

**“[Don’t] leave the science out”:**

**An argument for the necessary pairing of cognition and culture**

This article arises from the experience of having presented research from my literature PhD and being told, by an eminent critic at a literature conference, that he liked my paper but it would be better if I were to “leave the science out.” My thesis was interdisciplinary with experimental psychology, reading research on the cognitive workings of memory alongside the poetic engagements with memory offered by the poetry of Thomas Hardy and Robert Frost. Though not formally co-supervised, I was often found bending the ears of those in the psychology department or questioning them by email. In the conference paper, I was drawing from the field of social cognition because of the following two facts: scientific studies demonstrate that people remember others by reducing them to stereotypical features related to their profession; Thomas Hardy had a career-long habit of individuating characters who might otherwise be consumed into an undifferentiated category, such as “labourers.”<sup>1</sup> For the literary critic in question, these two modes of thinking through the same questions bore no relation to one another.

It was no mistake that this scholar used the catch-all term “science,” rather than the more precise “psychology,” in the construction “leave the science out.” As a literature and science PhD student, and now as an Early Career Researcher, I’ve been told many times that English does not need to be “propped up” by the sciences, but that’s never what I’ve suggested. As we are all aware, allowing a co-operative rather than competitive relation between literature and science leads to insightful and provocative research; no-one is asking that literature be treated as nothing more than data, but instead signalling that results provided by psychological experimentation bear interestingly on literary texts. Only pockets of literary scholarship have taken what might be called a cognitive turn, where the use of psychological sources is an accepted methodology.<sup>2</sup> Yet psychology is fundamental to the writing (and

reading) of texts, since they are the products of the same human minds which psychology seeks to understand. The many shared disciplinary concerns between literature and psychology include patterns of thought, perception and affect.<sup>3</sup>

I've thought a lot about how I would (should) have replied to my senior. In what follows, I offer three ways of thinking about why, in this case, cognitive psychology should be left in discussions of literary texts and culture.

#### Do not fear anachronism: Contemporary science is relevant

One thing I've noticed within literature and science circles is that outside certain specific fields (such as medical humanities), scholars are quite coy about including contemporary scientific thinking in their research. By "contemporary," I mean those advances in scientific knowledge which occurred after a writer has published their work. Admittedly, this phenomenon is in part due to the fact that many literature and science scholars might self-describe as history of science specialists. However, there seems to be an anxiety around reading older literature alongside contemporary scientific discoveries – a New Historicist anxiety that being anachronistic might taint one's reading of literature in all kinds of unforgivable ways.

While there are many points to be made about what could and could not be known at the time of the production of a given literary work, scholars should feel more relaxed about responding to the wealth of information gained in the intervening years. In my own work, I've primarily looked at cognitive psychology (which has historical ties to literary criticism, thanks to William James and, later, I. A. Richards), discovering the ways in which humans are inclined to think has implications for how they write, and how they read.

As a recent PhD student, I am well aware of the oft-touted test of one's research: does it constitute "an original contribution to knowledge?" One way to ensure that it does is

to apply what is now known about the mind, and its cognitive predispositions to what was known by a given author. To do so is not to claim, for example, that Hardy knew about social cognition or people schemas, but nor should we attempt the impossible pretence that our perimeter of scientific knowledge matches Hardy's. Re-evaluating, in this case, Hardy's emphasis on individuation in light of current scientific thinking makes his project all the more notable, since he was warring (whether he knew it or not) not just with cultural containers but with adaptive cognitive functions designed to cut down on what mental processing deems unnecessary detail. By unveiling what the mind naturally filters out, scholars can begin to re-focus attention on the efforts of writers to direct readers to details which would otherwise pass us by. To look back through the lens of (halting) scientific progress is to realise the vital work of poetry: Hardy rebuts the brain's quotidian routines by refusing to reduce human beings to categorical data.

#### Culture without cognition isn't possible

Culture is not something which exists by itself. It is made up (both comprised and created) of individuals, all of whom process their experiences with recourse to their brains. For me, at least, "leaving the science out" involves pretending that literature isn't written and read by human beings. Hardy himself observed patterns of thought in the way that culture encourages us to think about people: his sarcastic poem "The Conformers" foregrounds the loss of individual identity that comes with marriage, as a couple inadvertently "conform" to expected cultural norms after death. While this pair of lovers begin as the cause of dynamic gossip "with their wild romance," by the end of the poem they become the twin graves which occasion the closing remark "In them we lose / A worthy pair, who helped advance / Sound parish views."<sup>4</sup> Glib, yes, but an index of Hardy's insistence that that individual

characteristics remain, rather than being re-made in the mould of cultural continuation: in this case, the Church's stable view of marriage.

