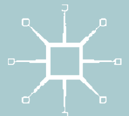
Cognitive Joyce

Cognitive Studies in Literature and Performance

EDITED BY
Sylvain Belluc & Valérie Bénéjam



Cognitive Studies in Literature and Performance

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In memory of André Topia

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Abbreviations

References to the publications listed below appear throughout this volume as abbreviations followed by page number, unless otherwise specified. Editions of Joyce's works other than those cited below are indicated in the chapters' notes and listed in the bibliographies.

Works by James Joyce

CW *The Critical Writings of James Joyce*. Eds. Ellsworth Mason & Richard Ellmann. New York: Viking, 1959.

D *Dubliners: Text, Criticism, and Notes*. Eds. Robert Scholes & A. Walton Litz. New York: Viking Press, 1967.

FW *Finnegans Wake*. New York: Viking Press, 1939: London: Faber & Faber, 1939. These two editions have identical pagination. References are by page and line, or occasionally by book and chapter.

JJA *The James Joyce Archive*. Ed. Michael Groden et al. New York & London: Garland Publishing, 1977–9. Volume citation conforms to the one given in the *James Joyce Quarterly*.

Letters I *Letters of James Joyce. Vol. I*. Ed. Stuart Gilbert. New York: Viking, 1957; reissued with corrections, 1966.

Letters II *Letters of James Joyce. Vol. II*. Ed. Richard Ellmann. New York: Viking, 1966.

Letters III *Letters of James Joyce. Vol. III*. Ed. Richard Ellmann. New York: Viking, 1966.

P *A Portrait of the Artist as a Young Man: Text, Criticism and Notes*. Ed. Chester G. Anderson. New York: Viking Penguin, 1968.

PSW — *Poems and Shorter Writings*. Ed. Richard Ellmann, A. Walton Litz, and John Whittier-Ferguson. New York: Viking Press; London: Faber, 1991.

SH — *Stephen Hero*. Ed. John J. Slocum & Herbert Cahoon. New York: New Directions, 1944, 1963.

U — *Ulysses*. Ed. Hans Walter Gabler et al. New York & London: Garland Publishing, 1984, 1986. In paperback by Garland, Random House, and Bodley Head and by Penguin between 1986 and 1992. References appear as episode number plus line number.

U-G — *Ulysses*. Ed. Hans Walter Gabler et al. New York and London: Garland, 1984. References to the Foreword, Critical Apparatus, Textual Notes, Historical Collation, or Afterword.

Other Works and Journals

Critical Heritage I — Deming, Robert H., ed. *James Joyce: The Critical Heritage*, vol. 1 (1907–27). London: Routledge & Kegan Paul, 1970.

JJI — Ellmann, Richard. *James Joyce*. New York: Oxford University Press, 1959.

JJII — Ellmann, Richard. *James Joyce*. New York: Oxford University Press, 1982.

JJQ — *James Joyce Quarterly*.

Introduction

Sylvain Belluc and Valérie Bénéjam

There seems to be a hierarchy implicit in our understanding of the relation between literature and cognition: according to a prevailing model of literary history, modernist writers are better than others at representing cognitive processes; and among modernist writers James Joyce is the best. That Joyce thoroughly explores the workings of the human mind across his work is evident from the very opening of *Dubliners*, where a child finds himself reflecting on his perception and interpretation of a "lighted square of window" (*D* 9), up to *Finnegans Wake*, which dramatizes the problematic sensations from—and expression of—the surrounding world. Joyce's last work conveys our complex apprehension of "the audible-visible-gnosible-edible world" (*FW* 88.6). Whether we can ever be "cognitively conatively cogitabundantly sure" of anything (*FW* 88.7–8), and whether we are capable of conveying such cognition, is the wider question constantly broached through Joyce's writing. To put it in plain English: what we know and how we know it is the focus of Joyce's literary know-how.

