offered responses about their postdoctoral experiences from permanent academic positions. 4.4% offered retrospective perspectives from their positions in non-academic roles (within or outside a Higher Education Institution). 3.3% reported as unemployed.

In addition to the summary provided here, we have incorporated both quantitative and qualitative data from the survey throughout this guide. The key quantitative findings of the survey include:

- 63.8% of respondents had been employed in more than one postdoctoral post, with 22.3% having held two or more previous postdoctoral roles.
- The contract lengths cited ranged from three months to five years.
- Half of the respondents stated that they were employed on contracts of less than three years' duration, while around 30% reported three-year roles. Just over 20% said that their contract duration was 12 months or less.

- The vast majority of respondents around four-fifths – declared their research to be interdisciplinary.
- 61% of respondents reported being employed as postdocs on a collaborative research project, while 39% said that they were working on an individual project.
- An overwhelming majority of respondents – around 90% – said that they aspired to remain in academia.

The qualitative data generated by the survey and PI interviews was thematically analysed with the aim of understanding and interpreting key patterns across individual accounts. These findings inform the guidance and recommendations we issue here.

3. The postdoctoral role and its challenges

In the Humanities and Social Sciences, the position of the Postdoctoral Researcher offers an opportunity for recent doctoral graduates to pursue additional research and training. Until recently, the dominant postdoctoral model in these disciplines has been a fellowship designed by an individual, who will, if a rigorous process of peer review leads to success, be awarded external funding to conduct an independent research project, usually on a full-time basis, for at least three years. The main expectations for activities and outputs have been research, presenting work at academic conferences, and the publication of findings in the form of an academic monograph and/or peer-reviewed journal articles.

Changes to the funding landscape in the Humanities and Social Sciences in recent years have led to the growth of an alternative model of postdoctoral employment. The paradigm for the role of the post doctoral research assistant (PDRA) is imported from STEM disciplines, where iunior researchers are recruited as 'assistants' on a large project grant won by a PI. The job criteria for the majority of postdocs on such collaborative grants usually corresponds closely with that of the independent postdoctoral researcher. However, postdocs employed on collaborative grants work in accordance with the scope and expectations not just of a given funding body, but of their home institution, the project's PI, and/or other team members.

In practice, postdoctoral researchers working either independently or on larger collaborative projects in the Humanities and Social Sciences face an increasing range of challenges and expectations beyond those that have been attached to such roles historically. We examine a number of these challenges below.

Interdisciplinarity at Postdoctoral Level

The growth of interdisciplinary research agendas in recent decades has offered new opportunities for UK researchers in the Humanities and Social Sciences to undertake innovative work. However, as a recent report by the British Academy has noted, being interdisciplinary at an early career stage presents particular challenges, given that conventional measures of job performance - and the majority of permanent jobs - still correspond with disciplinary categorisations.⁶ These findings have important implications for professional development and mentorship in postdoctoral roles (see section 6 below), not least because a substantive number of researchers at an early career stage find themselves to be interdisciplinary because their particular research guestions demand this approach.

The British Academy report also sheds light on an aspect of interdisciplinary research that is

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often overlooked at institutional level: namely, that doing interdisciplinary work often takes additional time. Devising a research plan, gathering sources from more than one area, and learning or devising new methodologies means that an interdisciplinary publication profile at an early career stage 'might develop at a slower pace'.⁷ Funding bodies and PIs should bear this in mind in designing, recruiting, and managing postdoctoral research, and ensure that this context is taken into account in envisaging publications from interdisciplinary researchers.

The Question of Autonomy

Independent Postdoctoral Researchers typically work on a project of their own design, usually with mentoring from a senior colleague. However, those employed on larger grants can face difficulties surrounding research autonomy and intellectual ownership regarding both research and publication practices. Researchers in the Humanities who are used to designing their own research topics might find themselves responding to externally-directed research questions. Two co-authored publications with the project PI or other team members may not contribute towards the discipline-specific or subject-specific research profile a postdoc is seeking to build. One survey respondent emphasised that 'project-based research needs to be conceived in such a way that postdocs are able to maintain a distinctive research identity in their role, including in publications arising from the project'. Meanwhile, two co-investigators on a current Wellcome Trust Collaborative Award told us they tried to ensure at the design phase that the postdoctoral element of the project was 'sufficiently open that it would appeal to researchers working in the Humanities, who are less used to the model of researching on other people's projects than those in the sciences'.8

