

# Emotion Researcher

ISRE's Sourcebook for Research on Emotion and Affect

<http://emotionresearcher.com>

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Editors

Cain Todd

Lancaster University  
[c.todd@lancaster.ac.uk](mailto:c.todd@lancaster.ac.uk)

Eric A. Walle

University of California, Merced  
[ewalle@ucmerced.edu](mailto:ewalle@ucmerced.edu)

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*Editors' Column*

## Reflecting on an Emotionally Memorable Year

[Cain Todd](#) & [Eric A. Walle](#)

The year that was 2020 is finally behind us. And yet the memories of this trying year will be lasting, not least of which because it was such an emotionally turbulent experience. Somewhat fittingly, the collection of invited articles in this issue focus on emotion and memory.

In the first invited article, Fabrice Teroni from the University of Geneva provides a philosophical, bidirectional perspective on emotion and memory. Focussing on the role of memory in the nature and causation of emotions, he considers whether certain emotions are reliant on memory, if emotions are privileged in being linked with memory, and whether this privilege is specific to particular types of memory. In the process, he discusses how emotions affect what is remembered, how emotions elicit specific memories, and the nature of affective memories.

Next, Robyn Fivush of Emory University gives a developmental account of how emotional memories provide the basis for our emerging self-concept. By interweaving recent research from child development with observational anecdotes of parent-child conversations, Fivush describes the powerful role of emotional narratives for how children experience, relive, and are socialized about emotions. While much of the existing research on this topic is limited to white, middle-class samples, recent findings indicate important similarities, as well as differences, in the development of these processes.

The collection concludes with a contribution by Kevin LaBar, cognitive neuroscientist at Duke University. LaBar synthesizes research findings from the animal and human neuroscience literature to provide an overview of how emotions are consolidated and retrieved in the brain. Recent meta-analyses of this research helps to highlight the interconnectedness of emotional memories in the brain, as well as important further topics for research, such as the need for

interactive paradigms and for considering aspects of emotion beyond valence and arousal.

### ISRE Interview

Co-editor Cain Todd had the opportunity to chat with Michael Brady for our interview. Brady is Professor of Philosophy at the University of Glasgow. He describes how his early educational experience being taught by Catholic brothers, stumbling across his father's philosophy textbooks, and a failed stint studying geology and geography led him to study the philosophy of emotion, particularly concerning the connections with suffering and virtue. Brady provides an interdisciplinary perspective on the importance of pain and suffering, and reflects on his recent interest in how individuals can overcome traumatic experiences. Aside from his academic pursuits, Brady is actively involved in the Manchester-based theater and performance company, Quarantine, serving as their Philosopher-in-Residence. In this role, he uses his expertise on the philosophy of emotion to discuss aspects relating to the acting, direction, and production of their performances. Brady is also an avid football (soccer) fan, which helps deepen his appreciation for misery and suffering.

### ISRE Spotlight

The spotlight feature highlights the research by Luca Barlassina, a Philosopher at The University of Sheffield. Barlassina's article considers whether valence can be viewed as a natural kind. By examining the problems confronting two philosophical views, 'evaluativism' and 'imperativism', he proposes an alternative account of valence: *reflexive imperativism*. In this view, valence is the aspect of the emotional experience that drives the individual to seek more or less of the experience, which directs the individual's actions in the world accordingly. While Barlassina admits that further questions remain to be addressed given his perspective, his thoughtful arguments and examples provide the space for further insights on this fascinating topic.

### Announcements

In addition to the excellent contributions in this issue, there are also some important announcements and points of mention.

First, make sure to note the updates to the ISRE website, highlighted by ISRE President Ursula Hess. There are a number of new features that come with an ISRE membership accessible via the new website. Additionally, while the 2021 ISRE Meeting was postponed, planning for the 2022 ISRE Meeting is underway.

Second, we want to note the excellent work being done by the Early Career Researchers Section. This group is helping to provide the experiences and support essential for cultivating the next generation of emotion researchers.

Finally, we wish to convey our own optimism that 2021 will bring with it more issues of *Emotion Researcher*. We were both forced to manage the obstacles of the pandemic, adapting to unforeseen and unexperienced challenges. While the new year may not wash the slate clean of difficulties, we are more resilient than before and there appears to be light on the horizon.

Wishing everyone a safe and productive start to a new year,

Warmly,

Eric & Cain



**Cain Todd** is Senior Lecturer in Philosophy at Lancaster University (UK). His research covers a wide range of issues centring on emotions and evaluative experience, most recently the phenomenology and

objectivity of emotional experience and the role of attention and imagination therein. His co-edited collection *Emotion and Value* (OUP) was published in 2010, and his new monograph *Aesthetics and Emotion* (Bloomsbury) will appear in 2021.



**Eric Walle** is an Associate Professor of Psychological Sciences at the University of California, Merced. His theoretical writings emphasize the functions of emotions, particularly in interpersonal contexts. His empirical work examines

emotional development, principally in infancy and early childhood, as well as how individuals perceive and respond to emotional communication. He is co-editor of the *Handbook of Emotional Development* (OUP), due out in Fall 2021.



*ISRE Matters*

## ISRE Matters

[Ursula Hess](#)

[Professor of Social and Organizational  
Psychology, Department of Psychology  
Humboldt University, Berlin  
Ursul.Hess@hu-berlin.de](#)

Dear ISRE Members,

The president of ISRE usually uses this space to wish everyone a good year and to take the opportunity to highlight activities and initiatives of the society both past and future. This year, we are looking back at a year of upheaval. The past year was a difficult one for all of us and on many different levels.

While we all start to feel that there is a light at the end of the tunnel, normalcy is not yet here. This is why the Board of Directors decided to postpone our bi-annual conference to the summer of 2022. With all the many uncertainties, it was impossible to plan an in-person conference. Given that format of ISRE conferences is one that emphasizes exchange and discourse, the Board decided against a virtual conference. Be on the lookout for more information on the 2022 conference in the months to come.

The past year also brought some new and exciting things for ISRE. The long awaited (and long overdue) new website was brought online. From this website ISRE members can access our journal, *Emotion Review*, which from this year on will be available online only. The website also features the ISRE webinar series 2020, an initiative of the ISRE Early career researcher group. Go to [isre.org](https://isre.org) to check out the new features.

I wish all of you a happy, healthy and productive year in 2021, and I am looking forward to seeing you at our conference in 2022.

Your President,  
Ursula



Ursula Hess, ISRE President

*ISRE Early Career Researchers Section*

## ISRE Early Career Researchers Section: Update on Initiatives

Tanja S. H. Wingenbach, Claire Ashley, Melina West, Manuel F. Gonzalez, Soohyun Lee, Zhixin Pu, & Olivia S. Mendoza

The International Society for Research on Emotion - Early Career Researchers Section (ISRE ECRS) is a platform for emotion/affective science researchers from any field, discipline, method, or culture. The ISRE ECRS organises professional and social meetings for early career emotion researchers, both during ISRE conferences and between meetings. Additionally, the ISRE ECRS strives to create and maintain member support through awards, career development opportunities, expert feedback, webinars, and more.

The ISRE ECRS continues to grow since its launch in 2013, and has implemented several initiatives for early career emotion researchers. In 2021, the ISRE ECRS will host the third iteration of its webinar series and its first inaugural career development series.

### **Webinar Series:**

Through our webinar series, we aim to engage ISRE members during years in which no conference takes place. Last year's webinar series included talks from experienced emotion researchers regarding the past and future of emotion science, all of which are now available to ISRE members on the society's website. Our webinar series was extremely successful, with close to 400 attendees and over 90% of attendees expressing satisfaction with the series. This year, we are delighted to introduce our next webinar series. Each speaker will address the broader theme of *Advancing Emotion Theory and Science in a Changing World*. Webinars will consist of 30-45 minutes of speaker presentation, followed by a 15-30 minutes question-and-answer session with the audience. Webinars will be open to ISRE

members and non-members alike. Webinars will also be recorded and made available to ISRE members through the society website.

### **Career Development Series**

The career development series is designed to enable ISRE members to explore and prepare for successful careers as emotion scientists. In its first inaugural year, the career development series will include panel sessions, webinars, and other events providing different professional development experiences. We are currently finalizing the event line-up, which may cover topics such as career paths for emotion researchers, navigating the academic job market, and effectively communicating about emotion research. The sessions will be interactive and will enable participants to receive advice from experienced emotion researchers, as well as grow their professional networks through interacting with fellow ISRE members.

Webinars and career development events will be advertised soon, so keep an eye out for further information on the ISRE Listserv and social media outlets! We are also looking ahead to the 2022 conference, which will include:

- (1) early career researcher poster awards for excellence in emotion research
- (2) a career development workshop
- (3) a networking event for early career researchers

Our team is excited to implement initiatives that align with the interests of ISRE and support early career emotion researchers. We are grateful for ISRE's support in implementing these initiatives, the publishers that have supported our initiatives financially, the senior researchers who participate in our initiatives, and the early career researchers who have been part of our journey thus far.

### ***Would you like to volunteer within the ISRE ECRS?***

If you are an ISRE Associate Member\* and would like to be involved, please get in touch. We are excited for you to help us best support our growing emotion research community.

Please note that volunteer commitments typically last at least 1 year and require continuous involvement.

If you are interested in joining the ISRE ECRS, please email Tan at [tanja.wingenbach@bath.edu](mailto:tanja.wingenbach@bath.edu). In your email, please include (a) a short bio, and (b) a brief statement about what interested you in joining the ISRE ECRS and which initiative(s) you would prefer to get involved with.

*\*ISRE Associate Members* are defined as: “less-established emotion researchers who have not yet obtained the terminal degree in their field or are engaged in postgraduate training. Associate Members are typically advanced graduate students or postdoctoral students.”

### ***Join us on Facebook!***

Are you an early career emotion scientist or a faculty who supports early career emotion scientists? Join our Facebook page: [https://www.facebook.com/groups/ISRE.JRS/?ref=br\\_rs](https://www.facebook.com/groups/ISRE.JRS/?ref=br_rs)

For any other questions or comments, please email Claire Ashley ([claire.ayako@gmail.com](mailto:claire.ayako@gmail.com))

## **Current ISRE ECRS Board**



**Chair:** Tanja S. H. Wingenbach (Postdoctoral Senior Research Fellow, University of Zurich/University Hospital Zurich, Switzerland)

As Chair, Tanja coordinates and initiates activities, liaises with the ISRE president/board, serves as a spokesperson of the ECRS, and represents the ECRS within the ISRE board.



**Secretary:** Claire A. Ashley, (M.Sc., Cognitive Retrainer, Park Terrace Care Center, USA)

In her role as secretary, Claire is responsible for internal and external

communications (i.e. communicates with the membership, e.g. through Facebook, the ISRE mailing list) and liaising with the ISRE conference organisers.



**Events Coordinator:** Melina West (Postdoctoral Researcher, University of Connecticut, USA)

As Events Coordinator, Melina is responsible for all aspects of the ISRE ECRS webinar series, including developing the yearly webinar theme, gathering presenters, and scheduling the various talks.



**Career Development Series – Event Coordinator:** Manuel F. Gonzalez (Postdoctoral Researcher, Baruch College, City University of New York, USA)

In his role as event coordinator, Manuel oversees all aspects of the career development series, including developing and scheduling events, as well as recruiting panelists and speakers.



**Poster Award Coordinator:** Soohyun (Ashley) Lee (PhD candidate, Baruch College & The Graduate Center, City University of New York, USA)

As the poster award coordinator, Ashley is responsible for managing the poster award at the ISRE conference (contacting ISRE board, communicating with jury members, calls, etc.).