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In *Ulysses*, the exceptionally detailed, true-to-life portrayal of the human mind is a constant concern of the narrative, whichever character we may be following. Whether it be Stephen imagining that the two women he spots on Sandymount Strand are midwives ("[n]umber one swung lourdily her midwife's bag," *U* 3.32), Bloom deducing from his spatial position that the sound he hears at the end of the "Calypso" episode are the bells of the nearest church ("[a] creak and a dark whirr in the air high up. The bells of George's church," *U* 4.544–5), or Molly mocking atheists for turning to God on their deathbeds ("atheists [...] go howling for the priest and they dying and why why because theyre afraid of hell," *U* 18.1566–8), the novel continually focuses on uncovering the different cognitive functions which enable human beings to build up their store of knowledge—such as, in the previous examples, categorization, contextualization, and generalization. Significantly, the very first organ associated with Joyce's modern Odysseus as he comes to life in the novel is "his mind," in which we are informed that, following some absurd anatomical configuration, there are "[k]idneys": "[k]idneys were in his mind" (*U* 4.6). In "Ithaca," the catechistic narrator is still wondering "[w]hat reflections occupied [Bloom's] mind" (*U* 17.1408), and this concern is maintained up to the last pages, in which Molly and Leopold's romance is revealed to have been, from the start, a cognitive interaction: "yes that was why I liked him because I saw he understood or felt what a woman is" (*U* 18.1578–9). In *Finnegans Wake*, the word "mind" appears more than eighty times, but it is not uninteresting that in many of these occurrences, it is employed as a verb rather than as a noun, in the familiar turn of phrase meaning *to pay attention*, *to heed* (as in "[m]ind your hats goan in," *FW* 8.9; "[m]ind the Monks and their Grasps," *FW* 579.12–13), or to *object* (as in "[w]ould you mind telling us, Shaun honey,..." *FW* 410.28). Although it seems less explicitly focused on cognitive processes, the verbal form may paradoxically be more significant, for it is always in action, *in progress*, that Joyce's writing probes minds at *work*.

Unsurprisingly, cognitive approaches have proven particularly valuable to illuminate the thoughts and behaviour of Joyce's characters, and several literary critics have already summoned them to examine Joyce's works. In this respect, cognitive literary studies are no exception to the habitual Joycean critical draw: with its boldly experimental quality and nevertheless uncontested canonical status, the oeuvre stands out as a flagship of literary modernism and even of literature as a whole—testing the limits of what literature is and of what it can do. As such, it often becomes an early

touchstone for new trends in criticism and theory (feminist studies, Lacanian psychoanalysis, structuralism and narratology, post-structuralism, post-colonialism, for obvious instances among many others). This Introduction will present how Joyce's works have interacted with the development in literary cognitive studies, and then set forth the latest ways in which the contributors to this collection elaborate on these interactions and develop new angles of their own.

* * *

Significantly, one of the first reviews of *Ulysses* was written by a neurologist: Joseph Collins's "James Joyce's Amazing Chronicle" was published in the *New York Times Book Review* on 28 May 1922. It was also one of the first positive reviews of the book to emerge from outside the already favourable modernist literary circles. "*Ulysses* is the most important contribution that has been made to fictional literature in the twentieth century," Collins claimed, founding his praise on Joyce's capacity to "let flow from his pen random and purposeful thoughts just as they are produced" (*Critical Heritage I* 224), and to "relate the effect the 'world'…had upon him" (222). His only reservation—and he was careful to open his review with the warning—lay in the work's complexity: although "a few intuitive, sensitive visionaries may understand and comprehend" *Ulysses*, "the average intelligent reader [would] glean little or nothing from it" unless it was "companioned with a key and a glossary" (222). In other words, the book was an "amazing chronicle" of cognitive processes, but the reader's cognitive apprehension of the book itself was problematic.

From the beginning, this cognitive double bind was to form the literary consensus over Joyce's work. In her famous 1919 essay on "Modern Fiction," Virginia Woolf celebrated the new young writers—of whom James Joyce was her chief example—who "record the atoms as they fall upon the mind in the order in which they fall" and "trace the pattern, however disconnected and incoherent in appearance, which each sight or incident scores upon the consciousness" (*Critical Heritage I* 125). Woolf's "modern fiction," and Joyce as its chief exponent, focused principally on cognitive processes, at the possible cost of an apparent disconnectedness and incoherence that taxed readers' mental capacities. Cognition thus constituted both the object of modernist fiction and a problematic condition of its apprehension and interpretation: readers experienced within themselves the limits of sensory knowledge and of literature's capacity to

convey conscious experience in the very process of reading about those limits. In this modernist model, the aesthetic and the cognitive processes are complementary; both are probed and perfected in parallel. The mind reads, and reads a complex mind, and therefore experiences the limits of mind-reading.