The conference paper to which the elder academic objected read Hardy's poetry alongside Claudia Cohen's 1981 experiment into social perception. Participants in the latter were shown a video of a woman and told either that she was a librarian or a waitress. Consistent with this knowledge, those who thought the woman a librarian remembered that she wore glasses and liked classical music: category-based processing influenced memory. I'm not claiming that this is necessarily surprising, but that later experimentation has validated Hardy's fears: he was right to ask "Will any say ...[he] used to notice such things?" in "Afterwards," because social cognition proves how much goes unnoticed at the time, or is later forgotten.

Donal Carlston calls this "trait inference memory": gauging another's character and remembering their traits. Having noted that "memory for trait inferences, like semantic memory, involves a greater level of cognitive and semantic involvement than event memory," Carlston defines trait inferences as "relatively processed representations of what an observer thinks characterizes a particular person."<sup>5</sup> This is closer to what Hardy tries to replicate: those characteristics encoded during interaction and retained afterwards. Hamilton, Katz, and Leirer further explore how information about a person is acquired and organized. In explaining this, they define an impression as "a perceiver's organized cognitive representation of another person."<sup>6</sup> Declaring it "intentionally broad," this emphasises again the difficulties in detailing psychologically how so complex a thing as identity is understood.

"Impression" is a shared term. Hardy prefaced his 1901 collection with the assertion that "unadjusted impressions have their value, and the road to a true philosophy of life seems to lie in humbly recording diverse readings of its phenomena as they are forced upon us by chance and change."<sup>7</sup> "Change" denotes how fast such phenomena speed past the

experiencer: Hardy's poetry aims in part to simulate the experience of perception. While Hardy is interested in the nature of how impressions occur, impression formation is at the heart of work in person perception.<sup>8</sup> Though experiment and poetry collection are separated by eighty years, they share an insight into the importance of the quickly-formed impression. For different reasons, both Hardy and later scientists sought to shed light on "this process of 'making sense'" of varied information to form "an overall impression of a person."<sup>9</sup> Perhaps, in order to understand memory for identity, psychology needs literature as much as I suggest literature benefits from scientific insight.

There is a general acceptance of cultural memory's principle that "the individual will mostly remember what the social group he belongs to remembers and repeats to him," and Hardy's focus on individuation has been thoroughly explored in relation to John Stuart Mill's "Of Individuality."<sup>10</sup> However, adding the cognitive angle of person perception to these understandings helps to complete the picture of how Hardy's poetry handles the memory of individuals. Thanks to scholars like Lisa Zunshine, cognition and culture are beginning to merge: the recent field of cognitive cultural studies, which "combines literary and cultural analysis with insights from neuroscience, discursive psychology, cognitive evolutionary psychology and anthropology, cognitive linguistics, and philosophy of mind," is gaining ground, at least in the US.<sup>11</sup> Notably, psychologist Perry R. Hinton (an expert on stereotyping) entitled his 2016 book *The Perception of People: Integrating Cognition and Culture*, suggesting that when humans are the subject of study, the two fields should be considered together. Throughout, Hinton recognises that "Much of what we know, and indeed who we are, comes from being immersed in culture."<sup>12</sup> In *The Psychology of Interpersonal Perception* (1993), Hinton refers to Isherwood and Sherlock Holmes, and quotes Charlotte Bronte (*Jane Eyre*) and Shakespeare (*Julius Caesar*) by page 12: Hinton uses literature to demonstrate the inferences we make about other people.<sup>13</sup> Since it is a

written record, literature provides suggestive evidence of person interactions and a mind processing character traits. There is a growing movement towards the dual appreciation of cognition and culture, seeing them as mutually constitutive rather than understanding them by means of the now-outmoded notion of two distinct] cultures (though again, this is much more active in America than Britain and has traditionally been weighted towards anthropology, history, and philosophy rather than literature).<sup>14</sup>

To temper this view – and to encourage the continued alliance of disciplines – I offer here a phrase Hardy copied from a 1907 *Albany Review*:

The CLARITY OF SCIENCE proves upon a close examination to be no more than this, that its results are more easily demonstrated than are other results. The advantages which the truths of physical science have over the truths of metaphysic is not that the former are more true than the latter – in truth there is not a more or less – but that they are more demonstrable.<sup>15</sup>

One subject is not to be rated higher than the other: these are different kinds of knowledges, brought together to open up new lines of enquiry. Hardy himself underlined “more true,” as if he weighed this intellectual proposition carefully. While scientific results are “more easily demonstrated” through empirical findings, it is poetry’s possibilities for nuance, subtlety, and further resonance which help us understand these same propositions about human interactions from an alternative, but related, standpoint.