## ISRE Early Career Researchers Section

### *Additional volunteers:*



Zhixin Giselle Pu  
(M.A. student, University  
of Wisconsin-Milwaukee,  
USA)



Olivia S. Mendoza (M.A.,  
University of the  
Philippines Baguio,  
Philippines)

ISRE Interview

## Emotional Insight and the Virtues of Suffering

[Michael Brady](#)

An interview with Cain Todd

*Michael Brady is Professor of Philosophy and Head of School at the University of Glasgow, which he joined in 2005. He was Director of the [British Philosophical Association](#) from 2011 until 2014, and Secretary of the [Scots Philosophical Association](#) from 2009 until 2012. He is on the Board of [The Philosophical Quarterly](#), and subject editor responsible for Moral Philosophy, Political Philosophy, Aesthetics, and Philosophy of Religion for [Oxford Bibliographies Online](#). His work on the philosophy of emotion is at the forefront of current discussions and his book *Emotional Insight* (2013) offered an influential critique of perceptual theories of emotion, while also providing a positive account of the valuable epistemic role that emotions can play in our lives. More recently, he co-led a major three-year interdisciplinary project on *The Value of Suffering*, one result of which was the monograph [Suffering & Virtue](#), published in 2018, in which he argues that suffering is vital for the development of virtue, and hence for us to live happy or flourishing lives.*

### Where did you grow up?

I grew up in Stockport, which is a large industrial town a few miles south of Manchester city centre. Friedrich Engels wrote in 1844 that it was ‘renowned as one of the duskiest, smokiest holes’ in the whole of the industrial area. It’s a bit better these days, but pales a bit in comparison with Manchester itself. It has a very nice viaduct.

**Did those early years have any noticeable influence on your choice to be an academic philosopher? When and why did you decide to pursue philosophy?**



Professor Michael Brady

I can mention three things that had an influence on my choice to becoming an academic philosopher. One was my secondary school, Xaverian College, which is in Rusholme, Manchester. As you might imagine at a Catholic grammar school run by the Xaverian brothers, religious education was prominent. But it was a remarkably liberal school, for 1970s Manchester, and much of our religious education focused on moral, ethical, and political issues, and discussion of these. So I had a broad introduction to philosophy of religion and ethics – and the importance of discussing and arguing about these – throughout my years at Xaverian.

The second was my father’s decision to take an Open University degree. My father left school at 14 and worked as a textile artist at the Calico Printers’ Association, and then as an art teacher, but decided to do a Humanities degree in his 40s. I remember looking through his philosophy course texts as a teenager – *The Republic*, *The Meditations* – and really enjoying them, which doubtless sowed another seed.

The third factor was that I was a particularly recalcitrant first year student of Geology and Geography at Liverpool University, and decided that I didn’t want to spend my university years sketching trilobites in a lab or camping in a freezing field. So I had an interview with Professor Stephen Clark, who was Head of





A young Michael Brady in Stockport (1967)

Philosophy at the time, and he agreed to let me join, conditional on a correct answer to a logic puzzle and a promise to work hard. I've tried to keep that promise ever since.

**You did your PhD at the University of California at Santa Barbara, after having studied for a Master's in Philosophy at King's College, University of London, and a BA with Honors in Philosophy at the University of Liverpool. What was it like studying in the US after having been in Britain?**

Moving to Santa Barbara was somewhat of a random decision. I definitely wanted to live and study in the US, having lived in London for three years, and worked in publishing as a desk editor, production manager, and layout artist after my Master's at Kings. I wanted to move, in part, because I had a deep fascination of and love for American culture – initially films, but from the early 80s American music became something of an obsession. But I was also desperate to leave the UK after 13 years of a Conservative government, 11 of these with Margaret Thatcher as Prime Minister. I was pretty depressed after the 1992 General Election, when John Major triumphed despite polling suggesting a Labour victory, and that really forced my hand.

**Why did you choose Santa Barbara? What was your PhD thesis on?**

Why UCSB? (i) they had accepted me, (ii) there was generous financial assistance on offer, and (iii) it was in California and had a very good

reputation. I had a fantastic six years there. It was a supportive faculty with some outstanding philosophers, a really great group of grad students, and the city is beautiful. It struck me as considerably less pressured than the UK – although highly competitive nonetheless. I think that this is because US academics can spend more time on teaching and research, and less time on administration, and have more freedom in what and how they teach than their UK counterparts. They seem considerably happier as a result. My thesis was on internalism and externalism in meta-ethics and epistemology. As this suggests, it wasn't the most focused work. But I learned a lot doing it, it was a fine place indeed to do one's graduate studies.

**You started working in the Department at Glasgow in 2005, having previously taught at the University of Stirling. How did you find the start of your academic career? What were you working on at the time?**

It was something of a shift to move from sunny California to the rain-swept central belt of



Michael Brady on the day of his first communion.

Scotland, and from a place where an English accent generates friendly curiosity and a warm reception to a location where it can have a somewhat different effect. But I was very lucky to start my academic career at the University of Stirling, where the Philosophy Department was a model for what an academically excellent and collegial department should be. At Stirling my interests shifted to normative ethics, and in particular to thinking about the virtues, and rather away from meta-ethics. The move to Glasgow was a difficult one to make, given how much I loved working in Stirling. But I was already living in Glasgow with my partner, and the opportunity to join the department there – where Francis Hutcheson, Thomas Reid, and Adam Smith all worked – was too good to resist. I've not regretted the move at all. Glasgow is a remarkable city and a wonderful place to live and work. So I'm extremely lucky to have ended up here.

**Was there anyone in Stirling you saw as an inspiration or mentor?**

Professor Antony Duff was a particularly supportive mentor, and showed it was possible to combine dedication to philosophical research with concern for colleagues and administrative skill. I've not really met anyone else who manages to carry this off; Antony remains an inspiration to me, and to many others I'm sure.

**When did you first turn your attention to emotion? What was it that drew you to it? What was the focus of your early work on emotion and how was your work received?**

I guess my work in virtue directed the move to focus on emotion. I was impressed and very much influenced by Linda Zagzebski's seminal work *Virtues of the Mind*, a book which myself and my good friend Duncan Pritchard worked through over many sessions in Stirling pubs in 2002-3. Zagzebski makes emotion prominent in her account of what a virtue is, and taking my cue from her, I thought I should do some work trying to figure out what emotion is. So I guess 18 years later, I'm still working on this, though I think I've made some progress. The focus of my early work was on the relation between emotion and reason

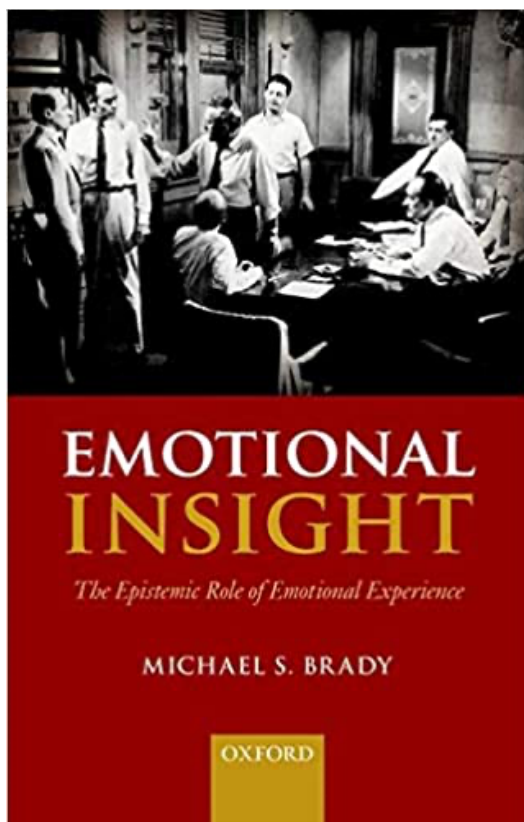


Brady on the California Coast.

– inspired this time by work on the nature of emotion by the late and great Peter Goldie. I had a year's research leave, spent in Australia in 2005, working on this topic. As with most of the things I write, the reception was mixed, with a strong leaning towards the negative. But as with most things I publish, numerous revisions and amendments knocked the papers into shape, and a more coherent research project, centred on the epistemic value of emotional experience, started to emerge.

**Your book *Emotional Insight* (2013) offered perhaps the most comprehensive critique of perceptual theories of emotion and some significant challenges to the commonplace idea that emotions can give us information about the world. But you also present a positive conception of the epistemic value of emotions. What do you think were the most important or influential ideas in the book? Is there anything you'd change?**

I'm pleased and quite proud of *Emotional Insight*. I developed pretty late as a philosopher, and it was probably the first thing I'd ever written that I felt genuinely happy about. It reflected my thinking about emotion at the time, and for this reason alone I wouldn't change anything about it. But there are things I got wrong, both in terms of content and tone, and I think that a number of claims I made were too strong – as quite a few critical articles have pointed out in the intervening years. The most important idea remains the central theme of the book – which is that the perceptual model both overstates, and



underplays, the epistemic value of emotion. It overstates it by saying that the epistemic yield of emotion is really like that of perception. It underestimates emotions' importance by neglecting the extent to which *emotions themselves* move us to search for reasons, assess and reassess the evaluative situation. In this way they play a very important role – one that has been neglected, by too much focus on the perceptual model – in allowing us to understand the evaluative world.

**What's your sense of the current standing of perceptual theories amongst philosophers, and of the philosophy of emotion in general? Have there been any new developments or models that you find particularly interesting or important?**

I think that the perceptual model still enjoys a high standing amongst philosophers – in part because it is still a relatively new option to explore, and in part because it has very smart and sophisticated thinkers defending the view and developing enhanced versions. Christine

Tappolet's 2016 book *Emotions, Values, and Agency* is perhaps the best known recent defence and expansion of the model, and impressive work it is. Michael Milona and Robert Cowan have also made important defences of the model, and pushed it in interesting new directions, and considered more broadly the nature of normative and evaluative perception.

**What do you think of the current relationship between philosophical accounts of emotion and empirical research into emotion?**

I don't think I'm reading enough at present to have a grasp on this! I would hope that any further work I do on the perceptual model, and indeed in other areas of philosophy, is informed by empirical thinking on the issues. There are obviously limits – mainly in terms of time, but also in expertise – as to how much empirical research one can survey. This is where forging collaborative links with people in the relevant empirical disciplines can help a great deal: it's relatively easy to ask, although risks trying the patience if you ask too often, 'what are the 10 things I have to read in the recent empirical literature on topic X?' At least then you can be sure not to have overlooked too many of the important empirical contributions to the debate.

**The other important theme in your recent research concerns the nature of pain and suffering. You recently co-lead a major three-year interdisciplinary project on the topic the Value of Suffering, funded by the Templeton Foundation. What was it like leading this project?**

The project was a fantastic experience, not least because I got to work closely with my colleagues David Bain (co-PI) and Jennifer Corns (postdoc, now permanent lecturer at Glasgow) for three years and put on 14 workshops, 3 major international conferences, and publish a whole bunch of articles, co-edited books, and two monographs. We also managed to organise conferences in Paris and Sydney and Toronto with collaborators there, which was obviously a big plus. Despite all of the effort putting the application together, and significant amount of



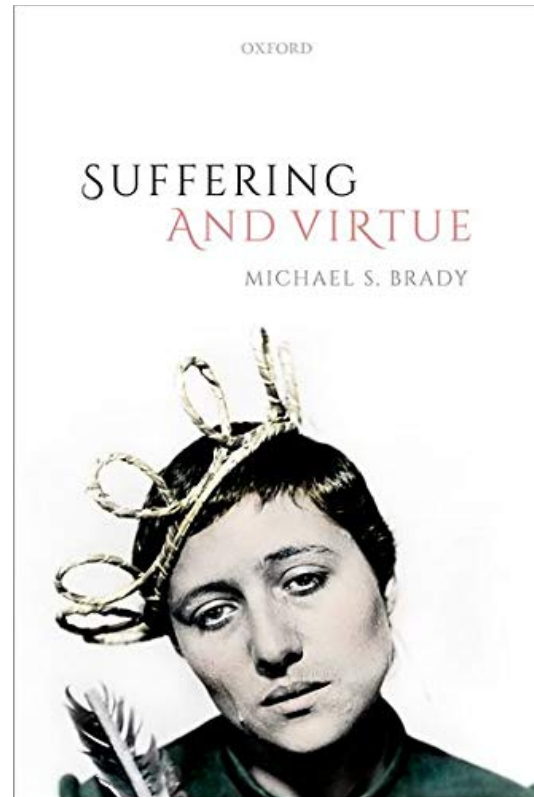
work over the three-year period, a large project like this is worth every bit of effort.