The concern for human cognition in Joyce's fiction was thus not lost on its contemporaries. Joyce's first readers, however, principally focused their attention on the insight he provided into the *psychological* life of his characters. Even Joseph Collins—although he notes the discrepancy between the rather commonplace narrative contents of *Ulysses* and the extraordinarily complex operations required from its readers' brains—devotes the bulk of his review to praising what he somewhat awkwardly describes as the apparent lack of mediation between Joyce's thoughts and the shape they find on the page. In other words, Collins perceives that *Ulysses* provides a window onto the unconscious. After noting the apparent absence of any attempt to give "orderliness, sequence or interdependence" to Joyce's thoughts as they are directly transcribed into his book, the neurologist remarks that:

> [h]is literary output would seem to substantiate some of Freud's contentions. The majority of writers, practically all, transfer their conscious, deliberate thought to paper. Mr. Joyce transfers the product of his unconscious mind to paper without submitting it to the conscious mind, or, if he submits it, it is to receive approval and encouragement, perhaps even praise. (*Critical Heritage I* 224)

Collins's stress on how Joyce reveals his innermost thoughts, fears, and desires without sifting or censoring them requires historical contextualization in light of the explicit reference to Freud. Such insistence on the novel's apparent psychological realism is, in fact, typical of the reviews *Ulysses* received by contemporaries. The book was widely seen to offer a literary illustration of the ground-breaking discoveries achieved in the field of psychoanalysis, and therefore to present a picture of mind processes much more faithful to reality than that provided by nineteenth-century fiction. In his manifestly disgusted piece, another reviewer, Holbrook Jackson, similarly reveals that, although the novel was deemed to blaze a new trail and its narrative techniques to afford more thorough knowledge of the central characters, the revolution was still exclusively perceived in psychological terms:

> You spend no ordinary day in [Bloom's] company; it is a day of the most embarrassing intimacy. You live with him minute by minute; go with him everywhere, physically and mentally; you are made privy to his thoughts and emotions; you are introduced to his friends and enemies; you learn what he thinks of each, every action and reaction of his psychology is laid bare with Freudian nastiness until you know his whole life through and through; know him, in fact, better than you know any other being in art or life—and detest him heartily. (*Critical Heritage I* 199)

Beyond the amusingly dated reference to "Freudian nastiness," Holbrook Jackson's 1922 review employs phrases that would nevertheless seem perfectly adequate in relation to what Erich Kahler famously termed "the inward turn of narrative"—the phrase serving as the title for the 1973 English translation of the two essays originally published in German in 1957 and 1959.[1] The 1950s saw a series of critical studies attempting to describe and theorize this new departure in English literature, a historicized view which Kahler clearly sets forward in his Preface:

> If we wish to understand what has happened to the novel, we must grasp both the transformation of our reality and the transformation within man's consciousness. Literary history will be considered here as an aspect of the history of consciousness. (Kahler 3)[2]

For Robert Humphrey (1954), Leon Edel (1955), and Melvin Friedman (1955), the new techniques devised by Joyce and by his most illustrious contemporaries made it possible to represent the inner workings of the human brain as unmediated, transparent, and true-to-life.

Although such subjectivity could at first be construed as contradictory with the objectivity of nineteenth-century realism and naturalism, more recent critics have tended to consider modernism the logical outcome of the realist movement. Instead of being opposed to realism, modernism has in fact expanded the acceptation of reality itself, which now included consciousness and the unconscious—in other words cognitive, mental events:

[1] The two essays, entitled "Die Verinnerung des Erzählens," were originally published in *Neue Rundschau* 68 (1957, 501–46) and 70 (1959, 1–54).

[2] This historicized literary model is in fact already observable in Ian Watt's *The Rise of the Novel* (1957), where the birth of the novel is identified as corresponding to a turn towards individualism—and its consequent expression of subjectivity and consciousness—in parallel to the philosophical trend that goes from the general to the particular (see Chap. 1, "Realism and the Novel Form," Watt 9–34).