Unfinished Business

The two co-PIs we spoke to noted that many 'serial postdocs' hold successive short-term jobs, often resulting in a situation where they carry half-completed outputs with them from one postdoctoral project to another. These can include monographs, single-authored publications, and/ or co-authored publications. They noted:

We were aware that postdocs often carry with them unfinished work belonging to their PhD studies, or other postdoc positions, that they need funded time to bring to completion before the next project can get underway [...] We have therefore built in time at the beginning [of their contracts] for them to do this. It allows for a less stressful atmosphere further down the line.⁹

Public Engagement

Public Engagement encompasses a diverse set of activities through which 'the benefits of higher education and research can be shared with the public', involving a 'two-way process' with the goal of generating 'mutual benefit'.¹⁰ Such activities are encouraged increasingly as part of grant applications at all levels. Debates and discussions at the 2017 annual conference of the UK's National Co-ordinating Centre for Public Engagement (NCCPE), reflected a shift in emphasis towards the public mission of universities in society through academic research that is 'co-produced' between universities and external partners, including local communities.¹¹ It is worth noting, however, that an institutional culture of casualised contracts and particularly those of 12 months or less - is inimical to the conditions under which such coproduced academic research can flourish. The exclusionary nature of such contracts (see section 4 below) can preclude access to postdoctoral work for academics from the very underrepresented and marginalised groups that public engagement agendas are now seeking to engage: women, those with disabilities, BAME individuals, and those from working-class backgrounds. Building sustained and meaningful relationships with organisations and communities beyond the university requires long-term investments, and these must therefore be matched by longer-term and secure contracts.

4. Postdoctoral Precarity and Systemic Inequality

When we talk about casualisation in academia we often focus on individual stories. Our survey of more than 90 postdoctoral researchers brought us a raft of painstaking, articulate accounts of lives lived in anxiety and uncertainty. We heard from the part-time researcher who cannot afford to pay her research expenses upfront in a system that runs on reimbursement, the migrant academic facing visa issues without a permanent contract, and the unemployed postdoc whose career depends on saying 'yes' to unpaid academic work he cannot afford to do. The individual testimonies we collected highlight the personal cost of precarious contracts and give weight to ethical calls for change. But they also accumulate to form a sedimented image of the larger cost of precarious work. Each individual testimony of casualised labour contains an exhausted gesture towards all the people pushed out of, or deterred from, an academic career because the system, in its current form, presumes that those operating within it have independent means, or a financial safety net.

As barriers between disciplines are broken down, social barriers are being fortified by the casualisation of postdoctoral labour.

If the 53% of academics in precarious contracts are just about managing to stay afloat, what happens when they get ill, or when their work allocations on the part-time or zero-hours jobs they often undertake alongside their academic work are reduced? How can junior scholars who lack savings or familial support contemplate years of insecure, underpaid employment in the first place? Respondents to our survey of postdoctoral researchers spoke of an unwritten assumption that they have funds to supplement low wages, or savings to fall back on should they wish to take time out of paid work to complete publications or develop research proposals. Advocates of interdisciplinary research emphasise the value of bringing diverse perspectives to bear on a single project. It is essential that this recognition of the value of disciplinary diversity goes hand-inhand with interventions to ensure social diversity within the academy.

Systemic Discrimination

Among the voices marginalised and occluded within the current climate of academic employment are those of people with caring responsibilities — often women — who are unable to uproot their families for short-term appointments. One female researcher told us:

> I would love to have a permanent academic role, but I am not in a position to move miles away for a job, and I cannot afford to have a string of badly-paid postdoc jobs as I have a mortgage to pay and a child to support. I have a partner but I am the main wage earner for the household.

Another researcher with a family pointed out that those with caring responsibilities often have to leave academia, which can have a deleterious effect on the breadth of research relevance and engagement:

> Temporary contracts discriminate against researchers who have responsibilities in real life, and that has a huge role in eliminating not only participation of people like me in research and teaching, but also the ability of the research community to develop impactful research. We say we need impact in real life outside academia, but we also systematically exclude those with the best connections and experience of life outside academia.

