



# Stream of Consciousness: Some Propositions and Reflections

Nicholas Royle 

Received: 8 February 2024 / Accepted: 24 March 2024  
© The Author(s) 2024

**Abstract** This short communication explores the idea of “stream of consciousness” and considers some of the ways in which scientific writing relies – even or perhaps especially insofar as it does not signal this fact – on the resources of literary language and literary thinking. Particular attention is given to notions of literal and figurative or metaphorical language, including “hydrological” and “ontic” metaphor. A crucial figure is simile (the “like”), discussed here in relation to the Thomas Nagel’s “What is it Like to Be a Bat?”, Todd Feinberg and Jon Mallatt’s *Consciousness Demystified*, and Anil Seth’s *Being You: A New Science of Consciousness*. Neuroethics cannot restrict itself to the domain of technology and the human. The deconstruction of anthropocentrism, already underway in literary modernism, calls for responsibility in relation to non-human as well as human life-forms. Virginia Woolf’s *Mrs Dalloway* provides rich and multifarious resources for exploring these issues. Woolf’s novel is considered as a kind of literary water music, in which sense and feeling is not limited to the human, and distinctions between consciousness and the environment are susceptible to dissolution. Woolf’s work is concerned with a conception of stream of consciousness as telepathic fluidity, as

“merging minds” but without restitution of the individual or collective.

**Keywords** Stream of consciousness · Hydrology · Metaphor · Virginia Woolf · Telepathy · Merging minds

The phrase “stream of consciousness” dates back to at least 1840: in his *First Lines of Physiology*, Daniel Oliver refers to our “mingled and moving stream of consciousness” [1]. But the most influential nineteenth-century usage is in William James’s *Principles of Psychology* (1890). James writes:

Consciousness, then, does not appear to itself as chopped up in bits. Such words as “chain” or “train” do not describe it fitly [...] It is nothing jointed; it flows. A “river” or a “stream” are the metaphors by which it is most naturally described. *In talking of it hereafter, let us call it the stream of thought, of consciousness, of subjective life* [2].

*Influential* is just one of so many waterwords. William James proposes a *river* or a *stream*, but people don’t talk about “river of consciousness”. It’s too big, it’s too scary. We’d be out of our depth. “Stream of consciousness” is manageable: everyone can deal with a stream.

“Stream” is an aquatic metaphor but it’s also a kind of hydronym. The conventional meaning of *hydronym*

---

N. Royle (✉)  
School of Media, Arts and Humanities, University  
of Sussex, Falmer BN1 9QN, UK  
e-mail: n.w.o.royle@sussex.ac.uk

is a place-name deriving from water – the name “Oxford”, for example, or “Cambridge”. Oddly, the word *hydronym* is not in the *Oxford English Dictionary*. I think it merits an appearance also, however, in this more extended sense – where “hydronym” would correspond with nouns like “homonym” or “synonym”. A synonym for “hydronym” would be waterword. Waterwords are everywhere. Time is short. I won’t flood you with examples.

In “Swimming Chenango Lake” (1969), Charles Tomlinson writes of swimming as a way “to take hold / On water’s meaning, to move in its embrace / And to be, between grasp and grasping, free”. “Swimming Chenango Lake” is a poem about “making a where / In water” [3]. Tomlinson is one of the great twentieth-century water-poets in English. In the tradition of John Keats, he would write as if his name were *writ in water*. The play of “a where” and “aware” may not have been intended (“making a *where* in water”): language does not make a where merely in accordance with conscious intention; intention is never fully conscious. A where is a weir. An immense phantom discourse, a ghostly hydronymics, a completely other hydrology flows through, under and over us.

I sense this most when I’m taking a shower. Over the years, standing under falling water has often proved the source of a new thought or idea, a new feeling or realization, I’m in the shower, it’s my humble place of eureka, my Archimedean bath-time, in “the stream of life” to recall the English title of Clarice Lispector’s *Água Viva* (1973), a book in which she declares, “I move within my deepest instincts which carry themselves out blindly. I feel then that I’m close to fountains, lakes and waterfalls, all of overflowing waters. And I’m free” [4].