> the view that modernism marks a break from realism is consistent with both positive, negative, and neutral assessments of that break. […] But it is also possible to hold that modernist narratives move from external reality to an inner mental domain without viewing modernism as being fundamentally discontinuous with realism. (Herman 2011, 252–3)

Other critics, such as Jesse Matz (2001) or Sara Danius (2002), have also interpreted modernism as a prolongation of the realist project. Similarly, in the book he recently devoted to *Ulysses*, studying some of the later, more boldly experimental episodes (namely "Oxen of the Sun" and "Circe") and their apparent departure from traditional realism, Patrick Colm Hogan (2014) reflects that:

> these episodes do show a change. But the change is not a matter of shifting from realism. It is a matter of reunderstanding just what constitutes realism. The point is particularly important for the relation of these episodes to our understanding of human psychological processes. (Hogan 7)

Whether continuous or discontinuous with nineteenth-century realism, however, the "inward turn" theory seemed to find particularly strong backing in some of the great modernist masters' own critical writings. Thus, in another passage from her "Modern Fiction" essay, Virginia Woolf praises Joyce for being:

> concerned at all costs to reveal the flickerings of that innermost flame which flashes its messages through the brain, and in order to preserve it he disregards with complete courage whatever seems to him adventitious, whether it be probability, or coherence, or any other of these signposts which for generations have served to support the imagination of a reader… (Woolf 151)

A few paragraphs later, she explicitly heralds human psychology as the new artistic object and objective: "for the moderns […] the point of interest […] lies very likely in the dark places of psychology" (Woolf 152). Such statements contributed to the consensus over modernist writing as predominantly determined by its "inward turn," and critics were consequently challenged to describe the different literary techniques elaborated to plumb the depths of human psyche. This enterprise was closely followed by—and is even inseparable from—the rise of narratology as a distinct branch of literary criticism. For instance, "Discours du récit," one of

the key sections of Gérard Genette's seminal *Figures III* (1972), provides an elaborate typology of the different modes of focalization employed in Marcel Proust's *À la recherche du temps perdu* (1913–27). Genette analyses the varying levels of proximity between the narrator's and the main character's voices, and thus the degree of faithfulness with which the wanderings of the latter's inner thoughts are registered. Soon after, in *Transparent Minds* (1978), Dorrit Cohn delineated six "narrative modes for presenting consciousness in fiction," all (whether first- or third-person) marked by specific shades of narratorial presence. Although explicitly dismissive of the idea that the evolution of narrative technique in European fiction constituted a relentless progression inward, Cohn helped promulgate the notion that the modernists' narrative strategies aimed at mimetically reproducing the thought processes of their characters' minds, and that modernism gradually developed "to its full Bloom in the stream-of-consciousness novel and beyond" (Cohn 8). In her view, the "Penelope" episode of *Ulysses*, with its technique of "autonomous monologue," represents the classical example of complete fusion between narrative voice and character consciousness.

In the years that followed the publication of Cohn's study, however, there appeared a new interdisciplinary approach, which would ultimately lead its practitioners both to refine and redefine the concepts provided by classical narratology. Borrowing their tools from new developments in linguistics, philosophy, psychology, computer science, neuroscience, or anthropology, a number of critics started to draw on frameworks for inquiry that had been either inaccessible to, or ignored by, structuralist theorists, and thereby developed a new cognitive method of literary analysis. Thus, literary criticism followed a "cognitive turn" to parallel what Kahler had termed the "inward turn" of its literary objects of study and, unsurprisingly, modernism found itself a favoured focus of such approaches. These scholars began to examine all the aspects of storytelling relevant to the functioning of the brain, especially its capacity to acquire, store, and use knowledge. Their goal was to investigate the mental and neurophysiological mechanisms, such as sense perception, attention, reasoning, or memory, which are involved not only in the representation of fictional characters' experience, but also in the construction by readers of the worlds those characters inhabit.

Alan Richardson (2010) has usefully classified the studies falling within that domain into six categories, and although he himself considers his categories to be porous, for the sake of this Introduction we shall borrow

his clearly drawn taxonomy.[3] Mark Turner is the most prominent theorizer of the first category, "Cognitive Rhetoric and Conceptual Blending Theory." In 1996, he published *The Literary Mind* (1996), in which is explored the role played in our day-to-day interactions with reality by the different aspects of reading activity, such as sequencing, projection, prediction, and evaluation. Focusing in particular on *The Arabian Nights* and Dante's *Divine Comedy*, Turner shows how micro-stories, by blending into larger narrative units which can in turn be projected into various domains of experience, act as the true building blocks of cognitive activity. Literature thus becomes the empirical testing ground of the mind's ordinary work, a sort of user manual for real life: read it done by others before doing it yourself. In a thought-provoking demonstration that places reading and literary thinking at the core of cognitive sciences, Turner envisages language itself as born from storytelling. Although his modernist examples are drawn from Proust rather than Joyce, it is probable that such argumentation would have delighted the author of *Finnegans Wake*.

