

APPLICATION FORM - Early Career Fellowship

Applicant: Mr Laurenz Casser	ID/Ref: [REDACTED]
Project Title: The Purpose of Pain	
Submission Date: 21 February 2023	

Applicant Details

Title	Mr	Address	[REDACTED]
Forename(s)	Laurenz		
Surname	Casser		
Honours			
Institution	University of Texas		
Department	Department of Philosophy		
			AUSTIN Texas United States 78751
Telephone No.	+1 [REDACTED]	Email Address	laurenzcasser@gmail.com

Host Institution	University of Sheffield
Host Department	Department of Philosophy

Career Details

Employment

From	To	Position	Organisation
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Education Details

Degrees

From	To	Degree	Subject	Class	Institution
09/2012	06/2015	BA	Classics	2015	The University of Manchester
11/2015	06/2016	MPhil	Ancient Philosophy	2016	The University of Oxford
10/2016	06/2018	MPhil	Philosophy	2018	The University of Oxford

Doctoral Degrees

From	To	Degree	Title of Thesis	Supervisor	Institution
August 2018	May 2023	PhD	Pain without Inference	Mark Sainsbury, Colin Klein	The University of Texas at Austin

Further Applicant Details

Has your doctoral thesis been submitted? No

Date doctoral thesis submitted: 21/02/2023

Email address of main doctoral supervisor:

marksainsbury@austin.utexas.edu

Have you been or are you currently a Principal Investigator on a 3-year post-doctoral research project, or have you held or do you currently hold a comparable 3-year post-doctoral position to pursue your own research?

No

Date current position/funding ends: 20/05/2023

Proposed start date for Fellowship: 01/09/2023

Any other matters you wish to bring to the attention of the Committee

Research and Publications

Title of research proposal:

The Purpose of Pain

Fields of study:

Philosophy and Ethics

Abstract

What is the purpose of pain? I suggest that research on this topic is vital for contemporary theorising about pain, but that it has been plagued by a lack of interdisciplinary perspectives. In response, I recommend a joint approach to this topic, integrating research in evolutionary biology, cognitive science, and the medical humanities with the tools of contemporary analytic philosophy. I argue that close examination of patients suffering from congenital pain insensitivity reveals that pain plays a particularly important biological role in providing organisms with a sense of 'bodily ownership', and show how this insight can aid future research.

Details of current and past research

A foundational assumption of contemporary cognitive science is that perception depends upon unconscious inferences: that what we see, hear, and feel is the result of automatic processes which draw conclusions about the state of the environment from relevant premises. An increasingly influential view holds that we can understand pain processing in much the same way: pain systems operate under uncertainty when trying to determine the location, extent, and causal origins of damage to the organism's body, and have to make inferences in order to find out. This view aligns with a more general trend of treating pain as akin to paradigmatic perceptual systems, such as vision, hearing, and touch.

My dissertation argues that this approach to the study of pain is misguided. Pain is an independent and idiosyncratic modality which requires its own investigative strategies, and which cannot be understood by mere analogy to other senses. More specifically, my dissertation argues that pain, unlike paradigmatic perceptual modalities, does not depend on unconscious inferences. To this end, I show that standard arguments for an inferential view in the perceptual domain do not carry over to pain. Instead, I show that pain is a distinct type of 'sensory transduction': a system which takes inputs from multiple sources, and initiates pain onset without interpreting its inputs inferentially. In this specific sense, pain—unlike perception—is 'direct'. This thesis initiates a departure from the traditional view that pain is just another form of perception, and shows that there is considerable diversity among the senses.

Detailed statement of proposed research

Background and Aims: Contemporary theorising about pain in philosophy and the life sciences relies heavily on assumptions about pain's biological function. To understand the nature of pain, the operations of pain systems, and the prospects for developing effective pain treatments, it is widely agreed that we must first understand *what pain functions to do*. Despite these proclamations, however, the function of pain remains a controversial and largely neglected area of inquiry, which threatens to compromise the trajectory of contemporary pain research.

Extant perspectives on pain's biological function have largely been based on perceived similarities between pain and other sensory modalities. Some have seen these similarities to suggest that pain's primary function is to inform organism's about damage to their bodies (Armstrong 1968, Pitcher 1970); others have seen them as suggesting that the function of pain is to encourage adequate protective behaviours (Barlassina 2020, Barlassina & Hayward 2019a, 2019b, Klein 2015). However, while these approaches may very well be capturing something important about pain, its proponents have done little to provide any actual empirical evidence to show that pain contributes to the survival and reproduction of organisms in these specific ways (see Casser 2021); perhaps worse, they have done little to clarify what relevant evidence of this kind might even look like and, indeed, whether such evidence could even in principle be obtained. As a consequence, extant attempts to specify the function of pain remain little more than competing just-so stories.