The following pages are not primarily about language, but as in the case of Kevin we do need to talk about it. Reflecting on language, thinking about words and the peculiar effects they have, in shaping, easing and inveigling us into particular suppositions or assumptions about consciousness and the relations between consciousness and the world, can be surprising and even transformative. At issue is making a where, then, not so much or not simply as a scientist or a philosopher, but in a literary context, from the perspective of the poem or novel. Literature overflows [5]. Scientific and philosophical writings rely – even or perhaps especially insofar as they do not signal this fact – on the resources

of literary language and literary thinking. Moreover, literature is about the relations between consciousness and the world not only in the mode of representation (holding a “mirror up to nature”, as Hamlet says [6]), but also in terms of its capacity to stir, alter and even transform the ways in which we think, perceive and represent. Literature in this respect is about *veering*, making things veer. “Veering” might refer to a person or horse or star or some aspect of consciousness such as memory or desire, but it is also a word that tends to take us back to water, in particular in its nautical connotations. To propose that reading literature entails an experience of *veering* is to suggest a conception of reading that entails both conscious navigation and the workings of what is unforeseeable, uncertain, unknown, not within one’s control, fluctuating (another waterword) [7].

Todd Feinberg and Jon Mallatt’s recent study *Consciousness Demystified* [8] is pitched as a sort of no-nonsense riposte to scientists or philosophers who have been concerned to affirm and explore the mystery of consciousness. Implied targets would include, for example, John Searle’s *The Mystery of Consciousness* and Colin McGinn’s *The Mysterious Flame: Conscious Minds in a Material World* [9, 10]. *Consciousness Demystified* is a concise and richly interesting book, but it is odd that the demystification offered by Feinberg and Mallatt contains no discussion of language.

We are “always already adrift in ontic metaphor [*on a toujours déjà dérivé dans la métaphore ontique*]”, as Jacques Derrida observes [11, 12]. We cannot get away from this, even if *ontic metaphor* might sound oxymoronic. We are adrift or we have drifted into ontic metaphor from the off. *Adrift* and *drifted* are waterwords that match Derrida’s original French *dérivé*: like the English word “derive” (and “derivation”), it comes from the Latin *rīvus* meaning brook or stream. The French *dérivé* is the apparent converse of *arrive*, another waterword that (in French as in English) speaks of what comes to shore. Derrida evidently conceives the task of thinking about metaphor as a water-bound experience. The opening paragraphs of his essay “The *Retrait* of Metaphor” emphasize the metaphor of the vessel and being in open water. From the outset he stresses that we are all “passengers, comprehended and displaced by metaphor” [13].

William James appears to subscribe to some kind of linguistic naturalism when he says that “‘chain’ or ‘train’ do not describe [consciousness] fitly [...] A ‘river’ or a ‘stream’ are the metaphors by which it is most naturally described”. There are no natural metaphors. Since James wrote these words, *chain* and *train* may have come to seem more fitting, but what is fitting or “fitly” is itself figurative. It denotes or lays claims to what is proper or appropriate. Western culture is immersed in a *crisis of the proper*. This has been proposed as a definition of the uncanny: uncanniness is “a crisis of the proper” [14]. This crisis can also be considered in terms of a crisis of metaphor, of proper or literal in relation to figurative or metaphorical language. It is especially evident, I would argue, in relation to that type of metaphor we call simile, the trope of similarity, comparison or resemblance, whereby one thing is said to be *like* something else.