By comparison, critics working in the field of "Cognitive Poetics" attempt to define the exceptional features of literary works, whose structure and reception they study in the light of information-processing models. Renewing the methods of "reader-response" criticism, their studies are varied. Reuven Tsur (1992), for instance, sets out to prove that literary language disturbs or delays ordinary cognitive processes. Other researchers are concerned with the factors contributing to the creation of key effects of narrative such as suspense, curiosity, or surprise. Richard J. Gerrig (1993) thus draws upon a large psycholinguistic literature to relate the operation of inference-making to the feeling of being "transported" by a narrative. In *Why Do We Care about Literary Characters?* (2010), Blakey Vermeule argues that reading fiction fulfils a fundamental social function: novels present to us in condensed and elaborately wrought form the puzzles of moral and practical reasoning we encounter in our daily interactions with people. The reason for our intellectual and emotional investment in fiction thus lies in the sheer usefulness of literary characters that teach us how to detect cheaters and navigate the ins and outs of social systems. At the core of Vermeule's thesis lies the idea that fiction directly benefits survival and that our capacity and taste for narrative have been inherited through natural selection.

[3] Other interesting overviews of the history of cognitive literary criticism had earlier been provided by Joseph M. Bizup and Eugene R. Kintgen (1993), and by Tony Jackson (2000).

Blakey Vermeule's work shows the extent to which the field of "Cognitive Poetics" overlaps with the third area of research identified by Richardson, "Evolutionary Literary Theory." The champions of the latter approach take issue with the post-structuralist argument that discourse constructs reality. They argue that genetically transmitted dispositions constrain and inform discourse, and study cultural artefacts in this new light. They thus explain the products of human imagination with the help of theories derived from evolutionary biology. Literary works become cognitive maps to understand the relations of organisms to environments, reflecting the adaptive mechanisms regulated by larger biological principles. Some critics, such as Joseph Carroll (1995) or David and Nanelle Barash (2005) thus identify basic, common human needs—such as survival, sex, or status—and employ these categories to describe the behaviour of fictional characters. Barash's evocative title—*Madame Bovary's Ovaries*, subtitled *A Darwinian Look at Literature*—is one that probably would not have disappointed Gustave Flaubert, the son of a famous surgeon, well versed in the medical theories of his age, nor Joyce himself, who when he first left Ireland had gone to Paris to study medicine.

The defenders of this approach, however, have been widely attacked for their propensity to discard conflicting evidence, their unwillingness to allow for the existence of any aspect of behaviour that would not be genetically programmed, and their determination to regard the world of fiction as answerable to exactly the same biological rules as the real world (Richardson 2010, 12–14). This last accusation, however, is one that cannot be levelled at the exponents of the fourth trend identified by Richardson, namely "Cognitive Narratology." Drawing on computational theories of mind and making extensive use of the concepts developed in artificial intelligence—such as "schemata," "scripts," and "frames"—these critics examine the cognitive strategies through which we negotiate narrative texts. In particular, they identify the specific cues seized on by readers to order certain sequences into stories, to relate the formal features of a text to judgements about its type of "narrativity" and, more generally, to create in their minds a broad temporal and spatial environment in which a series of events can unfold. This approach has been illustrated by Monika Fludernik (1996), Manfred Jahn (1997), and Alan Palmer (2004). In her seminal *Why We Read Fiction* (2006), Lisa Zunshine applies the Theory of Mind developed in evolutionary psychology to literature. In the present collection, Lizzy Welby's article (see Chap. 11) offers a reading of *Ulysses* in the light of this theory.