Empirical evidence suggests that casualised labour has an adverse effect on mental health.¹² These findings are supplemented by anecdotal reports illustrating how academic working conditions at doctoral and postdoctoral level are contributing to severe psychological distress.¹³

Meanwhile, precarious working conditions demand attention amid a growing focus on racism in academia. A 2016 report published by the Equality and Human Rights Commission found that Black workers are more than twice as likely to be in insecure employment as their White counterparts.¹⁴ According to the Higher Education Statistics Agency figures for 2015-2016, just 1.6% of all UK academic staff who reported their ethnicity were Black.¹⁵ With the news that the Wellcome Trust is considering interventions to ensure the diversity of projects it supports, these figures point to the relevance of debates surrounding postdoctoral precarity to conversations about race and academia.¹⁶

Without necessary changes being implemented, postdoctoral precarity will sustain an academy in which those who are privileged in terms of gender, race, health, and social class are vastly

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over-represented. The negative implications of this are serious, not only in terms of the human cost to researchers trying to survive within a broken system, but for the profession itself, which needs diverse experiences. Transforming the system is not only a matter of safeguarding the welfare of academic workers—it is also a question of creating the conditions in which research can get done.

5. Conditions of Work: Length of Contract, Salary, Part-Time posts etc.

In designing and recruiting for postdoctoral roles, funding bodies, institutions, and PIs need to serve both the research project and the individual human worker. One PI we interviewed framed this as an active pairing of 'intellectual innovation' with a 'duty of care'.¹⁷ The development of new grant schemes in the Humanities and Social Sciences has fostered new approaches to research, but to harness their potential, mindful consideration must also be given to the practicalities of major planned projects involving junior researchers.

How short is too short? Length of Employment

The duration of the shortest contract reported in our survey was three months, and the longest was five years. Those employed on fixed-term contracts of two years or less reported particular difficulties related to health and wellbeing. One respondent described shorter contracts such as these as both professionally and personally damaging. Others reported the inevitable distractions and anxieties of a job search that resumes every few months.

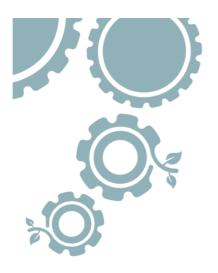
A number of respondents reported that although their roles were officially part-time, in actuality, the work they were undertaking was a full-time job. The normalisation of part-time contracts for junior researchers has not emerged as a response to the researcher's need for greater flexibility, but as an institutional strategy, and often as a way to reduce or repurpose university spending.

The length of postdoctoral contracts is set variously by funding bodies, institutions and individual PIs. Through a coordinated effort, these three groups should ensure that postdoctoral contract lengths are designed with employee wellbeing in mind, and that they offer sufficient time for the completion of previous research outputs, the pursuit and publication of new research, and focused career development.

Salaries

The Framework Agreement for the Modernisation of Pay Structures, introduced in 2004 following negotiations between higher education trade unions and employers, requires employers to pay staff according to rates on a national pay spine in accordance with a library of national role profiles, and to conduct regular reviews of pay and grading arrangements.¹⁸ However, our survey highlighted a radical disparity in salaries for postdoctoral posts, which raises the possibility that some roles are costed on grades and spine points that do not correspond with this framework. Respondents reported salaries ranging from the £15-20k category, to the upper category of £45k+. These findings must be qualified by the fact that the survey did not include a compulsory field requiring respondents in part-time employment to specify their pro-rata salary. It is worth noting, however, that existing data suggests a significant number of postdoctoral researchers in the Humanities are in part-time work through necessity rather than choice.¹⁹ The pay disparity reflected in our survey raises questions around exploitation and systematic inequality, and leaves institutions open to potential legal action.

There is an urgent need for a review of postdoctoral pay in the Humanities and Social Sciences across Higher Education Institutions (HEIs) in the UK, to ensure uniformity and equality in remuneration and reward for work undertaken at this level.



Funding bodies in particular can ensure minimum wages for research fellows, to curb institutional practices of costing postdoctoral roles on lower grades and spine points in order to cut costs.

Promotion Opportunities

The nature of 'serial' postdoctoral employment, together with the conditions of grant funding in an institutional context, can preclude opportunities for promotion. The fracturing of the traditional academic pathway from PhD, to postdoc, to permanent academic post, means that postdoctoral researchers cannot expect what was once an institutional norm: incremental progression with experience gained and evidenced achievements.