#### Scholars of science welcome literary discussions

If I had left the science out of my PhD altogether, I would have forgone a wealth of intellectually stimulating engagements with academics from scientific disciplines which are still paying scholarly dividends now. But there were repeated calls for the impressionable, junior scholar I was to do so: during the PhD upgrade procedure, and in conversation with English faculty members from a variety of (British) institutions, especially whenever the job

market was discussed. As an ECR I still find myself guided away from my chosen interdisciplinary path, with a recent Reviewer 1 confessing “It may be my prejudice against cognitive psychology as applied to literature” while declining – otherwise fairly – an article I had written.<sup>16</sup>

In my experience, psychologists are open to the application of their field to literature, whereas within literary studies only the minority already working within literature and science are sympathetic to the idea (even then, psychology forms a relatively small part of literature and science scholarship). Though this may not translate to conference attendance (as Jay A. Labinger showed in his JLS piece), the keenness to share ideas exists and awaits harnessing by sufficiently dedicated scholars, especially since experimental psychologists note that it “seems increasingly clear that human thought develops in a cultural context, and that cultural processes markedly affect the functioning of minds.”<sup>17</sup>

I wonder if the difference in willingness to approach the partner discipline stems from not just issues of funding and perceived “professional benefit” (as Labinger points out), but the greater accessibility of literature than science.<sup>18</sup> Of the psychologists, neuroscientists, and medical doctors with whom I’ve spoken, many are very knowledgeable about literature. It is fairly easy to participate in poetry as an interested amateur, but there are more bars to engaging with psychology: once any science subject is whittled out of your education, it is hard(er) to get back into the fold. This is perhaps a difference exacerbated in Britain, where the university system narrows subject choice at BA level. In recounting the “Science Wars” of the 1990s, Labinger mentions the negative perspective some scientists took of “those who presume to speak from positions outside science.”<sup>19</sup> In my experience, there is also a dim view taken (by some literary scholars) of those who presume to speak about science from positions inside literature. The two cultures are not an intellectual problem, but an

institutional one. This divide is institutionally constructed by the (understandable) rigours of specialist degrees, and socially reified by those scholars patrolling disciplinary borders.

Except that it would sound unforgivably boastful, I'd advocate humility from both scientists and arts/humanities scholars. Without humility, I would never have taken an online introduction to psychology (thanks MITOpenCourseWare) and ended up contacting, and meeting, Prof. John Gabrieli, who is – to a memory scholar – a key figure due to his work with patient H.M..<sup>20</sup> A world-renowned neuroscientist gave up an hour to talk to me, a nobody, about the possible mnemonic value of metaphor *just because it interested him*. As Labinger suggests, “tak[e] a scientist to lunch”: there is a great deal more collaboration which we could be setting in motion.<sup>21</sup> There is an untapped enthusiasm waiting to set in motion further literature and science scholarship which I can't wait to read.

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1. On this, see (in the first instance) Hardy's 1883 essay “The Dorsetshire Labourer.”

2. By “cognitive” I highlight the study of mental processing, while “psychology” is the larger academic field. As the next paragraph shows, cognitive psychology is a particular branch of study concerned with information processing. However, cognitive psychology research has significant crossover with experimental psychology and social psychology (to name but two).

3. Though remaining within the context of science contemporary to the writer, see Gregory Tate's excellent The Poet's Mind: The Psychology of Victorian Poetry 1830-1870 (Oxford: Oxford University Press, 2012) for an example of the close ties between poetry and psychology.

4. Thomas Hardy, The Complete Poems: Variorum Edition, ed. James Gibson (New York: Macmillan, 1979), p. 230.

5. Donal E. Carlston, “Events, Inferences, and Impression Formation,” in Person Memory: The Cognitive Basis of Social Perception, eds. by Reid Hastie, Thomas M. Obstrom, Ebbe B. Ebbesen, Robert S. Wyer, Jr., David L. Hamilton and Donal E. Carlston (Hillsdale, NJ: Lawrence Erlbaum Associates, 1980), pp. 89-119 (p. 92). For a chapter linking implicit social cognition to specific memory processes and models, see Carlston's “Models of Implicit and Explicit Mental Representation,” in The Handbook of Implicit Social Cognition: Measurement, Theory and Applications, eds. by B. Gawronski and B. K. Payne (New York: Guilford Press, 2010), pp. 38-61.