Critics active in the field of cognitive narratology have been criticized for failing to pay sufficient attention to the embodiment of the mind. Indeed, this concern is much less present in their work than in that of scholars whose research falls within the domain of "Cognitive Esthetics of Reception," the fifth rubric identified by Richardson. The latter includes the books published by Ellen Esrock (1994) and Elaine Scarry (2001), who draw on findings in neuroscience and mental imaging to shed light on readers' processing of literary texts. Elaine Scarry starts from the premise that literary works enable the imagination to produce more vivid pictures than any other art form or than one's daydreaming, and proceeds to explain how such intensity is achieved. In her view, a key factor resides in the instructions that great sensory writers give to their readers to coax them into constructing powerful mental pictures. By activating, through a whole array of devices, duly listed and analysed by Scarry, the very neural processes through which readers' brains usually experience the material world, these writers succeed in producing vivid imaginings which closely approximate actual perception. Determined to combat the linguistic bias that has allegedly dominated twentieth-century criticism, Ellen Esrock makes a strong case for the importance of visualization to both the cognitive and affective dimensions of the reading process. Thomas Jackson Rice's article in our collection may be related to her approach.

The last category identified by Richardson is termed "Cognitive Materialism and Historicism." One of its most prominent exponents is Mary Crane, who laments the manner in which new historicism renders the author immaterial by attending exclusively to cultural and discursive forces, irrespectively of his or her actual physical existence. She asserts that, "just as surely as discourse shapes bodily experience and social interactions shape the material structures of the brain, the embodied brain shapes discourse" (Crane 7). For instance, through a detailed analysis of the intricate web of meanings surrounding the word "suit" in *Twelfth Night* (feudal suit, law suit, love suit, behaviour that suits, suit of clothes, including theatrical costumes), Crane brings to light a nexus of desires for control and possession, of self-satisfaction and self-restraint to accommodate the wishes of others, a nexus which also includes the use of clothing both to reveal and conceal identity and social status. She thus works backward into Shakespeare's head, offering hypotheses about the interplay between culture and the author's brain.

In spite of the undeniable relevance of the expression "Cognitive Historicism" to the area of research envisaged by Richardson, one is

tempted to give the phrase a different meaning and in the process to add a seventh category to the six he identifies. The label would then extend to all works of criticism charting the impact on an oeuvre of the scientific notions and models that were authoritative in the writer's time. One distinguished example of such a pursuit is *British Romanticism and the Science of the Mind* (2001), in which Richardson himself shows how the significant advances made in neurological and cranial research in the late eighteenth century had a massive impact on the works of Samuel Coleridge, William Wordsworth, Jane Austen, and John Keats, all of whom foreground feeling and emotion at the expense of reason, highlight the influence of the natural environment on the body, and postulate an active and creative mind. Closer to the modernist period, critics have also examined the use made by Victorian novelists of the neurological research of their time. In *Imagining Minds: The Neuro-Aesthetics of Austen, Eliot, and Hardy* (2010), for instance, Kay Young demonstrates that George Eliot's solution to the problem of the apparent lack of contact between minds is to give primary importance to sound. She adduces evidence that the author knew of Hermann Helmholtz's ground-breaking work on the physiology of the ear in the 1860s, and shows how in *Middlemarch* (1871–2) embodied empathy travels in the form of sound waves that penetrate bodily boundaries, thus making sound a route to knowing other minds.[4]

Whatever the number of sub-categories into which we divide the works conveniently grouped under the umbrella phrase "cognitive criticism," its array of new concepts and analytical frameworks have not just opened new exegetical horizons, they have also called into question the value of the typology devised by Dorrit Cohn to describe modernist narrative, as well as the theory of the "inward turn" supposedly characteristic of early twentieth-century fiction. Particularly, Cohn's approach has been described as fundamentally flawed because of the simplistic analogy it posits between thinking and modes of narrative discourse. Alan Palmer thus notes that the "speech category" approach captures only a small fraction of the phenomena that fall within the domain of the narrative representation of consciousness, failing to do justice, for example, to the faculties of perception which make our sense experience fundamentally subjective, or to the techniques characters employ to account for their own and others' intentions (Palmer 53).

[4] For a comparable study of Joyce's use of Helmholtz's theories, see Vike Plock (2009).