Project budgets often account for incremental year-on-year staff salary increases. However, contingent costings for promotion should also be factored into project budgets at grant application stage, with recognition from funding bodies, HEIs, PIs, and research support staff, that researchers on projects of any duration may demonstrate competence and make contributions beyond the requirements of their role. Addressing this issue is also key to Athena Swan equality initiatives, which were expanded in 2015 to recognise and promote work undertaken in the Humanities and Social Sciences.²⁰

New paid opportunities for postdoctoral researchers to work on their research profiles, publications, and research grant plans would

provide clearer career pathways and address the negative effects of the transitions described above. Funding bodies and institutions can offer bridge grants designed for postdoctoral researchers to prepare for external research fellowship applications. At the University of Leeds and Birkbeck, University of London, Institutional Strategic Support Funding (ISSF) from the Wellcome Trust has been diverted in part to the creation of bridge fellowships for postdoctoral researchers in the field of the Medical Humanities.²¹ At Leeds, ISSF Fellows currently receive funding and mentorship over a period of twelve months. One survey respondent noted that bridge grants for Humanities and Social Sciences scholars should not be viewed as a pipe dream, given that such opportunities are already available to early career researchers in STEM disciplines.

Flexible Working

One PI we interviewed suggested that 'PIs need to be mindful of the fact that postdoctoral researchers are often juggling precarious employment alongside complicated lives and living arrangements'.²² Indeed, a number of survey respondents highlighted the expectation of geographical mobility as a significant disincentive to remaining in the academic sector. One female respondent reported:

'My partner has a permanent job he doesn't want to leave, and moving around the UK and/ or abroad on successive fixed-term contracts isn't feasible. We'd like to start a family soon, so my priority is finding a stable job with the possibility of maternity leave.'

Given the material obstacles surrounding relocation for fixed-term postdoctoral roles, on the one hand, and the pressures of commuting between home and work, on the other, we propose that institutions should offer flexible working provisions that give researchers the option to combine on-site and at-home working. Funding bids should include contingency costs for postdocs who are not required to be on-site full-time to travel to and from their institution.

6. Professional Development and Mentorship

The demands of the labour market both within and beyond academia necessitate robust, formalized, and flexible provisions for the continuing professional development (CPD) and mentorship of postdoctoral researchers. Where a researcher's intended career path is a permanent lectureship, opportunities for postdocs to teach should be sought by the individual postdoc, the project PI, and the host department at grant application stage, and factored into the timescale for research.

However, there is also a need for professional development and mentoring provisions to support researchers to explore career options beyond the lectureship path. Reports on doctoral graduates' career progression have noted that these researchers do not necessarily recognise the transferability of their skills and competencies across different sectors.²³

Incentives to support the CPD of postdoctoral researchers must come from the top down. Clear statements in grant application guidelines issued by funding bodies should indicate to prospective PIs and supporting HEIs that their applications will be judged, in part, on their approach to the working conditions and career development of junior researchers. Funders should offer feedback to applicants who do not meet expected standards on early career researcher support and development, and disseminate examples of best practice. Making CPD plans for postdoctoral roles auditable would ensure that HEIs and PIs are held to account for their responsibilities as managers and mentors. In addition, funders can emphasise the importance placed on applications that show PIs have opened conversations with their institutions about the prospects of permanent roles for postdoctoral researchers beyond the duration of the fixed-term contract on the funded project.

Where universities have not already committed to the Concordat to Support the Career Development of Researchers, they should do so.²⁴ Funders should include this requirement explicitly in their assessment criteria for grant applications. Both HEI professional development units and PIs with management responsibilities should encourage and support a range of career plans in junior research staff. A report on professional development among doctoral and postdoctoral researchers in the UK Humanities and Social Sciences published in 2017 formally recommends CPD that includes guidance in identifying transferrable skills and matching competencies to existing job specifications, and hands-on support with CVs, job applications, and interviews'.²⁵



7. Towards a New Model: A Checklist for Change

To conclude, we present a checklist for PIs, HEIs, and funding bodies with responsibility for conceiving, costing, and supporting both independent postdoctoral roles and those built into larger awards.