The aim of my postdoctoral research project is to develop an account of pain's biological function that is empirically respectable and philosophically fruitful. In order to do so, I suggest that it is critical to integrate research on pain from a variety of disciplines and develop a detailed methodology for research on this topic. I suggest that we can gain valuable insights into the function of pain by studying the effects of its absence on patients who are congenitally insensitive to pain. Such cases suggest that pain serves a plurality of functions, but that it is especially important for providing organisms with a sense of 'bodily ownership' (de Vignemont 2018): the felt sense that the body is one's own. Without it, organisms show little regard for their bodies and frequently engage in activities which compromise their prospects of survival and reproduction. I argue that this insight constitutes a radical departure from extant specifications of pain's biological function and suggest that it proves vital for the development of future pain research.

Objectives: My research project has two main objectives:

1. To develop a methodology for the interdisciplinary study of pain's biological function
2. To make an original proposal which states that while pain serves multiple functions, its primary contribution lies in providing organisms with a sense of 'bodily ownership'

Methodology: My project will develop in three stages:

At the first stage, I will develop a methodology for research on the function of pain, drawing especially on insights from biology and evolutionary psychology. I will make the case that we can gain valuable insights into the function of pain by studying the effects of its absence on patients who are congenitally insensitive to pain. Indeed, the study of congenital pain insensitivity, I argue, is our best available method for understanding the ways in which pain contributes to the survival and reproduction of organisms.

At the second stage, I will conduct a detailed examination of this condition, drawing on contemporary research in neuroscience and psychiatry. I will argue that patients suffering from congenital pain insensitivity tend to suffer from the absence of pain in a number of ways, but that a particularly striking shortcoming is their lack of a sense of 'bodily ownership': i.e. the intimate sense healthy subjects enjoy of their bodies as 'their own', and which motivates them to treat their bodies with concern.

At the third stage, I will draw on my research during the previous two stages and develop an original account of pain's biological function as primarily providing organisms with a sense of bodily ownership. I argue that this function is more fundamental to the survival and reproduction of organisms than previously proposed 'information-gathering' or 'protective' functions of pain, and illustrate how my proposal marks a radical departure from extant perspectives on the topic.

Outcomes: The primary outcome of my research project will be a monograph entitled 'The Purpose of Pain', which will make important contributions to contemporary debates in philosophy, psychology, cognitive science, and biology. In writing this monograph, I am planning on producing a number of independent research papers which will be submitted for publication in the most prestigious philosophy and interdisciplinary journals.

My primary choices for publishers are Oxford University Press and MIT Press, to whom I will send a detailed book proposal, outlining the project. My research papers will be sent to the leading journals in philosophy and the brain sciences, including *The Philosophical Review*, *Mind*, *Nous*, *Philosophical and Phenomenological Research*, *The British Journal for the Philosophy of Science*, and *Behavioral and Brain Sciences*. I aim to present my work at regular intervals at major national and international conferences, such as the meetings of the *European Society for Philosophy and Psychology* and the *Philosophy of Science Association*.

Works Cited:

1. Armstrong, D.M. (1968). *A Materialist Theory of the Mind*, London: Routledge & Kegan Paul.
2. Barlassina, L. (2020). 'Beyond good and bad: Reflexive imperativism, not evaluativism, explains valence', *Thought* 9: 274-284.
3. Barlassina, L. (2021). 'Valence: A reflection', in C. Todd and E. Wall (eds.), *Emotion Researcher, ISRE's Sourcebook for Research on Emotion and Affect*.
4. Barlassina, L. and Hayward, M.K. (2019a). 'More of me! Less of me! Reflexive imperativism about affective phenomenal character', *Mind* 128 (512): 1013-1044.
5. Barlassina, L. and Hayward, M.K. (2019b). 'Loopy regulations. The motivational profile of affective phenomenology', *Philosophical Topics* 47 (2): 233-261.
6. Casser, L.C. (2021). 'The Function of pain', *Australasian Journal of Philosophy* 99(2): 364-378.
7. Klein, C. (2015). *What the Body Commands: The Imperative Theory of Pain*, Cambridge, MA: The MIT Press.
8. Pitcher, G.W. (1970). 'Pain Perception', *The Philosophical Review* 79(3): 368-93.
9. De Vignemont, F. (2018). *Mind the Body: the Exploration of Bodily Self-Awareness*. Oxford: Oxford University Press

Major publications

Published

Casser, L.C. and Schiller, H.I. (2021). 'A Hole in the Box and a Pain in the Mouth', *The Philosophical Quarterly* 71(4): 685-700.