How do scientists deal with metaphors? How do you feel when someone says *stream of consciousness*? According to Andrew E. Budson, Kenneth A. Richman and Elizabeth A. Kensinger, in their recent article “Consciousness as a Memory System”, we all feel the same thing, it doesn’t call for any further elucidation. Budson, Richman and Kensinger declare:

We all feel that James’s 1890 [*Principles of Psychology*] metaphor of a stream of consciousness is intuitively correct, with the momentary *now* where we are standing in the river, past events flowing progressively *downstream*, and future *upstream* events that are going to occur rushing toward us. Part of the power of this metaphor is that it is fairly linear. Yet, we know that the brain is processing a massive amount of information in parallel. Why do we experience events serially instead of in the parallel manner that the brain processes them? We would argue that it is because it is a property of our conscious memory system to remember – and thus to consciously experience – events serially in time [15].

The authors don’t say “chain” or “train”, but the language (“in parallel”, “serially”) is not far from it. The “stream of consciousness” they evoke sounds eminently reasonable. It is presented as something that can be more or less taken for granted. But their “stream of consciousness” (the authors’ use of the phrase and their apparent understanding of it) is not

the same as William James’s. “We are standing in the river...”: James does not speak of standing in it. And is it a river or a stream? Are we inside or outside it? “We all feel that James’s metaphor... is intuitively correct.” What is going on when one calls a metaphor “intuitively correct”? “We all feel...”: the discourse of cognitive neuropsychology or neuroscience here sounds like literary criticism a hundred years ago or, still more strangely perhaps, the purportedly omniscient narrator of a nineteenth-century novel.

The metaphors we use to describe consciousness also – and perhaps first of all – use us. Some metaphors are more appealing than others. I don’t want to branch off here into another tributary, as it were, devoted to lengthy analysis of the metaphorical language of contemporary science. Permit me to give just one more brief example. In his book *The Conscious Mind* (2014), Zoltan Torey takes issue with how Antonio Damasio talks about consciousness: “[Damasio] seems to think of consciousness as a quality that came on gradually, rather than as a crisp and defining neurofunctional innovation that rewired the human brain and gave it leverage for self-handling” [16].

Metaphor rules – but perhaps not OK. For a split second you might be forgiven for supposing that consciousness “com[ing] on gradually” sounds rather nice, like the euphoric effect of some drug. But that’s quite wrong, wake up, pull yourself together: Torey is proposing that consciousness is “a crisp and defining neurofunctional innovation”. Consciousness, he observes, “rewired the human brain and gave it leverage for self-handling”. It is such a metaphorical pickle, mixing the electrical (*rewiring*) and the mechanical (*leverage*), including a suggestion of the commercial and financial (*innovation* and *leverage* again), along with the perhaps inadvertently onanistic anthropomorphism of *self-handling*.

“Stream of consciousness” has a certain beauty, but it is not innocent, any more than it is random. It also compels rumination on non-human life, perhaps especially birds. As Feinberg and Mallatt note: “Most people who study consciousness have gone beyond the long-held notion that only humans have primary consciousness. Many now assign consciousness to all mammals and birds” [17]. The metaphor of “stream of consciousness” is well-known. Less widely acknowledged is the fact that, in the same chapter of *Principles of Psychology*, William James develops

and shifts the metaphor specifically in an avian direction: “As we take [...] a general view of the wonderful stream of our consciousness, what strikes us first is [the] different pace of its parts. Like a bird’s life, it seems to be made of an alteration of flights and perchings” [18].

We have been invited to ponder questions that are moral and ethical but also to do with pleasure: “What constitutes meaningful or desirable states of consciousness? What is a good life?” [19] At issue here, *inter alia*, is the deconstruction of anthropocentrism. Neuroethics cannot restrict itself to the domain of technology and the human. The deconstruction of anthropocentrism, already manifestly underway in post-Darwinian philosophy and literary modernism, calls for responsibility in relation to non-human as well as human life-forms. “Consciousness is not the special preserve of the human”: this is a key proposition in *An English Guide to Birdwatching*, a book categorized by the publishers as a novel, but just as much, at least according to its author, an attempt to elaborate a new kind of ornithological writing [20]. With particular attention to corvids, and notably indebted to the work of John Marzluff and Tony Angell [21], *An English Guide to Birdwatching* seeks to investigate a conception of consciousness acknowledging that “memory, mourning, fear, pleasure, play, pain, fidelity, learning, risk-taking, planning, minding secrets: all of these we share with the birds” [22].