**What was your experience of the value and effectiveness of its interdisciplinary aspects? Has your own work on emotion, or suffering, been influenced by empirical work?**

We managed to collaborate with incredible people – those who we invited to Glasgow, those who invited us to other places – and learn a great deal. The interdisciplinary element was, as you might imagine, mixed – although that depended to a great extent on who was speaking at the events. Some psychologists, clinicians, and neuroscientists were incredibly engaging, and brought their expertise directly to bear on things that interested the philosophers. Some of the philosophers were pretty terrible at engaging, and convincing others of the need for and importance of their own philosophical work, to those in other disciplines. This is hardly surprising, since within disciplines we of course find a massive variation in how well people communicate, engage, enthuse, and educate. I learnt a lot from the psychologists, and in particular the work of Brock Bastian and Siri Leknes. Brock and Siri do fascinating experimental work on the nature and value of pain, in a way that centres and highlights the philosophical themes and ideas that we were all interested in. I also learnt a lot from engaging with a very many philosophers with considerable empirical knowledge and expertise; Jen Corns was prominent amongst these. And Fiona Macpherson is a model of someone who does outstanding philosophical work that is fully integrated with and informed by empirical research. So, if readers are wondering how this can be done well, they should look to Fiona's work and learn from it.

**Your recent book, *Suffering and Virtue* (2018), argues that suffering is vital for the development of virtue, and hence for us to live happy or flourishing lives. Can you say a little here about the distinctive account of suffering you develop in the book? How does it make sense of emotional suffering?**

One of the difficult lessons I learnt when starting research on the nature of pain was that



pain is such a complex, complicated thing. It is a state or process that provides the person with information; has an obvious affective quality; and has considerable motivational force. I think that these features can be best captured on a desire-view, albeit one that is itself quite complicated.

On my account, pain is a particular kind of sensation that we desire cease. Painfulness involves a higher-order desire: that the experience of pain (the sensation that we desire cease) is something that we desire cease. Unpleasantness is a broader category, including many different kinds of sensation than pain sensations. Finally, suffering involves a further higher-order desire: an occurrent desire that an unpleasant experience cease. This is complex indeed. But such a structure is needed, I think, to capture the fact that there can be dissociation between pains and motivation; that we can suffer even though experiencing relatively low intensity pain; and that suffering can involve and be responsive to our attitudes and thoughts, since these can generate the occurrent desire that some unpleasantness cease.

I also think that a desire account is broad enough to capture the obvious fact that creatures

unable to entertain high-level thoughts about badness – such as young children and non-human animals – can suffer. Many accounts of suffering strike me as over-intellectualised. An advantage of my account is that it appeals only to states of sensation and desire that children and non-human animals can also have. The account can also be expanded to make sense of emotional suffering, since certain emotional states – such as grief, loneliness, disappointment – are unpleasant, and when they are unpleasant enough we typically form an occurrent desire that they cease.

So physical and emotional suffering have the same structure: in each, an occurrent desire is directed towards an unpleasant affective state, although the kinds of state might be different. (Painful experiences are different from states of grief or disappointment.) Given the dearth of philosophical accounts of suffering, mine seems distinctive insofar as it is the first to work out a desire account in any level of detail.

**A common theme throughout your works is an interest in virtue and the epistemology of virtue. What is it that attracts you to this topic? Do you think that philosophy can illuminate what it is to be a good person, or what our well-being consists in?**

As before, my interest in virtue goes back a long way, as does my interest in the epistemology of virtue – to when I was at Stirling, and a colleague of Duncan's. I guess initially it was a topic that combined our interests, and we could talk about in the pub. Around that time I became increasingly interested in the epistemic value of emotion – and here Chris Hookway's work struck me as rich and fascinating. Chris contributed a paper to a conference me and Duncan organised, on moral and epistemic virtue, which later became an edited book. The topic of the epistemic importance of emotion, and the connection of emotion with epistemic virtue, seemed ripe for detailed examination. It's one of those topics that strikes me as immediately philosophically interesting, tying as it does a common-sense idea – that emotions tell us things – and a lack of understanding about *how* emotions tell us things. I don't think I've got a complete answer to the latter, of course, but I think that my work is a tentative first step in that direction. Since I think

that philosophy can make (slow) progress telling us what it is to be a good thinker, inquirer, and knower, I think it can make progress in telling us what it is to be a good person. In one sense, this is a conceptual question: I am very taken with Martha Nussbaum's idea of the virtues being those traits of character that enable us to cope well with important aspects of our lives. It is difficult to see how being a good person couldn't be closely connected with coping well.

In another sense, philosophy can illustrate important truths about elements of well-being: for instance, that pain isn't simply a sensation; that it can be responsive to higher-order states involving desires and thoughts; that emotions have an important bodily component, and that changing one's bodily states and can have important effects on how one feels; and so on. This isn't even touching philosophical accounts of what it is to be a morally good person. So I'm an optimist when it comes to philosophical contributions to the good life. Admittedly, the take-up of philosophical ideas is less-than-perfect, in part because philosophical writing and thinking is difficult, complex, and messy – and people want answers to questions about being happy that are easy to digest and to follow. It's not surprising there's a mismatch here. (This is a general point, and it's why analytic philosophers rarely appear on tv or on the radio, where quick and pithy solutions to moral and political problems are requested, and philosophers are unable to provide them, at least in under 30 minutes.)

**Do you see all of your research interests – on emotion, suffering, virtue – as forming a kind of unity? Do you have an overarching philosophical view you are striving towards?**

I don't have an overarching philosophical view. I'm a bit suspicious of them – at least, of the ones that people adopt really early and then spend the rest of their philosophical careers defending. This is probably because I'm rather late to the party in developing philosophical ideas. But it also reflects what I said earlier: that philosophical problems and questions are very difficult, involving very many moving parts and theoretical options, and that progress (at least, my progress) is painfully slow. I guess my research interests have been coming together for a while,

but that's only because I thought that I need to understand what emotions are if I am to understand virtue; and then I realised the importance of virtue for emotional regulation; and then I realised the importance of negative emotion in the cultivation of virtue; and so on. But it certainly wasn't a plan for all of these ideas to come together. I guess if you work on a topic and related questions long enough, patterns and unifying themes start to emerge. This is often the way, as it happens, that good PhD theses emerge: after two or three years of struggling with issues, grad students suddenly see a pathway and an organising idea. Of course, other grad students start off with a complete picture of what they want to do, and then spend a few years filling that in. But as I said, I was never smart enough, or confident enough, to have that kind of clear vision.

**What is your next big project or research goal?**

Currently I'm Head of the School of Humanities at Glasgow, a role which I love, but which involves very significant amounts of

administrative and managerial work. So this will hamper any big projects in the next few years. But I try to eke out a bit of time each day – sometimes only 15 minutes – to think about and work on research. This is something that I strongly recommend. (Alex Miller gave me the very sound advice to do some research each day, even if it's reading one page of an article, and it has proved one of the two best pieces of academic advice I've ever had. The other is: there is *always* too much to do, so don't worry about not doing everything.)

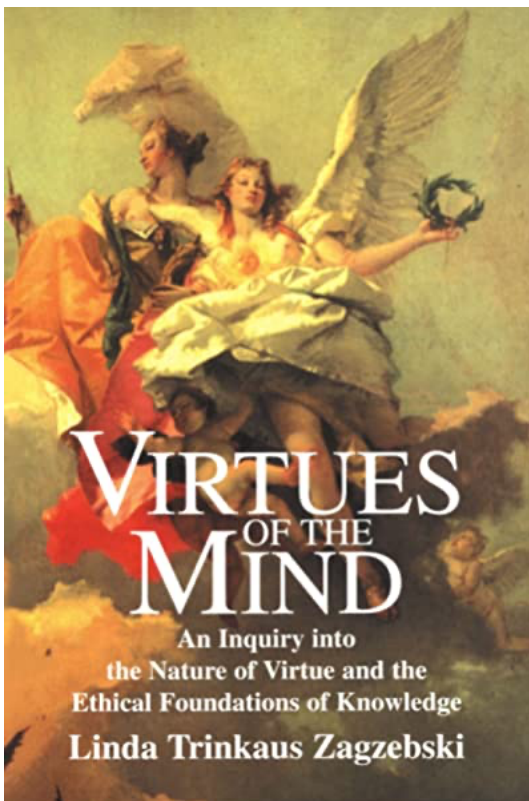
One concrete thing I'm working on is a collaboration with a team of brilliant psychologists in the US, on a Templeton-funded project led by Eranda Jayawickreme at Wake Forest. The project focuses on the value of exemplars for promoting post-traumatic growth and well-being after adversity. I'm currently writing something on exemplars for this, and acting as philosophical consultant for their major psychological study, working with the Wake Forest team and Seattle-based clinical psychologist Ann Marie Roepke. As a result of working on this, I plan to write a longer piece on philosophical accounts of trauma. I get a year's research leave after my stint as Head of School is over, and so that longer piece might turn into a book, if it goes well.

**What are five articles or books that have influenced you?**

- Republic (Plato)
- Meditations (Rene Descartes)
- A Treatise of Human Nature (David Hume)
- Virtues of the Mind (Linda Zagzebski)
- The Emotions (Peter Goldie)

Outside of academic philosophy, you are **Philosopher-in-Residence at the Manchester-based theatre and performance company Quarantine**, and have worked with them on a number of productions. Can you say more about that, how you became involved and what your role is? Does an interest in drama connect with your central research interests?

Quarantine's Artistic Director, Richard Gregory, is one of my oldest friends. For a long



time – before Quarantine existed – we would walk about philosophical issues in theatre and performance, partly because I was really interested in the work that Richard does, partly because he has the kind of curious and inquiring mind that lends itself well to philosophical discussions. So working with Quarantine arose naturally from my friendship with Richard.

I've been closely involved with three main productions – Make-Believe from 2009, Entitled from 2011, and Summer.Autumn.Winter.Spring from 2014-16. Quarantine's productions are not really 'about' things in the way a theatrical piece traditionally is; but they are interested in and involve explorations of concepts, ideas, and relations. Make-Believe investigated issues of truth, authenticity, identity; Entitled looked at hope, privilege, and disappointment; the quartet was a massive piece about living, dying, and our relationship with time.

I find working with Quarantine fascinating and stimulating – because my role is to talk to the producers, performers, technicians about these concepts and ideas, about how they are understood in philosophy, and to discuss what these things mean to all involved. It's not that these discussions end up scripted, or form an obvious part of the shows. It's more that they are attempts to come to some kind of understanding of the concepts, and then see how this understanding might inform what goes on in the production and performance. So it is a philosophical element in the intense period of research and development that goes into each show. I think – as do others – that Quarantine produce amazing work. You can read about them here: <https://qtine.com/home/>. An illustrated volume about the quartet, with essays about its various themes, was published by Manchester University Press in 2019. (Details [here](#).) I was one of the editors. I'm very proud of this one as well.

**You are a football fan, and you have written on suffering in sport. Do you see your research as having any bearing on your own personal attitudes to, for example, your own well-being and emotional life? Or are your philosophical views perhaps shaped by these?**



I know that people are sceptical about the extent to which philosophical views affect the lives of those who hold them: witness Eric Schwitzgebel's fascinating work on the moral behaviour of ethicists. At the same time, it would be strange if ideas and topics that occupy much of one's working life don't have *some* effect on one's personal attitudes, well-being, and emotional life. I guess my work on the value of suffering makes me somewhat more inclined to be positive in the face of adversity, and to consider the possibility that something good might come out of bad times. This isn't to engage in 'brightsiding' – or at least I hope that it isn't – because taking an optimistic attitude is perfectly possible with hating the fact that times are bad, and wishing that one's pain and suffering would cease and things get better. Being more optimistic doesn't mean being dishonest, therefore. When it comes to sport, this is clearly a good attitude to have, or at least a good attitude if one is to develop the virtues of loyalty and solidarity with one's team and your fellow supporters. It's also good to bear in mind that the good times will be so much better as a result of suffering through the bad times! Given that misery is the lot of most sports fans, most of the time, philosophical thinking about the value of suffering might well be a panacea. It certainly is for me.