Casser, L.C. (2021). 'The Function of Pain', *Australasian Journal of Philosophy* 99(2): 364-378.

Published (forthcoming)

Casser, L.C. and Clarke, S.P (forthcoming). 'Is Pain Modular?', with Sam Clarke, *Mind & Language*.

Submitted

'Pain without Inference'. Under review at *Noûs* (since 31st January 2023)

In Progress

'Under the Skin'. Target journal: *The Philosophical Review*.

'Beyond Bodily Boundaries'. Target journal: *Mind*.

'Phantom Limb Pain'. Target journal: *The Journal of Philosophy*.

Duration of Fellowship: 36

Percentage of time to be spent on the Fellowship: 100

Research relevant to your proposal being carried out in the host department

The University of Sheffield's Department of Philosophy is renowned for its interdisciplinary work on issues in the philosophy of mind and cognitive science, and especially its research on sensory and affective cognition (including pain), which is of central importance to my proposed research project. The department hosts a number of specialists on these topics, including my proposed mentor, Prof. Luca Barlassina, who is a leading figure in the pain literature, and whose contributions to current controversies over so-called 'imperativist' theories of pain and pain's biological function are central to my project.

Additional reasons for selecting your chosen host department and institution

Sheffield's Department of Philosophy is closely associated with the 'Hang Seng Centre for Cognitive Studies': an international research hotspot promoting interdisciplinary research projects on fundamental issues concerning the nature of the mind. Moreover, Sheffield is home to the 'Sheffield Pain Network': a multidisciplinary research community with the aim of promoting excellent interdisciplinary research to enhance our understanding of pain. As my proposed postdoctoral project is inherently interdisciplinary and draws extensively on insights from pain science, Sheffield provides the perfect conditions for its execution.

If you have not moved institutions in the course of your academic career (ie. between your undergraduate university and proposed host institution), please give reasons as to why you wish to remain at the same institution

n/a

Referees

Referee 1	Professor Mark Sainsbury
Department : Institution	Department of Philosophy : The University of Texas at Austin
Position	Professor of Philosophy
Email	marksainsbury@austin.utexas.edu

Referee 2	Professor Colin Klein
Department : Institution	School of Philosophy : Australian National University
Position	Professor of Philosophy
Email	colin.klein@anu.edu.au

Referee 3	Professor Ian Phillips
Department : Institution	Department of Philosophy, Department of Psychology and Brain Sciences : Johns Hopkins University
Position	Professor of Philosophy
Email	ianbphillips@gmail.com

Previous Leverhulme applications and awards or pending applications to the Trust

N/A

Other awards received in the last 12 months related to this project

N/A

Applications you have made or intend to make to other bodies related to this research proposal

I have applied for a British Academy Postdoctoral Fellowship for a related research proposal.

Where did you hear about this Leverhulme scheme?

Word of mouth

Research Budget**Research Budget**

Give an indication of how you would propose to use the annual research allocation of £6000 for each year of the Fellowship. Please note that research budgets are not approved at the application stage and if the application is successful you will have the opportunity to revise these details.

The Trust does not support FEC.

Year 1 Total £3853

Conferences

American Philosophical Association (East Division): flights/transfers £1000, accommodation/subsistence x4 nights £700, membership/registration £160

European Society for Philosophy and Psychology: flights/transfers £245, accommodation/subsistence x4 nights £580, registration £198

European Pain Federation: flights/transfers £245, accommodation/subsistence x3 nights £435, registration £290

Year 2 total £5653

Conferences

Philosophy of Science Association: flights/transfers £1000, accommodation/subsistence x4 nights £700, registration £100

American Philosophical Association (East Division): flights/transfers £1000, accommodation/subsistence x4 nights £700, membership/registration £160

European Society for Philosophy and Psychology: flights/transfers £245, accommodation/subsistence x4 nights £580, registration £198

European Pain Federation: flights/transfers £245, accommodation/subsistence x3 nights £435, registration £290