A pivotal figure in thinking about all this is how we understand and what we do with the “like” – for instance the *like* in William James’s proposition that the movements and rhythms of “stream of consciousness” are “like a bird’s life”. Feinberg and Mallatt register this at the start of *Consciousness Demystified* when they invoke Thomas Nagel’s remark in his 1974 essay “What is it Like to be a Bat?”: “Fundamentally an organism has conscious mental states if and only if there is something that it is like to *be* that organism” [23]. We cannot explain “the ‘gap’ between the brain and the most basic forms of subjective experience”, Feinberg and Mallatt observe, without reckoning with the question and experience of the “like”, of what it is “like to be”. A corresponding gesture is made by Anil Seth at the start of his *Being You: A New Science of Consciousness* [24]. In response to the question “What is consciousness?”, Seth draws on Nagel’s essay to propose that “For a conscious creature, there is something that it is like to *be* that creature. There

is something it is like to be me, something it is like to be you” [25]. The scientist’s desire may be to stress (and literally to italicize) the “be”, but that *being* is afloat, we might say, specifically thanks to the *like*. In the work of Nagel, Feinberg and Mallatt, and Seth in turn, the “like” plays a seemingly peripheral yet crucial role.

*An English Guide to Birdwatching* is concerned with this *like*. It is about tracing, imagining, dream-engineering kinds of consciousness that would reckon in new ways with the experience of resemblance (metaphor and simile) and the reality of birds, the birds in the world and the birds inside us, birds already extinct and birds to come. A shift in thinking about *like* is also a key element in Peter Boxall’s recent study of the novel, *The Prosthetic Imagination* [26]. He is especially concerned to explore how a new creative and critical apprehension of simile – “like an animal”, “like a fish” or like “birds” – goes along with a new sense of “consciousness blending with the environment” [27]. Arguing for “a new kind of consciousness”, beyond “the mechanics of likeness”, it is perhaps not by chance that the conclusion to *The Prosthetic Imagination* is (in the neologistic sense I am trying to develop here) hydrological: Boxall’s final sentence speaks of how “the novel imagines unthought conjunctions between human memory and the blue sea, the blue sky, our planet of the sheerest, wildest blue” [28].

“Stream of consciousness” is a familiar, perhaps over-familiar term in literary studies. What is familiar is always susceptible to becoming unfamiliar. *Encyclopaedia Britannica* offers the following summary:

As the psychological novel developed in the 20th century, some writers attempted to capture the total flow of their characters’ consciousness, rather than limit themselves to rational thoughts. To represent the full richness, speed, and subtlety of the mind at work, the writer incorporates snatches of incoherent thought, ungrammatical constructions, and free association of images, and words at the pre-speech level [29].

This is quite an odd description. It seems borne along by a fantasy of totalization and plenitude (“total flow”, “full richness, speed and subtlety”). It implies, somewhat absurdly, that the pre-twentieth-century novel was “limit[ed]” to characters’ “rational

thoughts”. But in its foregrounding of “incoherent thought”, “ungrammatical constructions”, “free association of images” and “the pre-speech level”, the encyclopedia helpfully points to what was always a fundamental problem with the phrase “stream of consciousness” in the context of the so-called psychological novel, namely that it is as much about the unconscious as about what is conscious. As a literary critical term, “stream of consciousness” came into fashion around the same time as “omniscience”: the concepts are clearly linked, both in terms of an underlying fantasy of total knowledge and in terms of a resistance to or disavowal of psychoanalysis with its arguments for the illusions and delusions of sovereignty (“His Majesty the ego”, as Freud liked to say) and for the privations and decentring of consciousness.