ISRE Spotlight

## Valence: A Reflection

[Luca Barlassina PhD](#)

[Department of Philosophy](#)  
[The University of Sheffield](#)  
[l.barlassina@sheffield.ac.uk](mailto:l.barlassina@sheffield.ac.uk)

“He who laughs last has not yet heard the bad news.” — Bertolt Brecht

There are many ways to refute a theory. Refutation by joke is the greatest of all. “Two behaviourists have just made love. One asks the other: ‘I know you liked it. Did *I* like it?’” The starting point of this short essay is another attempted refutation-by-joke. It concerns *valence*. What? Very simply, to say that an experience has valence is to say that it feels pleasant/good or unpleasant/bad. A number of experiences have valence: orgasms, happiness, and elation on the pleasant side; and pain, fear, and misery on the unpleasant one. Let’s call them ‘affective experiences.’

It goes without saying that affective experiences can be very different from one another—having a toothache is one thing, being afraid of flying is quite another. Still, some have argued that there is something common to all of them: affective experiences are all *(un)pleasant in the same way* (Bramble 2013). Hence the joke: “If you feel the same pleasure when you smell flowers and when you have an orgasm, either tell me where you buy flowers or please do something about your sex life.”

Did you laugh? If so, the joke might be on you. There are in fact good reasons to think that, despite appearances, valence might be a *natural kind* shared across the affective spectrum. Carruthers (2018) summarises them as follows. (1) Valence is underpinned by a single, domain-general, neurobiological network, which is activated by different stimuli (e.g., sex and money), across different modalities (e.g., vision, touch, and imagination). (2) The same interventions (e.g., paracetamol) modify valence

across different types of affective experience—e.g., physical and social pain. (3) If different affective experiences are (un)pleasant in the same way, we can use their valence to choose among them. Valence can thus work as a *common currency* to decide between, say, gustatory and intellectual pleasures.

If you, like me, take the hypothesis that valence is a natural kind seriously, then you, like me, might want to explain what this natural kind *is*. In other words, given that affective experiences are so different from one another, what makes it the case that they all feel (un)pleasant? This is the question I tackle here.

Importantly, this question shouldn’t be read *causally*. I am not asking what types of stimulus bring about affective experiences. My concern is a metaphysical one—it has to do with the *very nature* of valence. You are God, and here is an experience that lacks valence. What should you add to it to turn it into an (un)pleasant experience? That’s the question, and there is nothing strange about it. If I ask you what water is, I am not asking you what brings about water. I am asking you what water consists of.

Sometimes, similar questions require very different answers. The correct answer to ‘What is water?’ details its *physical composition*: two atoms of hydrogen and one of oxygen, connected by covalent bonds. Affective experiences are physical too—in my world, there are no gods, ghosts, or immaterial minds. But I am not sure that the answer to ‘What is valence?’ should be pitched at the physical level. I am old school. Every time I encounter a mental phenomenon, I hope it can be explained at the *cognitive level*—that is, in terms of what information it carries, how this information is encoded and stored, how it interacts with other bits of information, and so on.

Luckily, I am not alone. In recent years, a number of philosophers have attempted to explain valence along these lines. The two most well-known approaches are world-directed evaluativism and world-directed imperativism. I want to convince you that they both fail. Should we then give up our search for a cognitive account of valence? Not at all. I have, in fact, a better alternative. It is called ‘reflexive imperativism.’

A final note. The arguments that you see here against world-directed theories and in favour of

reflexive imperativism—in fact, the idea of reflexive imperativism itself—have been developed together with my friend and colleague Max Khan Hayward. I honestly don’t recall which ideas are mine and which are Max’s. My heuristic is this: ‘good ideas are mine; mistakes are his.’ I have heard Max uttering the same sentence.

### World-directed Theories: In Memoriam

Mental states have intentional, or semantic, content—they carry information; they “say” things. Some of them have *world-directed* content: they carry information about the non-mental world. My visual experience of an oak in the park is a case in point. Other mental states have instead *mind-directed* content. When I believe that you are happy, I am not representing the state of the park. I am representing the state of *your mind*.

World-directed theories propose that: (i) affective experiences have a special type of world-directed content; (ii) this world-directed content makes them (un)pleasant. What could this content be? One can find two main answers in the philosophical literature.

The first one goes under the name of *world-directed evaluativism* (Bain 2013; Carruthers 2018; Cutter and Tye 2011). According to it: (i\*) affective experiences represent worldly objects as being *good/bad*; (ii\*) it is in virtue of this *world-directed evaluative content* that they are pleasant/unpleasant. A couple of examples should help. Abe is having a backache. His pain experience represents the condition of his back *as bad*. This is why his experience is *unpleasant*. Zoe is eating a cookie. Her gustatory experience represents the cookie *as good*. This is why her experience feels *pleasant*.

Here are two arguments against this proposal.

*The sadist and the do-gooder.* Dr Do-Good is attending to a patient with a terrible injury on the neck. What a horrible sight! According to world-directed evaluativism, Dr Do-Good’s visual experience feels unpleasant because it represents the patient’s injury as bad. But this cannot be right. Dr Sadist is looking at the injury too, his visual experience also represents the injury as bad ... but it feels *so good*.

*The Thinking Otherwise Problem.* You have eaten a hot pepper and now your mouth is on fire.



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Your experience is so unpleasant that you run to the fridge and chug a litre of milk directly from the bottle. The interesting thing is that you do so even though you know full-well that there is no damage in your mouth. But then the unpleasantness of your experience cannot be identical to the world-directed evaluation *There is bad damage in my mouth*. If it were, knowing that this evaluation is false should have prevented you from acting like that.

Let’s consider whether the second account—*world-directed imperativism* (Martínez 2011)—fares better. Again, the idea is pretty simple: (i\*\*) affective experiences *command* their subjects to do something about some worldly object; (ii\*\*) it is in virtue of this *world-directed imperative content* that they are pleasant/unpleasant. So, Abe’s backache is unpleasant because it commands him *Less of this damage in the back!*, while eating a cookie gives Zoe pleasure since her experience has the content *More of this cookie!*

Yet again, the idea won’t do:

*Hunger.* I am hungry. My hunger feels unpleasant. It feels so – world-directed imperativism says – because it commands me: *More food!* Fair enough, it is plausible that my hunger has such a content. But it cannot be the case that this content is what makes my hunger

unpleasant. After all, if my hunger has that content, then *all* episodes of hunger have it ... but *not all* episodes of hunger are unpleasant.

*A salty story.* Bilateral damage to the central nucleus of the amygdala does *not* impact rats' hedonic responses to salt: their facial expressions indicate that they still experience *pleasure* in response to salty stimuli (Galaverna et al. 1993). This – world-directed imperativism says – means that these rats are tokening the command *More salt!* But this is false, since damage to the amygdala *does* abolish rats' motivation to eat salt: they reject solutions containing more than 0.2% NaCl (Flynn et al. 1991). If anything, these rats are tokening the command *Less salt!*

There are in fact two further arguments that show that *any* world-directed treatment of valence is doomed to fail.

*World-undirected moods.* You wake up one day and you feel miserable. Your misery doesn't command you to act upon the world a certain way, nor does it evaluate the state of world. In fact, it seems that your experience isn't about the world at all. Still, your experience is very unpleasant. Thus, valence doesn't depend on world-directed content, be it imperative, evaluative, or whatever else.

*Mind-directed motivations.* You have twisted your right ankle and now you are in pain. The unpleasantness of your experience has *mind-directed motivational force*: it motivates you to get rid of this very experience – you don't want to *feel* like that. But then such an unpleasantness cannot reduce to contents like *There is a bad damage in my right ankle/Less of the damage in my right ankle!* Such contents can only motivate you against the state of your ankle, but they cannot motivate you against your pain experience. No world-directed content can do that.

### Becoming Reflexive

The attempt to explain valence in terms of world-directed content fails. But that's not the only type of content. Maybe affective experiences feel (un)pleasant in virtue of having a certain type of *mind-directed content*. This is the proposal I endorse. More precisely, I maintain that your affective experience has valence in virtue of *commanding* you to do something about *itself*. In particular, a pleasant experience P has reflexive

imperative content *More of P!*, while an unpleasant experience U has reflexive imperative content *Less of U!* Hence the name of the account: *reflexive imperativism*. In a nutshell, it says that an experience feels pleasant/unpleasant in virtue of commanding you *More of me!/Less of me!* (Barlassina *under review*; Barlassina and Hayward 2019; Barlassina and Hayward *forthcoming*).

As always, examples should clarify the idea. Suppose that you are looking at a pen on your desk. Presumably, this visual experience is affectively neutral, that is, it feels neither good nor bad. This doesn't mean that it lacks world-directed content. It in fact represents the pen as being on your desk. What it lacks is reflexive imperative content. And this is why it lacks valence too. If it had reflexive imperative content *More of me!*, it would be a pleasant visual experience. If it had reflexive imperative content *Less of me!*, it would be an unpleasant one. This is exactly the difference between Dr Do-Good and Dr Sadist's visual experiences: even though they have the same world-directed content – they both represent the patient's injury as bad – the former has reflexive imperative content *Less of me!*, while the latter has reflexive imperative content *More of me!* This is why one feels bad and the other good.

The fact that affective experiences command us to get more/less of themselves explains why they have *mind-directed motivational force*. When you twist your ankle, the unpleasantness of your pain commands you to get less of this experience, and so you don't want to *feel* like that. By the same token, when you eat a cookie, your pleasant experience commands you to have more of itself, and this is why you want to have more of that gustatory pleasure.

Oftentimes, these mind-directed motivations bring about *world-directed motivations*, i.e., motivations to change the state of the non-mental world. As we have just seen, the gustatory experience resulting from eating a cookie feels pleasant in virtue of having reflexive imperative content *More of me!* When this mind-directed command is sent to your decision-making system, the latter attempts to compute the best way to satisfy it. In this case, it is likely to hypothesise that the best course of action is to get another bite from the cookie. The corresponding world-

directed motivation is thus produced, and you end up munching the cookie (all else being equal, of course). The “hot pepper scenario” above is another case in point. The sensation you get from eating the hot pepper is unpleasant because it commands you *Less of this sensation!* Upon receiving this mind-directed command as input, your decision-making system outputs the world-directed motivation to drink some milk, and you decide to act accordingly. Your decision is not discounted in the light of your knowledge that your mouth is not damaged, since this decision has nothing to do with how your mouth is faring. You intend to drink milk because you think that it will lessen the unpleasant *sensation* you are having. Your goal is to fulfil the reflexive imperative content *Less of this sensation!*

So far, I described the relation between world-directed motivations and mind-directed motivations as follows: one undergoes a pleasant/unpleasant experience; the experience’s valence commands one *More of this experience! / Less of this experience!*, thus motivating one for, or against, this very experience; this experience-directed motivation is then transformed into a world-directed one by the decision-making system. Things, however, are slightly more complex than that, for at least three reasons.

First, on some occasions, the decision-making system doesn’t know how to satisfy the mind-directed motivation it receives. You have been feeling miserable for months. You don’t want to feel like that, and unsurprisingly so, given that the unpleasantness of your misery keeps on commanding you *Less of this misery!* You tried a number of behavioural strategies to satisfy this mind-directed command, but none of them worked. Now, your decision-making system has, so to speak, given up. As a result, you still feel unpleasant misery, you don’t want to feel like that, but this doesn’t result in any world-directed motivation.