6. David E. Hamilton, Lawrence B. Katz and Von O. Leirer, “Organizational Processes in Impression Formation,” in Person Memory: The Cognitive Basis of Social Perception, eds. by Reid Hastie, Thomas M. Obstrom, Ebbe B. Ebbesen, Robert S. Wyer, Jr., David L. Hamilton and Donal E. Carlston (Hillsdale, NJ: Lawrence Erlbaum Associates, 1980), pp. 121-153 (p. 123).

7. Hardy, Complete Poems (above, n. 4), p. 84. Hardy also announced in 1917 that “the whole mission of poetry is to record impressions, not convictions” (The Life and Work of Thomas Hardy, ed. by Michael Millgate (Basingstoke: Macmillan, 1984), p. 408).

8. Perry R. Hinton devotes a chapter of The Psychology of Interpersonal Perception to “Impression Formation” and the history of experimentation in this area (London and New York: Routledge, 1993), pp. 82-100.

9. Hamilton, “Organizational Processes” (above, n. 6), p. 126.

10. This is Uta Gosmann's paraphrase of Maurice Halbwach's idea from Collective Memory, in Poetic Memory: The Forgotten Self in Plath, Howe, Hinsey, and Gluck (Madison; Teaneck: Fairleigh Dickinson University Press, 2012), p. 353. For J. S. Mill's influence, see Suzanne Keen, Thomas Hardy's Brains: Psychology, Neurology, and Hardy's Imagination (Columbus: University of Ohio Press, 2014), pp. 25-30; Hardy, Life (above, n. 7), p. 59; and Philip Davis, Memory and Writing From Wordsworth to Lawrence (Liverpool: Liverpool University Press, 1983), p. 362.



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11. Lisa Zunshine, "What is Cognitive Cultural Studies?" in Introduction to Cognitive Cultural Studies (Baltimore: The Johns Hopkins University Press, 2010), pp. 1-33 (p. 1). See also Alan Richardson, "Studies in Literature and Cognition: A Field Map," in The Work of Fiction: Cognition, Culture, and Complexity, eds. Alan Richardson and Ellen Spolsky (Aldershot; Burlington, VT: Ashgate, 2004), pp. 1-29.
  12. Perry R. Hinton, The Perception of People: Integrating Cognition and Culture (London and New York: Routledge, 2016), p. 146.
  13. The Bronte and Shakespeare quotations appear in conjunction with a discussion of physiognomy and physique Hinton, Psychology (above, n. 8), pp. 7-8; pp. 11-12.
  14. Beyond Hinton's publications, Mikhail Gronas's Cognitive Poetics and Cultural Memory: Russian Literary Mnemonics (New York and London: Routledge, 2011) specifically engages with literature, as does The Cognitive Humanities: Embodied Mind in Literature and Culture, ed. Peter Garratt (London: Palgrave Macmillan, 2016). The Journal of Cognition and Culture was founded in 2001, though again the editorial board is almost exclusively made up of American academics. In 2004, Queen's University Belfast opened their Institute for Cognition and Culture and while (from the humanities side) it is anchored in anthropology, its aims of bridging humanities and sciences is wholly encouraging. The International Cognition & Culture Institute formed in 2008 (since 2015 the website has been hosted by the Budapest CEU Social Mind Center). While graduate programs are more common in America (such as the University of Michigan at Ann Arbor's Culture & Cognition program), there are increasing options in the UK (such as the University of Edinburgh's MSc in Cognition in Science and Society). Some courses and academics self-define as working within Cultural Psychology, which is another way of naming this field of study.
  15. The Literary Notebooks of Thomas Hardy: Volume 2, ed. Lennart A. Björk (London and Basingstoke: Macmillan, 1985), p. 412 (emphasis in original). This extract is taken from C. F. Keary's "Positivism."
  16. E-mail message to author, January 12, 2018.
  17. Jay A. Labinger, "Where are the Scientists in Literature and Science?" JLS 10.1 (2017): 65-69; Richard E. Nisbett and Ara Norenzayan, "Culture and Cognition," in Stevens' Handbook of Experimental Psychology, Volume 2: Memory and Cognitive Processes 3rd ed., eds. Douglas Medin and Hal Pashler (New York: Wiley, 2002), pp. 561-597 (p. 588).
  18. Labinger, "Where are the Scientists?" (above, n. 17), p. 65.
  19. Labinger, "Where are the Scientists?" (above, n. 17), p. 66.
  20. The patient originally known as H.M. was Henry Molaison, the most studied case of anterograde amnesia and the subject of several scientific papers, and literary texts (including Analogue Productions's play 2401 Objects, whose title refers to the number of slices into which Molaison's brain was dissected during a live screening in 1999).
  21. Labinger, "Where are the Scientists?" (above, n. 17), p. 68.