The *Encyclopaedia Britannica* focuses on “the mind at work”, i.e. the mind of a selected character. This supposition is open to question. Let us consider just one example, a text often cited as a classic “stream of consciousness” novel, first published in 1925, Virginia Woolf’s *Mrs Dalloway* [30]. In the following passage “the mind at work” is – we might provisionally say – that of Peter Walsh, who has returned to England after many years away in India and is now walking back to his London hotel, having earlier met with the woman he loved and indeed evidently still loves, but the woman who rejected him, Clarissa Dalloway. As he walks, he is accompanied and affected by the sight and sound of an ambulance speeding to hospital, a matter of life or death, life *and* death:

And yet, thought Peter Walsh, as the ambulance turned the corner though the light high bell could be heard down the next street and still farther as it crossed the Tottenham Court Road, chiming constantly, it is the privilege of loneliness; in privacy one may do as one chooses. One might weep if no one saw. It had been his undoing – this susceptibility – in Anglo-Indian society; not weeping at the right time, or laughing either. I have that in me, he thought standing by the pillar-box, which could now dissolve in tears. Why, Heaven knows. Beauty of some sort probably, and the weight of the day, which beginning with that visit to Clarissa had exhausted him with its heat, its intensity, and the drip, drip, of one impression after another

down into that cellar where they stood, deep, dark, and no one would ever know. Partly for that reason, its secrecy, complete and inviolable, he had found life like an unknown garden, full of turns and corners, surprising, yes; really it took one’s breath away, these moments; there coming to him by the pillar-box opposite the British Museum one of them, a moment, in which things came together; this ambulance; and life and death. It was as if he were sucked up to some very high roof by that rush of emotion and the rest of him, like a white shell-sprinkled beach, left bare. It had been his undoing in Anglo-Indian society – this susceptibility [31].

I would like to offer, in conclusion, three brief reflections on stream of consciousness in the context of this passage. I hope that each of these, in turn, might enhance critical attention to the rich and strange possibilities of “reflection” as, at least occasionally, another waterword. (“Rich and strange”, it may be recalled, is Ariel’s phrase, in Shakespeare’s *The Tempest*, for “sea-change” [32].)

First reflection: “stream of consciousness” here is first and foremost about how “things [come] together” in the writing, in what can be called Virginia Woolf’s signature, in its musicality and idiom, in the rhythms and repetitions, pauses and anaphora. What is at issue in this coming together, in the movement of the writing, is also something that consciousness studies cannot articulate but is nonetheless organized around, namely death, the entirely other. It is everywhere, but perhaps most insistent in the figure of the ambulance, “chiming constantly”: “this ambulance; and life and death”.

The passage is remarkable, too, for thinking about the nature and effects of metaphor and simile (“like an unknown garden”, “as if he were sucked up”, “like a white shell-sprinkled beach”), and how the prose veers towards a dissolution of consciousness and the environment. This is perhaps most arrestingly marked in the amphibological sentence: “I have that in me, he thought standing by the pillar-box, which could now dissolve in tears.” The final clause invites being read primarily in relation to the inside (to what Peter Walsh has *in* him: his “I have that in me” recalls Hamlet’s “I have that within which passes show” [33]), but it can also be read in relation to the outside (the pillar-box opposite the British Museum).



*Mrs Dalloway* is, among other things, wonderfully fertile from a hydrological perspective. The novel is a kind of literary water music. Everything is flowing, waving, surging, rippling, dissolving, awash. This is perhaps most succinctly encapsulated in the proposition, which appears quite early on, that “there are tides in the body” [34].

How should we navigate the Woolfian water-words in the passage? There is “the drip, drip, of one impression after another” going down into the cryptic cellar of shared memories; the implied tidal wave or tsunami of Peter Walsh’s being “sucked up” by “that rush of emotion”, leaving the “white shell-sprinkled beach” of “the rest of him ... bare”; and then there is the question of weeping (does Peter Walsh weep, do tears arrive or derive in Woolf’s words?), it’s the uncanniness of crying, the water that might start out of our own eyes, dissolving us and the outside at the same time, dissolving the pillar box, dissolving the British Museum.