Second, the causal chain between mind-directed and world-directed motivations can be interrupted. This, I maintain, is what happened to the aforementioned amygdala-damaged rats. As you might remember, these rats find tasting salt pleasurable. According to reflexive imperativism, this means that they want more of that gustatory experience. This experience-directed motivation,

however, doesn’t bring about the world-directed motivation to ingest salt. Why so? Here’s why: interventions to the central nucleus of the amygdala have set up the rat’s decision-making system to constantly output the world-directed motivation not to eat any salt, *regardless of the experience-directed motivation it receives as input.*

Third, and more importantly, you should *not* think that reflexive imperativism claims that world-directed motivations are *typically causally dependent* upon the mind-directed motivations associated to affective experiences. Fair enough, reflexive imperativism has it that affective experiences (better: their reflexive imperative contents) normally bring about world-directed motivations. But this is not to say that the majority of world-directed motivations are brought about by such experience-directed motivations. Quite the contrary, world-directed motivations are by and large causally independent from affective experiences. (Compare with this: skiing normally makes one thirsty, but the great majority of thirst episodes are not due to skiing). In this moment, for example, I am typing these words on my laptop, so my brain is issuing a number of motor commands. These world-directed commands and their world-directed motivational force, however, have nothing to do with my current affective experience. The same applies to hunger. As said above, hunger always commands one *More food!*, but this world-directed command doesn’t have to be generated by an affective experience. Some episodes of hunger feel neither pleasant nor unpleasant – but they have world-directed motivational force nonetheless.

This last point, of course, raises a very important question. If we are cognitive agents with a number of valence-independent, world-directed motivations, *what is the point of having valence-based, mind-directed motivations on the top of them?* In Barlassina and Hayward (2019, p. 1039) we formulated the problem as follows: “what is the evolutionary advantage of [valence]? [...] Why do we need experiences that feel good or bad? Couldn’t nature just have endowed us with [world-directed] representations, desires, and affectless commands like the urge to defecate? Why did we need to *suffer* [or to feel *pleasure*]?” One year after, I am still puzzled by



this question. So, I find myself in the following situation: I am pretty sure *that* affective experiences have valence in virtue of having reflexive imperative content *More of me!/Less of me!*, but I don't know *why* that is the case. So, the joke might be on me after all.

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*Feature article: Emotion & Memory*

## Emotions and Memory

[Fabrice Teroni](#)

[Department of Philosophy](#)  
[University of Geneva](#)

Pre-theoretically, it seems obvious that there are deep and multifarious relations between memory and emotions. On the one hand, a large chunk of our affective lives concerns the good and bad events that happened to us, which we preserve in memory. This is one amongst the many ways in which memory is relevant to the nature and causation of emotions. What does recent research teach us about these relations? § 1 surveys some key issues in this regard. On the other hand, which events we happen to preserve in memory very much depends on how we affectively reacted to them when they took place. Emotions are relevant to the nature and causation of memory in this and many other ways. Key issues regarding these relations are surveyed in § 2.

To keep the discussion manageable, I shall presuppose the following evaluative approach to the emotions. Emotions have a complex intentionality. First, they have a *particular object*: one is afraid of the dog nearby, hopeful to win the prize or sad that a friend did not visit us. To target particular objects, emotions have to build on other mental states that can be described as their *cognitive bases*: they target the dog one sees, the prize one imagines or a missed opportunity one remembers. Second, emotions have a *formal object*, which is a distinctive value for distinct emotion types. In fear, that value is the dangerous or the threatening; in hope, it is the value of positive prospects and, in sadness, it is loss. I shall not presuppose anything about the way this evaluative aspect of the emotions is realized and shall rest content with referring for illustrative

purposes to different approaches along the way (for discussion, see Deonna and Teroni 2014).

### §1 How is Memory Relevant to the Nature and Causation of Emotions?

Three issues will be discussed in this section. a. Are there types of emotions that are exclusively related to memory? This issue concerns the *individuation* of emotion types. b. Do emotions in general have privileged links with types of memory (e.g., perceptual memory)? This is a question about the *format of representation* in emotion. c. Do emotional evaluations have privileged links with memory? This issue concerns the way in which the *evaluative aspect* of the emotions is *realized in the subject's psychology*.

#### a. Memory and Emotion Types

Are there emotion types that require memory as their cognitive base? Nostalgia and regret are obvious candidates, since remembering an event looks like a precondition for being nostalgic or regretful about it. What does that reveal regarding the relation between memory and emotions?

Well, it seems that nostalgia and regret are the types of emotions that they are thanks to memory. This is right, but how far-reaching this observation is depends on how one understands the relation of nostalgia and regret to other emotion types. For instance, nostalgia may be understood as a complex emotion involving two distinct simpler emotions that co-exist or perhaps rapidly alternate: joy (about the goods that befell us) and sadness (at the realization that they are gone and may not be recoverable) (e.g. Prinz 2004). Given that joy and sadness do not always build on memory, this “blending” approach to nostalgia suggests that, in this case at least, the relation between the emotion type and memory is inconsequential. Consider regret, now. Regret, it may be said, is just a label we use to single out for special attention the episodes of sadness that we feel toward specific events: past events in which we are implicated for the worse. According to this “calibration” approach (Prinz 2004), regret is

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I am indebted to Cain Todd and Julien Deonna for their helpful comments on a previous version of this paper.

simply sadness calibrated to specific types of past events. If this is on the right track, then the relation between regret and memory is also inconsequential: it just happens that we dignify sadness, when it targets specific objects that we remember, with the label “regret”. In some other social contexts, it may happen that “steegret” singles out the sadness one feels at the loss of one’s steed. The interest in past events in which we are implicated may be more widely shared across history and cultures than the interest in horses, but neither regret nor “steegret” turns out to be a privileged entry point into the nature of emotions. Or so this line of thought concludes.

That being said, there are at least two ways to secure a fundamental role for memory vis-à-vis emotion types. The first, modest way consists in showing that there are emotion types that have exclusive links to memory for which neither the blending nor the calibration strategy works. To stick with our examples, one may for instance argue that the blending approach does not work for nostalgia, since we should leave room for basic “bittersweet” evaluations or feelings that display a kind of unity inconsistent with the idea of a blend of joy and sadness. As to the calibration approach, one may think that it does not apply convincingly to regret: the evaluations or feelings characteristic of regret may be essentially determined by the fact that *we* are implicated in *irreversible* negative events and so cannot come from sadness. While these strategies raise a number of issues, the jury is still out in this regard (Scarantino and Griffiths 2011).

The second, more ambitious way to secure a fundamental role for memory is to deny a presupposition of the above discussion: that some emotions are simpler or more basic than others, in particular insofar as they would not exclusively build on memory. Some forms of constructionism go this ambitious way (e.g., Barrett 2005): according to them, which emotion we undergo depends on how we happen to categorize relatively amorphous feelings. Suppose you experience an unpleasant feeling and feel quite aroused. The ambitious constructionist claim is that you will undergo anger, say, if you categorize these feelings as symptomatic of your being angry, where this categorization may in turn be explained by your belief that you have been insulted. Alternatively, you will undergo fear if



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you happen to categorize these same feelings as symptomatic of your being afraid, for instance because you think that the situation is threatening. Insofar as these categorizations depend on memory (building on recognitional capacities, perhaps), then memory would play a key role in the individuation of emotion types.

*b. Do Emotions in General Have Privileged Links with Types of Memory?*

Our second issue concerns the format of representation that is necessary or important in triggering emotions. Can emotions be indifferently triggered by conceptual (the format of many beliefs, for instance) and experiential (the format of perception, of course, but also of imagery) representations? One widely shared assumption is that, for most emotions, the foundational case involves a cognitive base that is perceptual. Such emotions are tailored to react to experiential representations. If so, emotions elicited in the absence of perception of the relevant objects or events must have bases that somehow retain crucial traits of the foundational case. By mimicking this foundational case, the types of memory that recruit imagery (and more generally mental states that do so) make it possible for the emotional system to be put into

motion (Holmes and Matthews 2005, 2010; Robinson 2005; Salmela 2014; Siedlecka and Denson 2019). The idea can be defended across the whole emotional domain, or for some emotion types more specifically (Siedlecka and Denson 2019). One may think for instance that disgust, as opposed to, say, regret, essentially involves visual or olfactory perception or imagery.

It is fair to say that there is to date no systematic exploration of how imagery relates to emotions in general or to different emotion types. The available studies support the intuitively convincing picture on which imagery (and memory imagery in particular) makes it more likely that we undergo emotions, but that it is not required to engage our emotional system. As Holmes and Matthews put it, “images appear to act as ‘emotional amplifiers’” (2010: 353). So, if the cognitive bases of nostalgia and regret have privileged or exclusive links to memory, then they are more likely to be triggered by memory imagery than by purely semantic/propositional memory.

### c. *Do Emotional Evaluations Have Privileged Links with (Types of) Memory?*

According to an evaluative approach to the emotions, (specific) emotions have privileged links with (specific) values. Emotions are or presuppose evaluations of their particular objects: in an episode of fear, a dog is evaluated as dangerous, for instance. What psychological shape do these evaluations take? Do they relate in interesting ways to (types of) memory?

Exploring, however briefly, this issue requires that we anchor the discussion in a specific approach to the nature of emotional evaluations. Since I referred to constructionism in § 1.a., let me draw here on an influential variant of the appraisal theory (e.g., Scherer 2001). According to this theory, emotional evaluations consist in a series of discreet appraisal checks along different dimensions: is the event novel or already known? Is it goal conducive? Is it intrinsically (un)pleasant? Can I cope? etc. Fear of the dog would rest on the appraisal of the dog’s nearness as a novel, goal unconducive and unpleasant situation that one cannot cope with. Obviously, a sensible answer to any of these appraisal checks will have to rely on information preserved in memory, be it semantic or encoded

in imagery (see § 1.b.). This is not the issue that interests us here. What interests us is whether emotional evaluation must always involve an *actual sequence of occurrent appraisal checks*, or whether it can *itself* be a memory.

It seems to many that it would be too taxing for the subject’s cognitive resources to require that the series of appraisal checks be actually computed “online” at each occasion. With experience, shortcuts or summary evaluations become possible. These shortcuts take the shape of memory schemas or the application of recognitional concepts (Clore and Ortony 2000; Leventhal and Scherer 1987). The fifth time one meets a growling dog, say, there is no need to check again whether the presence of a nearby dog is goal conducive, intrinsically (un)pleasant and something one can cope with – previous experience allows one to immediately recognize the threat, be afraid and take to one’s heels. This evaluative recognitional capacity is essentially similar to what happens in non-evaluative domains of cognition (e.g., moving from a series of checks to categorize a tree as a birch tree to the immediate recognition of a tree as such).

Appealing to such evaluative shortcuts seems to be a mandatory move for an attractive appraisal theory. And it raises some key and underexplored issues, especially if one thinks that evaluations (partly) constitute the emotions (Moors et al. 2013). First, it suggests that a kind of memory-based appraisal is constitutive of many emotions. Is a specific kind of memory involved? Or can these shortcuts indifferently take the shape of episodic, semantic or procedural memory? Second, consider the online process that consists in moving sequentially from one appraisal check to another to reach the complete evaluative verdict specific to fear. Compare it to the triggering of a recognitional capacity to pass that same evaluative verdict. It stands to reason that these are quite distinct psychological phenomena, if only because they occupy time and consciousness in different ways. If so, what unifies the episodes of a given emotion type that involve an actual sequence of occurrent appraisals with the episodes that involve memory-based evaluative shortcuts? Does the fact that emotional evaluations can be realized in such different ways mean that this unity, if any, cannot be found in the evaluative aspect of the

emotions? If so, in which other aspect(s) is it found?

## §2 How Are Emotions Relevant to the Nature and Causation of Memory?

Four issues will be presented in this section.

a. Is there a relation between the formation of memories and emotions? This is the issue of *selectivity*, which concerns the role of emotions at the time of encoding. b. Is there a relation between the capacity to access a memory and emotions? This question targets the role of emotions at the time of remembering and relates to the phenomenon of “*mood congruence*”. c. Is there a type of memory content that is distinctively related to the emotions? This is the issue of *affective memories* and their nature. d. Is the *attitude* of remembering (as opposed to what one remembers) emotional in nature?

### a. *Selectivity*

The relation between the formation of memories and emotions is best approached through their respective links to attention.