- Postdoctoral research jobs should be costed as full-time roles: any role that requires a PhD will benefit from an employee engaged in full-time research. Part-time contracts should be optional for those who choose them, not the default.
- Salaries should reflect the fact that postdoctoral workers are independent researchers with highly-specialised skillsets. A national review of postdoctoral salaries in the UK Humanities and Social Sciences would provide additional data on existing inconsistencies in salary provisions. Funding bodies should establish a minimum salary for postdoctoral fellows.
- Postdoctoral contracts on larger projects should extend for the duration of the project.
- Prospects for postdoctoral roles to be made permanent should be factored into discussions between funders, PIs, and HEIs at an early stage.
- Where short-term contracts of less than three years are issued, options for flexible working – including from other geographical locations – should be offered to postdoctoral researchers.
- Postdoctoral Research 'Fellow' or 'Associate', rather than 'Assistant', is appropriate for any job description that lists a PhD as a requirement and thus demands a high level of research autonomy.
- Research expenses should be made available in advance for research trips, conferences, book buying, and open access publishing.

- Employers should allocate time at the project design stage for postdoctoral researchers to complete publications at the beginning of their contract, and to apply for their next position towards the end.
- A thorough plan for continuing professional development, required by and auditable at funding level, must be implemented. This should take into account a range of career paths within and beyond academe. Where academyfocused, this plan should include time to maintain a teaching profile and consider disciplinary positioning in strategic terms. Junior colleagues should be supported to reach these goals with consistent and focused mentoring.
- Clear proposals for distributing project publications among coauthored and individually authored pieces should be adhered to. Postdoctoral researchers must be credited for their work.
- Collaborative projects should allocate time and space for postdoctoral scholars to develop an autonomous research profile alongside collective work.
- Interdisciplinary projects should be sensitive to varying disciplinary norms around research activity. A more conservative publication estimate is likely to be appropriate for, say, a Humanities postdoc undertaking independent interdisciplinary research, than a Social Scientist working on a multi-disciplinary project.
- In addition, funding bodies and institutions should work together to develop new bridge grant opportunities for postdoctoral researchers that would enable them to build towards competitive research grant applications.

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References

1. Aditya Chakrabortty and Sally Weale, "Universities accused of importing Sports Direct Model' for lecturers' pay", *The Guardian*, 16 November 2016. <https://www.theguardian.com/uk-news/2016/nov/16/universities-accused-of-importing-sports-direct-model-for-lecturers-pay> Accessed 11th January 2018.

2. European University Institute, United Kingdom Academic Career Structure, <https://www.eui.eu/ ProgrammesAndFellowships/AcademicCareersObservatory/ AcademicCareersbyCountry/UnitedKingdom> Accessed 11 January 2018.

3. A 2013 survey and report into the employment circumstances of doctoral graduates by the researcher development organisation cites figures from the 2010 Destination of Leavers in Higher Education survey conducted by HESA in the UK. These show significant rises in part-time working between 2008 and 2010 for UK and EU Arts and Humanities doctoral graduates (from 15% to 22%) and, to a lesser extent, Social Sciences graduates (from 11% to 13% in 2010). "What do Researchers Do?: Early Career Profession of Doctoral Graduates", Vitae, 2013, p.7. < https://www.sheffield. ac.uk/polopoly_fs/1.379269J/file/what-do-researchers-do-earlycareer-progression-2013.pdf > Accessed 11th January 2018.

4. See, for example, http://globalpr.net/leverhulme. Accessed 11th January 2018.

5. Cited disciplines included: Anthropology, Architecture, Classics, Education, History, History of Art, History of Science, Human Geography, Law, Linguistics, Literature, Management, Modern Languages, Philosophy, Politics and International Relations, Psychology, Religious Studies, Sociology.

6. "Crossing Paths: Interdisciplinary Institutions, Careers, Education, and Applications". British Academy, 2016 < https:// www.britac.ac.uk/blog/crossing-paths-%E2%80%93-britishacademy-report-interdisciplinarity-uk-universities >. Accessed 11th January 2018.

7. "Crossing Paths", p. 28.

 Semi-structured interview with Laura Salisbury and Lisa Baraitser, co-PIs on the Wellcome Trust Collaborative Award "Waiting Times".

9. Semi-structured email interview with Laura Salisbury and Lisa Baraitser.

10. NCCPE, "What is Public Engagement?" <https://www. publicengagement.ac.uk/explore-it/what-public-engagement>. Accessed 11th January 2018.

11. See Ahmed Bawa, "Unlocking the Potential of Collaboration: Global Perspectives". Plenary Presentation, NCCPE Engage 2017, 6th December 2017; Nancy Cantor, "Collaboration and Interdependence: Universities as Anchor Institutions". Plenary Presentation, NCCPE Engage 2017, 7th December 2017.