Second reflection: this passage suggests a linear conception of consciousness that can be represented in terms of a succession of moments. It’s “the drip, drip, of one impression after another” and what Woolf’s novel elsewhere evokes as “life itself, every moment of it, every drop” [35]. It is about what the passage refers to as “these moments” and, then again, the “moment, in which things came together”. Woolf’s writing illustrates the modernist legacy of Walter Pater, specifically in terms of that privileging of “moments” described in the extraordinary final pages of his book *The Renaissance* (1873) [36]. In play here is the romantic and post-romantic conception of the subject’s self-presence in the now, a conception that dates to the late eighteenth century. This is what Jacques Derrida locates, in a decisive manner, in the writings of Jean-Jacques Rousseau (1712–1778): Rousseau “starts from a new model of presence: the subject’s self-presence within *consciousness* or *feeling*” [37].

Derrida might not be the first philosopher to come to mind in the context of the study of consciousness, but it was a key figure of fascination for him. As he wondered in 1987, in an essay on secrets and secrecy: “Is any problem more novel today than that of consciousness?” [38]. Some of the arguments formulated in Budson, Richman and Kensinger (2022) correspond with Derrida in striking ways. Derrida’s work entails a questioning and dislocating of what we think

of as presence and the present. In this he followed what he considered to be Freud’s greatest discovery, namely deferred sense or delayed effect (*après coup*, *Nachträglichkeit*) or what Budson, Richman and Kensinger refer to as “the slow speed and after-the-fact order of consciousness” [15].

At the famous “structuralism” conference in Baltimore in 1966, Derrida remarked: “Perception is precisely a concept, a concept of an intuition or of a given originating from the thing itself, present itself in its meaning, independently from language, from the system of reference... I don’t believe that there is any perception” [39]. He is referring to *différance* and the logic of the trace, but his remark also resonates with Budson, Richman and Kensinger’s argument that “we do not consciously perceive events directly in real time” or, more succinctly phrased, “conscious perception is a memory” [15].

Literature has unique value as a space in which we can attend to forms of delay and deferral, to how “the moment” or “the present” calls to be perceived and thought differently, deranged, dissolved, written in new and unfamiliar ways. Stream of consciousness writing such as Woolf’s remains multifariously resourceful in this context. The flourishing of “creative non-fiction” in recent years, as a supplement to and shift in the forms of novelistic writing practice, is indicative of the pressures and challenges attendant on the task of producing forms of writing that seek to reckon with the temporal, philosophical, affective and often traumatic swirls and eddies of being (for human but also nonhuman life-forms) in the contemporary world.

Third and final reflection on this passage about Peter Walsh walking back to his hotel: there is never any single “mind at work” (to recall that phrase from the *Encyclopaedia Britannica*). At no moment is there only one mind. Indeed, there is no stream of consciousness or, at least, *there is never only one*: stream of consciousness entails telepathy. At issue here is what Feinberg and Mallatt call, in a not very lovely but nonetheless significant phrase, *allo-ontological irreducibility*. They write: “*Allo-ontological irreducibility* means that an outside observer has no access to a subject’s conscious experience” [40]. Novels explore – but also interfere with – allo-ontological irreducibility: to read a novel by Virginia Woolf is to enter a telepathic space in which we are given access to the mind and body of another and others. It is

telepathic, not omniscient. It is not about fullness or totalization of knowledge. It is at once a sharing and wavering of minds, voices and identities. The narrative voice and character's voice (the apparent transcription or evocalization of their inner world, perceptions, thoughts and feelings) glide or jostle, merge and diverge, together and apart. There is a force of veering, uncertainly shifting in and out of consciousness, in and out of a mind and body which might be human (such as Peter Walsh or Clarissa Dalloway) or might be a bird (as when, a few pages earlier, Septimus, in a perhaps deliberate Jamesian echo, 'could feel [Rezia's] mind, like a bird, falling from branch to branch' [41]) or might be a dog (such as Flush in Woolf's marvellous little book of that title [42]).