On the one hand, there are intimate relations between emotions and attention. It has been regularly emphasized that the main function of emotions is to capture and focus attention and in so doing help the subject deal with the emotional situation, and that variations of emotional intensity are related to variations in the amount of cognitive resources that are devoted to the emotional situation (Finucane 2011; Harmon-Jones et al. 2013; Brosch et al. 2013).<sup>1</sup>

On the other hand, available evidence supports the claim that the encoding of emotionally arousing material is enhanced: enhanced encoding is specific to the emotionally salient object, which is then better remembered (Hamann 2001; LaBar and Cabeza 2006; Phelps 2004; Yonelinas and Ritchey 2015).<sup>2</sup>

Combining these two claims means that attention mediates interesting relations between emotions and memories: emotions tend to focus the subject’s attention onto significant events and objects, which enhances encoding and, subsequently, the possibility of remembering.

### b. *Mood Congruence*

Let us now turn to the capacity to access memories – is there an interesting relation between this capacity and emotions? Yes: this is the so-called “mood congruence effect”. The label refers to a well-documented phenomenon: when in a given emotional state, subjects are more likely to remember events of a similar emotional “quality” compared to events of different emotional qualities or neutral events (Blaney 1986; Gaddy and Ingram 2014; Loeffler et al. 2013; Matt, Vásquez and Campbell 1992).

While mood congruence is a well-documented phenomenon, its impact on important philosophical issues is rarely discussed. Let me briefly mention three of these issues. First, there are *epistemological* issues. According to influential approaches, the justification of our beliefs is a function of the evidence that we can access (for discussion, see Dougherty 2011). If our emotional states influence the kind of information we have access to, this suggests that the epistemic standing of many beliefs is significantly influenced by the emotional state we happen to be in. This effect is likely to be magnified for evaluative beliefs, given the connection between emotion and evaluation. Second, there are issues regarding the kind of *control* that we have on our affective and, more generally, mental lives (e.g., Millar 2004). How serious is the impact of mood congruence on our conative states and basic orientations regarding what life has in store for us? Does it foster a picture in which we are basically the hapless victims of the affective states that we undergo, or does it leave room for a robust kind of agency? Third, there are issues regarding our *diachronic identity*. According to neo-Lockean approaches (e.g., Parfit 1984), personal identity is determined by diachronic psychological connectedness, within which memory is always given pride of place. If we endorse such an approach, mood congruence suggests that our personal identity is, if not a strictly affective affair, at least profoundly influenced by the affective states we are in.

<sup>1</sup> This raises the further issue as to the exact function of attention in emotion. For two different approaches, see Brady (2013) and Evans (1970).

<sup>2</sup> Interesting special cases of this phenomenon are the so-called “flashbulb memories”, on which see Hirst and Phelps (2016).

### c. *Affective Memories*

One of the most intriguing issues regarding the relations between memory and emotions concerns the purported existence of memories that are distinctively affective in nature. “Distinctively affective” in the following sense: their affectivity would neither consist in the fact that they were selected or are now retrieved because of the emotions they elicit(ed) in us, nor in the fact that they simply refer to past emotions (as when we remember that we were proud of winning a prize). The existence of these phenomena is not disputed, as opposed to the existence of distinctively affective memories.

The best strategy to understand what affective memories are supposed to be is to draw a parallel with what happens when memory targets other, non-emotional experiences. This will put us in a position to appreciate why the existence of affective memories is controversial. Consider visual experiences and how one may remember them. One may remember *that* one saw a given river from such and such a vantage point, say. But one may also remember *the visual experience*, where this is not (merely) a matter of retained knowledge that the experience was so and so, but a memory of the experience itself by somehow “reliving” it. At the time of memory, it is, as we colloquially say, “as if” one were seeing the river again (Teroni 2017). But only “as if”: we know that we are not in a visual relation with the relevant objects, although we are in a state that bears a striking phenomenological similarity to a visual experience. In the case of visual, auditory etc. memory, there is such a similarity between the relevant perceptual experience and the memory “image”. What is controversial is whether we can extend this idea of an image or of reliving a past experience to the memory of past emotions.

Those who deny that we can argue that alleged cases of affective memory always turn out to be either cases of memory that one had an emotion, or of memory about a past emotional situation that elicits an actual emotion at the time of recall (Debus 2007). One argument in favour of this conclusion is phenomenological. For can we make sense of “as if emoting”? Of course, the answer very much depends on what one takes emotions to be. But there is a widely accepted

aspect of the emotions that creates a *prima facie* problem for extending the idea of an image to our relation to past emotions. Emotions are valenced, i.e. they are pleasant or unpleasant (Colombetti 2005; Teroni 2018). Now, can we make sense of the idea that one is in a state that bears a striking phenomenological similarity to a (un)pleasant state, but where it is only “as if” one were (dis)pleased? It is actually not easy to make sense of it, although the reason why it is so is difficult to pin down. Is the difficulty here just a consequence of our contingent psychological make-up, or does it reveal something essential about affective states? If the latter, is it because valence is an experiential property and that there is no appearance vs reality distinction for these properties? Alternatively, is it because the specification of a state that is “as if” (un)pleasant is contradictory: to be phenomenologically similar to a (un)pleasant state would imply that it actually hurts or feels good, but the “as if” locution is meant to deny that this is the case? And how does that compare to the readily accepted idea that, in memory or imagination, it can be as if one were seeing the relevant objects?

The answers to these difficult and underexplored issues are likely to have important theoretical consequences. To name just one, are popular approaches according to which affective states are or contain perception-like experiences of value defensible in light of the difficulty in making sense of as if emotions? Most if not all perceptual experiences make room for as if counterparts – if the idea of ‘as-if’ emotions turns out to be contradictory, should we conclude that the experience of value in emotions is not perception-like?

### d. *The Attitude of Remembering*

The final issue I wish to discuss concerns the attitude of remembering as opposed to what we remember – is this attitude partly emotional? We say that we “seem to remember”, and many philosophers think that this expression often refers to our capacity to know in a privileged way that the psychological state we are in claims to relate us to objects and events in a memory (as opposed to a perceptual, imaginative, doxastic, etc.) way. In that sense, we may seem to remember that Napoleon crossed the Alps. What underpins this capacity and, in particular, does it

rely on a “signature” of the attitude of remembering that we can access from the first-person point of view? If so, what is its nature? This is obviously not the place to explore this issue in any detail (see Teroni 2017). Let me simply say a few words about the intriguing and recurrent idea that the attitude of remembering involves a feeling of familiarity (Matthen 2010; Russell 1921) and its relation to emotions.

Maintaining that the attitude of remembering makes itself manifest in a phenomenology of familiarity is quite attractive: it not only allows for a cognitively undemanding and unified account, it also explains typical mistakes of self-attribution, which are often due to illusions of familiarity. But what is the feeling of familiarity? It bears some similarities with emotional experiences. First, both vary in intensity: one may feel more or less afraid of a dog, as an object may feel more or less familiar. Second, feelings of familiarity depend on a specific type of appraisal. As we have seen, an influential theory claims that emotional evaluations follow a typical sequence that starts with assessing whether the stimulus is novel (Scherer 2001). We might thus insist that a similar appraisal process underscores emotions and feelings of familiarity; in the latter case, the object or event is appraised as having been previously met.

These similarities do not add up to a strong case for assimilating feelings of familiarity to emotions. The final verdict is likely to depend on one’s stance regarding whether two further aspects of the emotions that we already had the occasion to discuss also characterize feelings of familiarity. The first aspect is *valence*. Is the feeling of familiarity (un)pleasant? Titchener, for one, describes it as a “glow of warmth, a sense of ownership, a feeling of intimacy” (1910: 410), hardly the hallmarks of a neutral experience. A significant body of empirical data supports this idea (Garcia-Marquez and Mackie 2000; Winckielman and Cacioppo 2001; Zajonc 1968). The second aspect is *evaluation*. When we describe something as familiar, do we evaluate it? Some insist that feelings of familiarity are subtended by a positive evaluation, which indicates “the availability of appropriate knowledge structures to deal with a current situation” (Winckielman and Cacioppo 2001: 990). One may go even further and maintain that

familiarity and unfamiliarity have, in and of themselves, different consequences regarding the capacity for coping (Frijda 1986: 350). Familiarity would manifest itself in a positive feeling reflecting one’s capacity to cope with the relevant object or event, unfamiliarity in a negative feeling manifesting one’s difficulty in coping with it. If this is along the right track, then the attitude of remembering may turn out to be emotional.

## Conclusion

In the foregoing, I have briefly presented some important relations between emotions and memory. These relations go in both directions and, despite their important theoretical consequences, many of them are surprisingly underexplored.

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*Feature article: Emotion & Memory*

## **The Development of an Emotional Self-concept through Narrative Reminiscing**

[Robyn Fivush](#)

[Department of Psychology](#)  
[Institute for the Liberal Arts](#)  
[Emory University](#)

Talk about the personal past is ubiquitous; we tell our daily adventures to friends and family over dinner, we share each other's everyday lives over coffee and over the internet, and we reminisce about our life experiences, big and small, in snatches of conversations and long soliloquies. Importantly, almost all of the experiences we reminisce about have an emotional component. Whether they are the routine ups and downs of everyday life or the tumultuous emotions that can change our life course, we talk about what happened and how we felt about it. Estimates indicate that we talk about 90% of everyday emotional experiences within 48 hours of their occurrence (Rime, 2007). *That* we reminisce about our emotional experiences is clear. *How* we reminisce about emotional experience is equally important for our understanding of self and relationships.

Clearly, reminiscing is a social interaction; as we narrate our experiences with others, their questions, comments, evaluations and interpretations help shape our evolving narrative of what happened and what it meant (Pasupathi & Billitteri, 2015). Through the process of narrating our past, we begin to develop a concept of self, an identity based on our life story (McLean, Pasupathi & Pals, 2007), and this process begins very early in development in parent-guided reminiscing (Fivush, 2019). Because much of reminiscing focuses on emotional experiences, parent-guided reminiscing also helps children develop an emotional self-concept, an understanding of how experiences define self and relationships in emotional and evaluative ways over time, as illustrated in this brief conversation

between a white middle-class American mother and her 4-year-old daughter, Rachel (this and all narrative examples use pseudonyms and are from Fivush, 2019, unless otherwise noted; “...” indicates some phrases deleted for brevity of presentation). Rachel's mother was asked to talk with her daughter about a time that Rachel was sad:

Mother: Well, one thing that made you really sad is when your best friend Sheila moved away, right?

Rachel: (nods yes)

Mother: Yeah, and did we watch all her things go on the moving truck? Uh-huh, and do you remember why she had to move away?

Rachel: ...Because Sheila's Father had to work.

Mother: Sheila's Father was going to start working at a new job...And do you still miss Sheila when you think about it?

Rachel: (nods yes)

Mother: Yes?

Rachel: Yes.

Mother: It makes you sad. Doesn't it? But is she still your friend even far away? Yes! What can you do even though she's far away?

Rachel: Give her a happy letter with a (drawing) on it.

Mother: Give her a happy letter, right, and we have a drawing, don't we?

As we can see in this excerpt, the mother helps her daughter to construct the experience of a friend moving away as one that causes sadness, underscores the importance of maintaining relationships with others, and develops a plan of action to maintain the relationship over time. I am not arguing that the mother is accurately portraying what happened or how her child felt – I am not even sure if this is possible – but rather that in helping her young child to label, explain, and evaluate her emotional experiences, the mother is helping her child develop an emotional self-concept, an understanding of self and relationships in emotional terms. Further, as I will argue in this essay, this emotional self-concept is gendered (Fisher, Rodriguez-Mosquera, Van Vianen & Manstead, 2004; Fivush & Zaman, 2013). My arguments are based on decades of research with mostly white, Western, middle-

class samples (see Fivush, 2019, for a review), and this, of course, limits generalizability. Obviously both gender and emotion are complex constructs that vary considerably by culture (Fivush & Grysman, 2020), and I return to this issue at the end of the essay.