12. See, for example: E. Cottini and C. Lucifora, "Mental Health and Working Conditions in European Countries", *Cornell University ILR Review* 66.4, July 2013, Special Issue on Job Quality, pp. 958-988 (p.66); S. Robone et al., "Contractual conditions, working conditions and their impact on health and well-being", *Eur. J. Health Econ.* 12.5, October 2011, pp.429-44; M. Virtanen et al., "Temporary employment and health: a review", *Int. J. Epidemiol.* 34.3, June 2005, pp. 610-22. 13. Laura Sefton, "Mental Health and Academic Structures: A Personal Reflection", laurajsefton.wordpress.com, 23 January 2018, https://laurajsefton.wordpress.com/2018/01////laurajsefton.wordpress.com/2018////laurajsefton.wordpress.com/2018/01////laurajsefton.wordpress.com/2018/01///laurajsefton.wordpress.com/2018/01///laurajsefton.wordpress.com/2018/01///laurajsefton.wordpress.com/2018/01///laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01//laurajsefton.wordpress.com/2018/01/

14. Equality and Human Rights Commission, 'Widespread inequality risks increasing race tensions', 18 August 2016. Accessed at <https://www.equalityhumanrights.com/en/ our-work/news/widespread-inequality-risks-increasing-racetensions-warns-commission>. Accessed 15 January 2018.

15. HESA, "Staff at higher education providers in the United Kingdom", 19 January 2017, https://www.hesa.ac.uk/data-and-analysis/staff- Accessed 11th January 2018.

16. Holly Else, "Wellcome Trust explores diversity rules for funding applications." *Times Higher Education*, 23 November 2017<https://www.timeshighereducation.com/news/wellcometrust-explores-diversity-rules-funding-applications>. Accessed 11th January 2018.

17. Semi-structured interview with Stuart Murray, Pl on the Wellcome Trust "Augmenting the Body" Seed Award and Pl on the APEX Award "Engineering the Imagination".

18. Joint Negotiating Committee for Higher Education (JNCHE) "Framework for the Modernisation of Pay Structures", <https:// www.ucu.org.uk/media/277/Framework-Agreement-for-themodernisation-of-pay-structures/pdf/frameworkagreement. pdf>. Accessed 11th January 2018.

19. "40% of those arts and humanities respondents, and a quarter overall, who were engaged in portfolio working did so because they could not find a full-time position in their preferred employment". "What do Researchers Do?: Early Career Profession of Doctoral Graduates", Vitae, 2013, p.7, <https://www.sheffield.ac.uk/polopoly_fs/1.379269!/file/ what-do-researchers-do-early-career-progression-2013.pdf>. Accessed 11th Janury 2018.

20. Equality Challenge Unit, Athena Swan Charter https://www.ecu.ac.uk/equality-charters/athena-swan/. Accessed 15th January 2018.

21. Wellcome Trust, Institutional Strategic Support Fund <https://wellcome.ac.uk/what-we-do/our-work/institutionalstrategic-support-fund>. Accessed 15th January 2018.

22. Semi-structured email interview with Laura Salisbury and Lisa Baraitser.

23. League of European Research Universities. 2010. "Doctoral degrees beyond 2010: Training talented researchers for society". Leuven, Belgium: LERU, p.6; Vitae, "What do Research Staff do Next?", 2016, <</p>
https://www.vitae.ac.uk/impact-andevaluation/what-do-researchers-do/WDRSDN>. Accessed 15th January 2018.

24. Vitae/Marie Thouaille, "Concordat to Support the Career Development of Researchers" (Revised 2011). < https:// www.vitae.ac.uk/policy/concordat-to-support-the-careerdevelopment-of-researchers>. Accessed 15th January 2018.

25. Vitae, "One Size Does Not Fit All: Arts and Humanities doctoral and early career researchers'professional development survey" 2017, p.3. <https://www.vitae.ac.uk/vitaepublications/reports/One%20size%20does%20not%20fit%20 all%20-%20report%202017>. Working Knowledge is a collection of accessible and user-friendly resources dedicated to the practical ins and outs of interdisciplinary research.

Covering everything from managing a research project's social media presence to conducting experimental design 'hackathons', the series is a must-read for anyone considering funding or embarking on interdisciplinary research.

Series editors: Charles Fernyhough, Angela Woods and Victoria Patton.