Telepathy in *Mrs Dalloway* can take the form of something like the "we all feel" discussed earlier. So it appears, for example, with this exclamation midway through the novel: "Peter Walsh! All three, Lady Bruton, Hugh Whitbread, and Richard Dalloway, remembered the same thing – how passionately Peter had been in love; been rejected; gone to India; come a cropper; made a mess of things" [43]. But more radically, Woolf's *Mrs Dalloway* seems to be concerned with affirming irreducible otherness, a freeing from proper names, a space of poetic veering, constantly drawing beings and identities together and apart. As readers we are gathered into an apprehension, between grasp and grasping, that stream of consciousness might most productively be conceived as telepathic fluidity. But this is not telepathy anchored in discrete identities, with corresponding proper names. It is more akin to the impulses at work in David M. Lyreskog et al. (2023) and their argument that we need "to move beyond binary approaches to thinking about agency and responsibility (i.e. that they are either individual or collective)" [44].

At issue here, then, is not "interior monologue", such as we might describe Molly Bloom's speech at the end of James Joyce's *Ulysses*, a speech in relation to which the author may appear to have pared his fingernails and moved off stage for the duration. Nor is it simply a matter of what Perry Meisel calls, following Victor Egger, "the word within" (*la parole intérieure*) [45]. Stream of consciousness is always more and other than *conscious*, more and other than *one* consciousness, *one* voice, *one* person's word or discourse. It is the outpouring and overflowing of point of view. It is a proliferation of springs and sources.

It is the lucid and precise madness of the flows and stops, undecidably inside or outside, inside *and* outside, surprising, yes, the drip, drip, the eddies and ripples, the secret cellars and unknown gardens, flowing and undertowing, waving and drowning, disowned or disowning, tapping and overlapping, veering and careering, dreaming and streaming, the tears and dissolutions that haunt the discourse of "consciousness studies". Stream of consciousness writing such as Woolf's is perhaps the most fluent and articulate approximation we have to a transcription and exploration of the reality of merging minds, without restitution of the individual or collective.

### Declarations

**Competing Interests** There are no competing interests.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

### References

1. Oliver, Daniel. 1840. *First lines of physiology: designed for the use of students of medicine*. Philadelphia: Hooker. Accessed at <http://resource.nlm.nih.gov/61340350R>. Accessed 28 Mar 2024.
2. James, William. 1890. The stream of thought (Chapter 9), in *Principles of Psychology*. London: Macmillan. 239, original emphasis.
3. Tomlinson, C. 1987. Swimming Chenango Lake (1969). In *Collected Poems*. Oxford: Oxford University Press. 155.
4. Lispector, Clarice. 1989. *The stream of life [Agua Viva]*, trans. Elizabeth Lowe and Earl Fitz. Minneapolis: University of Minnesota Press. 21.
5. Royle, Nicholas. 2003. *The uncanny*, 68. Manchester: Manchester University Press.