Year 3 Total £5998

Conferences

American Philosophical Association (East Division): flights/transfers £1000, accommodation/subsistence x4 nights £700, membership/registration £160

European Society for Philosophy and Psychology: flights/transfers £245, accommodation/subsistence x4 nights £580, registration £198

European Pain Federation: flights/transfers £245, accommodation/subsistence x3 nights £435, registration £290

Sheffield based conference: Venue and catering (£20pp x 50 attendees) £1000, Keynote speakers (2x UK, 1 x EU) travel/accommodation £695, Keynote speaker fees £300, 3x £50 travel bursaries for students/ECFs £150

Institutional Approver Details

Important Note: Applicants can view these details to see what information is required from the host institution in order to provide Institutional Approval. Applicants may not complete any of these details themselves but should ensure that their prospective host institution is aware of what details are needed.

Department Head

Institution	University of Sheffield
Full Name	Professor Christopher Bennett
Email Address	c.bennett@sheffield.ac.uk

Department

Department of Philosophy, University of Sheffield

Why is your department the best place for the applicant to undertake their research project?

Our Department is home to a renowned and world-leading research cluster that uses philosophy and cognitive science to understand the architecture of the mind (Dr **Luca Barlassina**, Professor **Steve Laurence**, Dr **Jules Holroyd**, Dr **Gerardo Viera**). It has a concentration of academics doing leading work on the nature of pain and emotion (Dr **Luca Barlassina**, Professor **Christopher Bennett**, Dr **Max Khan Hayward**). We host the interdisciplinary *Hang Seng Centre for Cognitive Studies*, which brings researchers to a high-profile series of workshops and conferences. We have a thriving research culture and strong links to cognate Departments like Psychology and Computer Science.

Why would you like the applicant to be hosted by your department and what are the benefits to your institution by acting as their host?

Casser is a leading early career researcher in a topic highly germane to some of the research interests for which the Sheffield Philosophy department is world-renowned. Hosting him would enable collaborations that would further our research strengths and increase our reputation as a leader in these fields. Our large and vibrant PhD student community, many of whom are working on related topics, would benefit from Casser's presence in reading groups and workshops. The workshops and conferences that he plans to organise would bring leading figures from around the world to our University.

How will the applicant be mentored by colleagues in your department?

Casser's primary mentor will be Luca Barlassina, whose work on pain and the philosophy of psychology closely overlaps with his own. The mentoring will consist in regular meetings, advising on publications strategy and conference organisation, but I would expect and encourage the two to work closely in e.g. organising reading groups and other research activities. Our department has a highly supportive research culture, and other experienced academics working in related fields (e.g. Holroyd, Laurence, Bennett) will be on hand. Casser will also benefit from our regular research support meetings with the Director of Research and Head of Department.

How might the applicant contribute to teaching and the wider intellectual life of the department?

In order to provide teaching experience, Casser would be given the opportunity to teach or co-teach on one or more of the undergraduate and MA modules related to his research. He may also undertake a modest amount of MA supervision on relevant topics. He would also contribute by attending reading groups; attending the weekly department seminar and giving a paper to it; giving and receiving feedback on work from other members of staff; giving a talk to the student Philosophy society; and attending the annual staff-student Reading Weekend held in the Peak District.

Details of facilities and relevant resources the Fellow will be provided with by the host department

Casser will be provided with an office in the Philosophy Department building, a networked computer and access to our excellent library facilities. He will be able to call on the assistance of the Professional Services team in our Department, including staff dedicated to research support. He will be a member, not just of our Department, but of the University's Faculty of Arts, and will have access to the expertise of the Faculty Research Services Hub for assistance in organising his conferences and research trips. The University of Sheffield has excellent conference and catering facilities for his proposed events.

Starting Salary	35333
Spine / Scale Point	7.3
London allowance	
National Insurance	3620
Superannuation	7632

Total	46,585
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Source of matching funding

The University of Sheffield will provide the matched funding from the budget it provides to the Department of Philosophy - that is, from generally available funds.

I confirm on behalf of the host department and the host institution that:

- The candidate named above will be accepted to work in the host department and will be treated in every respect as a full-time member of the department and as a normal employee
- The host institution will accept the Trust's contribution of 50% of the Fellow's total salary cost (up to £26,000 per annum) for the duration of the Fellowship and undertakes to contribute the balance for each year of the award.

Name	Nick Cupit
Position	Pricing Assistant
Email	research.eds@sheffield.ac.uk