### **Emotion, Reminiscing and Narrative**

Emotion has a long and conflicted history in psychology, but some consensus has emerged in defining emotions as complex dynamic interactions among physiological, neural, cognitive, and sociocultural components (Adolphs & Anders, 2017; Barrett, Mesquita, Ochsner & Gross, 2007; Sander, Grandjean & Scherer, 2018). Focus on the sociocultural context of emotional experience underscores that emotions must be conceptualized as interpersonal as well as intrapersonal (Campos, Walle, Dahl & Main, 2011). But it is not simply how emotions are experienced interpersonally in the moment; the way in which individuals co-narrate their emotional experiences helps shape particular ways of understanding these experiences and what they mean over time, as Rachel's narrative demonstrates. Emotion understanding unfolds within interpersonal contexts in which past emotional experiences are expressed, debated, contested and negotiated. In many ways, we understand ourselves and our emotions best in retrospect, upon reflection and co-construction of narrative meaning. Moreover, individual emotional experiences coalesce into a broader narrative of self as an individual with a particular emotional signature, as someone who is quick to anger, or who is nice, or who nurtures others (Fivush, 2019).

Narratives are culturally canonical linguistic forms that provide structures for organization, interpretation and evaluation of human experience. Narrative forms break the flow of human experience into meaningful chunks, defining beginnings, middles and ends, that create a sense of discrete experiences linked together through time and thematic content (Ricouer, 1991). Narratives move beyond simple chronologies that recount actions, to include reactions, interpretations, motivations and evaluations that integrate events in the world with internal subjectivity, essentially creating a landscape of emotionally imbued experiences



Professor Robyn Fivush

(Bruner, 1990). In constructing narratives about experiences, we simultaneously construct emotional meaning.

Importantly, narratives are constructed within socioculturally saturated interactions (Fivush, 2019). Narratives are canonical, well-structured stories that follow specific forms in specific cultures (McLean & Syed, 2015). For example, one of the most prevalent American canonical narratives is redemption, a story of struggle and overcoming challenges to achieve great things (McAdams, 2013). Redemption narratives are American cultural bedrock – the story of the pilgrims, of manifest destiny and rags to riches. It is not that this narrative structure is accurate or true to any one person's experiences, but rather that this is the cultural narrative that provides the implicit and explicit background of how to make meaning of the world, within and against which personal narratives are constructed (Fivush, 2010; Goodman, 1978).

In terms of self-concept, canonical and personal narratives help define both self and relationships (Bluck, Alea, Habermas & Rubin, 2005; Waters, Bauer & Fivush, 2014). For example, the canonical redemption narrative defines a self as resilient, and defines relationships in terms of power. Different canonical narratives provide different aspects of understanding each of these dimensions. As an example, Thorne and McLean (2003) discuss "John Wayne" narratives versus "Florence Nightingale" narratives, each of which defines self and relationships in different ways, and,

notably, in gendered ways. Cultural and personal narratives are dialectically related; individuals adopt and adapt culturally mediated canonical narratives in constructing their personal stories that inform their self-concept.

### **Gendered Socialization of Canonical Emotion Narratives**

Children are socialized into culturally canonical narrative forms from birth. Infants are surrounded by stories, including family stories of parents and grandparents, the family into which this new life was born and will unfold. By the time children are able to say even one or two words, about 16-months of age, parents draw them into reminiscing about the past and co-constructing shared narratives (see Fivush, 2019, for a review). Although toddlers are only able to participate minimally in these early reminiscing conversations, the parent is providing the structure and content of the emerging narrative in ways that model appropriate understandings of personal experience. For example, here is 16-month-old Anna, a child of European descent growing up in New Zealand, being drawn into a conversation about visiting the petting zoo by her mother (from Reese, Yan, Jack & Chan, 2010):

Mother: how many lambs were there?

Anna: [coughs] do do do.

Mother: two of the little baby lambs. Gertie and George.

Anna: heee.

Mother: and they had little tails, didn't they? What did their tails do?

Anna: wave. ah.

Mother: yeah they wiggled and wiggled.

And what did Anna give to the lambs?

Anna: fayah.

Mother: baby lambs. what did you give to the lambs?

Anna: is a baa a ah.

Mother: baby lamb. did you give them a bottle?

Anna: ayes.

Mother: you did!

Anna may or may not recall any of this experience (although it seems likely from her responses that she does), but what is critical is how her mother interprets Anna's minimal responses as indications of Anna presenting her self – as an independent agent who acted on the

world (feeding the lambs) as well as implying an emotional interpretation of the event as cute, funny and enjoyable through adjectives and repetition (“little tails”; “baby lamb”; “wiggled and wiggled”). Ending with the emphatic “you did” further implies that Anna was an active agent in this event. Through re-formulating Anna's minimal contributions into a brief but clear narrative of Anna as having a good time feeding the lambs, Anna's mother is helping Anna learn how to narrate the self as an independent being who understands and evaluates her experiences.

By the end of the preschool years, children are full participants in parent-child reminiscing, although parents still play a large role in providing the overall narrative structure. Further, as we saw in Rachels's narrative, many of these reminiscing conversations explicitly include emotion. Re-visiting Anna when she was about 4 years old, she reminisces with her mother about a recent haircut. After narrating the event, the mother turns the conversation specifically to an emotional evaluation:

Mother: ...it was fun, wasn't it? And because you were such a good girl, what happened at the end?

Anna: I got a lollipop.

Mother: mm, cos you were very good.

Anna: cos I was very shy as well.

Mother: she said that you sat very still. She was quite pleased with you.

Anna and her mother co-construct Anna as a good girl, perhaps a bit shy, but someone who pleases others. And her good behavior got Anna a reward, a lollipop. In five short exchanges, Anna and her mother construct and agree on a particular self-definition of Anna as “good” and perhaps shy. Although these are not emotions per se, being good and being shy imply a way of emotionally interacting in the world as quiet, perhaps withdrawn and a bit anxious, as being someone who is not angry, disruptive or aggressive. In accord with this, relationships are defined in terms of the importance of assuring pleasant interactions that are enabled by the self sitting still and being quiet. Again, the self-concept being constructed is one of a self who does not express disruptive emotions, but rather facilitates pleasant interactions. It is hard to ignore the gender-typing in this conversation (Prentice & Carranza, 2002). We see many of

these themes echoed in the following exchange between a middle-class American mother and her 4-year-old daughter, Jennifer, when asked to talk about a time that Jennifer and her mother had a conflict. They discussed an event that occurred a few days ago in which Jennifer screamed at her mother, and the conversation ends with:

Mother: ... You yell(ed) at me. And that's wrong, right? You can't do that. That's not the right way. You need to talk-

Jennifer: Sorry Mommy.

Mother: Oh, it's ok, baby, I told you that, that it was ok. You just need to learn...Hm? Alright. So are you gonna do- are you gonna, are you gonna scream at Mommy again?

Jennifer: Mm-mm.

Mother: No? You're gonna talk in a, in a good way, right?

Jennifer: Mhm.

Mother: Very softly, and with a, with a nice tone of voice... huh?

Jennifer: (unintelligible)

Mother: You are always nice, sweetie, (kisses child). Love you. Alright.

We see here again the mother and daughter defining Jennifer as nice, that expressing anger is inappropriate and disrupts relationships, and how Jennifer should engage in relationships by talking in a "good" way and in a "nice tone of voice." Note also that the conversation includes Jennifer's apology and ends with the mother assuring a loving relationship thus resolving the disruption caused by the misbehavior, and bringing the dyad back to emotional harmony (indicated by multiple pet names such as "baby" and "sweetie" throughout as well). Intriguingly, whereas we see these themes reasonably frequently in mother-daughter preschool remining, we see them much less frequently in mother-son reminiscing (Fivush, Brotman, Buckner & Goodman, 2000; Fivush & Zaman, 2013).

Of course, it is possible that these gender differences reflect differences in the frequency or emotional tone of particular kinds of lived experiences, but they are reified in culturally constructed gendered ways of understanding lived experience (Chaplin, 2015; Fisher, et al., 2004; Grysmen, Fivush, Merrill & Graci, 2016), such that girls (perhaps especially white Western

middle-class girls) are socialized to create a self-concept that revolves around being "good", "nice" and "sweet", a concept of the importance of maintaining harmonious relationships over time (apologizing, writing letters with happy faces), and by engaging in particular kinds of behaviors that will insure emotional harmony, such as sitting still, talking softly (with a nice tone of voice), and thus pleasing others.

To be clear, this is a matter of emphasis between mother-daughter and mother-son reminiscing (and father-child reminiscing follows the same gendered pattern with daughters and sons; see Fivush & Zaman, 2013, for a full review). It is not that girls are socialized one way and boys another, but rather that certain themes are more heavily emphasized with daughters than with sons. Parents do talk about emotions with their sons, although the way in which they talk about emotions, especially sadness, seems to differ. Again, an example of a white middle-class American father asked to talk about a time his 4-year-old son, Jason, was sad:

Father: So sometimes you're sad. What makes you sad?

Jason: Not going to the park.

Father: Not going to the park? Yeah, that'll do it. What about sometimes in the morning? Nah, that's not necessarily sad, that's kinda grouchy.

Jason: Well, in the morning I want to not go to school.

Father: Yeah, that's true...that's true and that can lead to conflict. Um what are some things that make us sad though?

Jason: Well, like sending me to timeout.

Father: Yeah, I was gonna say that, when Mommy or Daddy sends you to time out. That makes you sad?

Jason: I was gonna say that.

Father: Yeah. Well, that'll do it.

Jason and his father are clearly engaged, and provide an extended list of events that lead to Jason being sad. Jason's father even makes distinctions between sad, grouchy and feelings of conflict. But each is simply mentioned; how emotions evolve over time, influence relationships, and especially how emotion should be expressed in the future to maintain harmonious relationships are not really discussed at all. There

is no elaborated narrative linking emotion to understanding self and relationships.

### **Developing an emotional self-concept**

Obviously, children are not socialized in the context of a single reminiscing conversation at one point in time. Rather, the argument is that these reminiscing conversations happen multiple times a day, every day, across childhood. Indeed, estimates from recordings of naturally occurring conversations indicate that references to past events emerge several times an hour (Bohanek et al., 2009; Rime, 2007). Longitudinal research on the ways in which parents reminisce about emotional experiences with their children show that these gendered patterns emerge early in the preschool years, are consistent across the preschool years, and are still seen in parent-teen reminiscing (see Fivush, 2019, for reviews). Over time, children participate to a greater extent in the co-construction of these narratives, thus children are internalizing these narrative forms and productively using them to help construct their own self-narratives, and these narratives coalesce into an emotional self-concept in at least two ways, defining self and defining relationships.

**Defining Self.** Both cognitive and personality researchers agree that much of our self-definition is linked to our personal memories (Conway, Singer & Tagini, 2004; McAdams, 2015). We define ourselves in terms of, and abstracting from, experiences mediated through the narratives we co-construct about them. We do not know whether the narratives accurately reflect lived experience, but in telling the story in particular ways, perhaps over multiple occasions, this becomes the memory (Dudai, 2004). By focusing on particular events to tell over and over, and particular ways of telling those events, certain experiences, and certain types of experiences, become self-defining. And if these experiences focus on certain kinds of emotional ways of being in the world then this becomes part of the self-definition – I am someone who does not express anger, who does not disrupt pleasant interaction but is always nice, sweet, quiet. These attributes are often attributed to daughters but rarely attributed to sons. In these reminiscing conversations children are learning how their emotional experiences define who they are and how who they are defines what kinds of

emotional experiences they should be having, and this process is gendered.

**Defining Relationships.** Relationships are defined both in the narrative content and the process of telling (Waters et al., 2014). Looking at narrative content, for example, Rachel is learning that maintaining friendships is important, Anna is learning that pleasing others is important, and Jennifer is learning that apologizing for misdeeds is important. All of these are ways of internalizing frameworks, or culturally canonical narratives, for how to construct and nurture relationships with others. In addition, the very process of co-constructing a narrative provides templates for how to interact with others. In co-constructing a harmonious narrative with her mother that resolves the previous negative interactions, Jennifer and her mother are re-affirming their loving relationship. Similarly, Anna and her mother talk about having fun together, building a bond through enjoying activities. Notice that Jason and his father do not include these kinds of evaluations in their reminiscing, so it is unclear if and how they may be creating a narrative about their own ongoing emotional relationship. For girls, emotional reminiscing seems to reinforce the importance of maintaining harmonious relationships, but we do not see this theme emerging frequently in parent-son reminiscing.