6. Shakespeare, William. 2003. *Hamlet*, ed. Philip Edwards. Cambridge: Cambridge University Press. Act 3, scene 2, lines 18–19.
7. Royle, Nicholas. 2011. *Veering: A theory of literature*. Edinburgh: Edinburgh University Press.
8. Feinberg, Todd, and Jon Mallatt. 2018. *Consciousness demystified*. Cambridge, MA: MIT Press.
9. Searle, John. 1990. *The Mystery of Consciousness*. New York: New York Review of Books Inc.
10. McGinn, Colin. 1999. *The mysterious flame: Conscious minds in a material world*. New York: Basic Books.
11. Derrida, Jacques. 1973. Derrida, *Speech and phenomena and other essays on husserl's theory of signs*, trans. David Allison. Evanston, Illinois: Northwestern University Press. 85.
12. Derrida, Jacques. 1967. *La voix et le phénomène: Introduction au problème du signe dans la phénoménologie de Husserl*, 95. Paris: PUF.
13. Derrida, Jacques. 2007. The *Retrait* of metaphor, trans. Peggy Kamuf. In *Psyche: Inventions of the Other*, vol. 1, ed. Peggy Kamuf and Elizabeth Rottenberg. Stanford: Stanford University Press. 48.
14. Royle, *The Uncanny*, 1.
15. Budson, Andrew E., Kenneth A. Richman, and Elizabeth A. Kensinger. 2022. Consciousness as a memory system. *Cognitive and Behavioral Neurology* 35: 4 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9708083/>.
16. Torey, Zoltan. 2014. *The conscious mind*, 128. Cambridge, MA: MIT Press.
17. Feinberg and Mallatt, *Consciousness Demystified*, 26.
18. James, *Principles of Psychology*, 243.
19. <https://www.politics.ox.ac.uk/event/consciousness-inter-disciplinary-conference>. Accessed 28 Mar 2024.
20. Royle, Nicholas. 2017. *An English Guide to Birdwatching*, 296. Brighton: Myriad.
21. Marzluff, John, and Tony Angell. 2012. *Gifts of the crow: how perception, emotion, and thought allow smart birds to behave like humans*. New York: Simon and Schuster.
22. Royle, *An English Guide to Birdwatching*, 297.
23. Nagel, Thomas. 1974. What is it like to be a bat? *Philosophical Review* 83 (4): 435–450 cited in Feinberg and Mallatt, *Consciousness Demystified*, 2, original emphasis.
24. Seth, Anil. 2021. *Being you: a new science of consciousness*. London: Faber and Faber.
25. Seth, *Being You*, 11, original emphasis.
26. Boxall, Peter. 2020. *The prosthetic imagination: a history of the novel as artificial life*. Cambridge: Cambridge University Press.
27. Boxall, *The prosthetic imagination*, 345–8, 338.
28. Boxall, *The prosthetic imagination*, 352–4.
29. <https://www.britannica.com/art/stream-of-consciousness>. Accessed 28 Mar 2024.
30. Woolf, Virginia. 1981. *Mrs Dalloway*. London: Harvest.
31. Woolf, *Mrs Dalloway*, 151–2.
32. Shakespeare, William. 2011. *The tempest*, ed. Virginia Mason Vaughan and Alden T. Vaughan. London: Bloomsbury. Act 1, scene 2, lines 401–2.
33. Shakespeare, *Hamlet*, Act 1, scene 2, line 85.
34. Woolf, *Mrs Dalloway*, 113.
35. Woolf, *Mrs Dalloway*, 79.
36. Pater, Walter. 1919. *The Renaissance*, 194–199. New York: Modern Library.
37. Derrida, Jacques. 1976. *Of Grammatology*, trans. Gayatri Chakravorty Spivak. Baltimore: Johns Hopkins University Press. 98.
38. Derrida, Jacques. 1989. How to avoid speaking: Denials, trans. Ken Frieden. In *Languages of the Unsayable: The Play of Negativity in Literature and Literary Theory*, ed. Stanford Budick and Wolfgang Iser. New York: Columbia University Press. 17.
39. Derrida, Jacques. 1972. Discussion following “Structure, sign, and play in the discourse of the human sciences”. In *The Structuralist Controversy: The Languages of Criticism and the Sciences of Man*, ed. Richard Macksey and Eugenio Donato. Baltimore: Johns Hopkins University Press. 272.
40. Feinberg and Mallatt, *Consciousness Demystified*, 124.
41. Woolf, *Mrs Dalloway*, 147.
42. Woolf, Virginia. 2019. *Flush Richmond*. Surrey: Alma Classics.
43. Woolf, *Mrs Dalloway*, 107.
44. Lyreskog, David M., Hazem Zohny, Julian Savulescu and Iliana Singh. 2023. Merging minds: the conceptual and ethical impacts of emerging technologies for collective minds, *Neuroethics* 16. <https://link.springer.com/article/10.1007/s12152-023-09516-3>. Accessed 28 Mar 2024.
45. Meisel, Perry. 2022. *Criticism after theory: from shakepeare to virginia woolf*, 9–10. London: Routledge.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.