### **Caveats and Conclusions**

Research on white Western middle-class samples indicates that parent-child emotion reminiscing is gendered in ways that differentially define self and relationships. Of course, canonical narratives are culturally mediated, and gendered narratives and gendered reminiscing likely vary both within and across cultures. Emerging research indicates both similarities and differences along the lines discussed in this essay across Western and Eastern cultures, as well as within cultures along an autonomy-relatedness dimension (Schroder et al. 2013; Wang, 2016). Cultural and individual variations in the process and product of emotional reminiscing will be critical in fully understanding links between narrating experience and emotional self-concept. Still, what is clear across all cultures studied thus far is that we reminisce about our emotional experiences, and the

culturally canonical ways in which narratives of these experiences are co-constructed across multiple social interactions matters for how we come to understand our emotional experiences for ourselves and with others.

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*Feature article: Emotion & Memory*

## Multiple Routes to Emotional Memories in the Brain

[Kevin S. LaBar](#)

[Center for Cognitive Neuroscience](#)  
[Department of Psychology and](#)  
[Neuroscience](#)  
[Duke University](#)

Emotional memories dominate our life histories. How are emotionally-laden events prioritized in the brain and linked to neural systems that promote memory? This question has been at the forefront of affective neuroscience for decades but has received renewed attention as advances in imaging methodology have permitted more detailed accounts of neural interactions that contribute to complex human behaviors. A classic account of these brain mechanisms (the *memory modulation hypothesis*) postulated that emotionally-arousing episodes receive preferential consolidation into long-term storage through interactions between the amygdala and adjacent sectors of the medial temporal lobe, including the hippocampus and entorhinal cortex (McGaugh, 2004). This hypothesis was extensively supported by non-human animal research and provided a neural mechanism to explain how significant events like those that cause stress are promoted and selectively retained in long-term memory, relative to more mundane experiences. Human neuroimaging research has confirmed that these brain structures are more intensely engaged, and their activity is more tightly coupled, during the encoding of emotionally-arousing – relative to neutral – material in a manner that predicts long-term memory retention (for a meta-analysis, see Murty et al. 2010). For instance, when participants are shown pictures that vary in emotional content, those that are rated higher in arousal, such as erotic images or horror scenes, are better remembered than generic pictures of everyday events, such as people talking at a business meeting or walking down the street. Activity in

and connectivity between the amygdala and adjacent medial temporal lobe structures in response to the emotional pictures predicts their retention advantage over neutral pictures on a subsequent memory test (Dolcos et al., 2005). Interestingly, these brain areas also predict subsequent memory even when their activity is spontaneously elicited in the resting baseline period before the stimulus appears (Mackiewicz et al., 2006), and when the amygdala activity is generated by a motivational threat cue that comes before the stimulus itself (Murty et al., 2012). Findings like these provided evidence for the brain-behavior relationships predicted by the memory modulation hypothesis and showed that the processes that consolidate emotional memories, originally discovered in rodents, are conserved in the human brain.

Failure to engage these brain systems can have detrimental consequences on emotional memory formation. Patients with amygdala damage due to epilepsy or congenital disorders (e.g., Urbach-Wiethe disease) do not exhibit the long-term retention advantages for arousing material, including emotionally intense portions of a story (Cahill et al., 1995) or emotionally evocative words (LaBar & Phelps, 1998). In another study, individuals with posttraumatic stress disorder (PTSD) exhibited reduced medial temporal lobe activity while encoding trauma-related scenes, particularly in individuals with high arousal symptoms (Hayes et al., 2011). Compared to trauma-exposed controls, those with PTSD had higher false alarm rates to trauma lures on the memory test. This pattern suggests that the material was encoded at a more superficial (gist-based) level, rather than a contextually rich, detailed level, which made the trauma lures on the memory test seem familiar. These functional alterations may contribute to the overgeneralized nature of traumatic memories in which autobiographical experiences get intertwined with other trauma-related material to exacerbate their negative impact.

At the same time, research has expanded the functional role of medial temporal lobe structures beyond enhanced memory consolidation to include processes related to memory retrieval accuracy and phenomenology. Notably, the same brain regions that promote memory consolidation at encoding work together to guide successful

retrieval of emotionally arousing items from long-term storage (Botzung, Rubin, et al., 2010; Dolcos et al., 2005), including the recall of emotionally salient autobiographical events (Greenberg et al., 2005). The amygdala and hippocampus also contribute to the unique phenomenological experience of remembering that accompanies the retrieval of emotionally arousing events (Dolcos et al., 2005; Sharot et al., 2004), even when these memories are not more objectively accurate than neutral ones (Rimmele et al., 2011; Talarico & Rubin, 2003). The role of these brain regions thus extends beyond memory accuracy to include more subjective aspects of emotional remembering (*how* the memory feels when it is recalled rather than *what* is recalled). The subjective aspects of autobiographical memories, such as their emotional intensity and the visual imagery (reliving) that accompanies their re-experiencing, tend to be correlated (Talarico et al., 2004). Nonetheless, neuroimaging studies have shown that these features can be spatially and temporally segregated in the brain. When retrieving a specific autobiographical memory from a generic cue word like “wedding,” the amygdala signals the emotional intensity of the unfolding memory very early on in the process of its reconstruction, even before visual cortex activity emerges that signals the amount of reliving experienced while mentally traveling back in time to recall the event (Daselaar et al., 2008). In this way, the amygdala may bias memory selection from competing options (such as choosing one memory from among several life episodes involving a wedding), and it has access to the affective information associated with this event before the contextual details are fully retrieved from memory.

Neuroimaging meta-analyses have linked other brain systems to emotional memory processes beyond the medial temporal lobes, including regions of the frontal and parietal lobes involved in attentional and executive functions, and sensory processing areas, such as the fusiform gyrus (Murty et al., 2010). Theoretical accounts of emotional memory have expanded to incorporate these functions. The arousal-biased competition model (Mather & Sutherland, 2011) argues that high-priority stimuli compete with low-priority stimuli for access to limited



Professor Kevin S. LaBar

cognitive resources, and that attentional factors and the goal-relevance of the stimuli will predict whether memory consolidation is enhanced or impaired. For instance, if a goal is to integrate emotionally salient stimuli with surrounding neutral information (as when learning facts about a potential medical treatment), then the neutral information may get incorporated into the emotional memory. Affective salience is signaled in part by the release of norepinephrine (NE) from the locus coeruleus, which fosters plasticity in the amygdala and prefrontal cortex and enhances sensory processing (Markovic et al., 2014). Pharmacologic manipulations of NE – a marker of sympathetic arousal – impact emotional memory consolidation by influencing neural activity in the amygdala and its interconnected brain regions (van Stegeren, 2008). Along with other neuromodulatory systems, NE may interact with glutamatergic-dependent long-term potentiation mechanisms to selectively support memory consolidation for high-priority stimuli in a competitive fashion (Mather et al., 2016).

The arousal-mediated memory consolidation and retrieval effects discussed above are not the only ways in which emotion impacts memory. The amount of attention paid to emotional stimuli at encoding, their distinctiveness relative to the surrounding context, and their semantic structure

also bias memory processes, even at short time-scales before extensive consolidation occurs (Talmi, 2013). For instance, attentional and elaborative processes promote trade-offs in memory accuracy, particularly in aversive settings, whereby the central negative element of an emotional event tends to be overemphasized relative to peripheral contextual details (Mickley Steinmetz & Kensinger, 2013). Such accuracy trade-offs have important implications for eyewitness testimony in courtroom proceedings. Witnesses may selectively attend to and rehearse details focused on a weapon at a crime scene at the expense of important peripheral information, such as the identity of an accomplice (Mansour et al., 2017). By contrast, positive experiences often broaden attentional focus (Rowe et al., 2007), especially for lower-arousing events (Harmon-Jones et al., 2013), which can reduce central-peripheral trade-offs in memory (Chipchase & Chapman, 2013). Compared to positively valent memories, negatively valent memories exhibit greater recapitulation of sensory processing at retrieval, which confers greater vividness of the aversive visual elements of the memory (Bowen et al., 2018). Because this latter effect occurs even when arousal is equated across negative and positive memories, emotional valence is thought to have a specific role in memory processing. Thus valence (the positivity or negativity of the memory) can interact with attentional and sensory processing in different ways to bias memories for emotional material above and beyond the impact of arousal.

Through their influence on these various neurocognitive processes, emotional events can sometimes feel as though they are indelibly fixed in memory. However, researchers are now discovering that post-retrieval manipulations can, in some circumstances, alter the phenomenological characteristics of emotional memories. In one study, individuals used visual imagery to spatially distance themselves from reactivated memories of negative scenes by imagining that the scenes took place far away from them. Compared to individuals who didn't reactivate the memory, reactivated the memory without regulating, or didn't do anything, participants in the reactivate + regulate condition reported feeling less emotionally aroused when viewing the scenes several days later, despite

having intact recognition memory for them (Parikh et al., 2019). Memories are thought to enter a labile state upon reactivation that provides a window of opportunity to therapeutically intervene by engaging specific regulatory strategies that have long-term benefits in mollifying emotional reactivity while maintaining memory accuracy (LaBar, 2015). Although the exact brain mechanisms remain unclear, cognitively mediated reappraisal strategies, like spatial distancing, may achieve their mnemonic effects by reducing amygdala activation to the emotional event while enhancing connectivity of the hippocampus and regulatory sectors of the prefrontal cortex (Hayes et al., 2010).

These advances in emotional memory research would not have been possible without integrating theoretical, behavioral, and neurobiological perspectives and the increased dialogue between basic scientists and clinicians who treat patients with affective and traumatic memory disorders. To provide an even stronger translational bridge, researchers should strive to increase the ecological validity of their experimental paradigms by incorporating complex facets of real-world emotional episodes, including their rich contextual details, social interactions, and temporal dynamics. In doing so, the laboratory paradigms will more closely approximate the real-life scenarios that the brain systems are designed to handle, which should improve an understanding of how emotional memories are impacted in mental health disorders. Validated databases of more complex emotional stimuli like movie clips (Cowen & Keltner, 2017) and news broadcasts (Samide et al., 2020) have been developed to aid researchers in these endeavors, along with virtual reality tools that present dynamic emotional stimuli in life-like 3-D worlds during neuroimaging (Åhs et al., 2015; Faul et al., 2020). Complementing these methodological advances, new data analytic tools have enabled neuroimaging researchers to extract more complex neural system interactions that unfold when subjects freely view real-world emotional events like televised sports games (Botzung, LaBar, et al., 2010). However, research on these fronts, particularly using socially interactive paradigms, is just beginning.

Research should also expand beyond the current emphasis on how valence and arousal benefit memory for brief emotional episodes. Mood and anxiety disorders are characterized by longer-term cognitive impacts of stress and other negative affective states, but how these states alter memory processes in the brain remains poorly understood. This is due, in part, to biases in neuroscience research toward investigating short-lived emotional reactions rather than sustained moods, which may exert a greater impact on memory function clinically. Increased focus on the neuroscience of the memory-impairing effects of emotion, rather than the memory benefits, will be particularly important to better understand the cognitive sequelae related to these syndromes. Finally, while most memory studies have experimentally manipulated emotional dimensions like arousal and valence, how specific emotions (anger, guilt, pride, etc.) impact memory function remains relatively unexplored. Recent empirical work has suggested that emotional experiences are best captured by theoretical models that incorporate both emotional dimensions and discrete emotions (Cowen & Keltner, 2017). Emotions like sadness and fear may differentiate memory alterations in disorders like unipolar depression and PTSD, respectively, better than (or in addition to) more general emotional dimensions. Moods and specific emotions may thus provide additional routes to memory modulation that are likely to be important contributors to cognitive dysfunction in affective disorders.

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