One of the most interesting developments in the focus on cognition in modernist literature is certainly the casting aside of the old Cartesian mind–body divide and the identification of the body as playing a central part in cognitive processes. Basing herself partly on studies of Joyce's writings, Patricia Waugh has developed remarkable analyses about "literary language," which she distinguishes from the "language of science" in that it is "more embodied, closer to and arising out of the rhythms and pulsations of the body and more able to produce bodily effects in its readers" (Waugh 2009, 140). Waugh identifies this concern as particularly relevant to the modernist literary projects:

> By the twentieth century, a preoccupation with reincorporating the body into language, and self-consciously examining the *affective* body as central to the processes of cognition and proper judgement, becomes one of the definitive characteristics of modernist fiction. (Waugh 2009, 141)[5]

This extract is immediately followed by a perceptive analysis of the last story in *Dubliners* and of how Gabriel's misjudgements and revelations unfold, as he learns to be wary of his intellectual considerations from the beginning of the narrative, to finally embrace the affective and sensory perceptions that overwhelm him in his final epiphany. This reading of "The Dead" further confirms Waugh's focus on the body:

> Modernist fiction becomes a performative vehicle of understanding for a theory of knowledge that accepts (*contra* positivism) that value already shapes what is apprehended through an implicitly cognitive theory of emotion. And the deeper into the mind, the more one arrives at the body. (Waugh 2009, 141)

More generally, awareness of the restrictive schemes hitherto devised by narratologists to explain the mental workings of characters and readers alike have incited critics versed in cognitive science to suggest models of their own. In a seminal article on literary modernism published as part of a collective venture aiming at exploring the different strategies by which English-language authors across time have represented minds, David Herman argues for the replacement of the old framework by the enactivist model borrowed from Francisco Varela, Evan Thompson, and Eleanor

[5] See also Waugh (2007).

Rosch (1991). Rebutting the generally accepted notion that modernist writers' concern for worlds-as-experienced is tantamount to a shift inward, Herman contends that their works explore the complex interaction between the mind and its material environment, thus undermining the Cartesian description of the mental as autonomous interior space:

> The upshot of modernist experimentation was not to plumb psychological depths, but to spread the mind abroad—to suggest that human psychology has the profile it does because of the extent to which it is interwoven with worldly circumstances. The mind does not reside within; instead, it emerges through humans' dynamic interdependencies with the social and material environments they seek to navigate. (Herman 2011, 254)

Analysing in detail scenes from Joyce's *A Portrait of the Artist as a Young Man* and from Woolf's *Mrs. Dalloway* (1925), Herman claims that crucial to the depiction of each protagonist's navigation of his or her surrounding world are the possibilities for action arising from their interactions with it, which help to constitute their mind in the first place:

> [W]hat is distinctive about modernist methods [...] is the explicitness with which [...] writers like Joyce anchored worlds-as-experienced in what Clark (1997) terms "action loops" that "criss-cross the organism and its environment" (35), thereby calling into question Cartesian geographies of the mind. By means of such action loops, intelligent agents take cognizance of the possibilities for action afforded by their environment, as when one develops strategies for navigating a city one has never visited before or for interacting with strangers on the basis of their demeanor—with the pathway thus chosen leading to new construals, by means of which further environmental contingencies can be made sense of and accommodated. (Herman 2011, 260)

In our book, Dirk Van Hulle offers further discussions of Herman's thesis in relation to Joyce's own writing practices (see Chap. 4).

Although Herman's case for the relevance of enactivism to the representation by Woolf or Joyce of their characters' minds is very convincing, other recently developed models have been invoked in the last few decades to account for this famously distinctive feature of modernist writing. Unsurprisingly, these models differ widely from those that were dominant at the start of the twentieth century. As a consequence, the previously mentioned distinction between the historicist and the contemporary

approaches is a major dividing line that runs across the critical literature devoted to the question of cognition in Joyce's work.

A good illustration of the historicist approach is Vike Plock's *Joyce, Medicine, and Modernity* (2010), in which, for instance, the short story "Counterparts" is convincingly read as the case study of an alcoholic: drawing upon late nineteenth-century medical discourse, and particularly upon the connection it posited between alcoholism and insanity, Plock shows that Farrington's wandering mind, inability to concentrate, sudden mood swings and violent fits of anger are symptomatic of the disease. In another chapter entitled "Nerves Overstrung," she introduces the contemporary discourse on nervousness and enervation to offer a new reading of the "Eumaeus" episode in *Ulysses*: analysing the synaptic disconnect between Stephen and Bloom, Plock uncovers the paradoxical energy of the episode and thus counters the general critical consensus that it is the production of an exhausted narrator.

While Plock is mainly interested in the influence exerted on Joyce by turn-of-the-century medical discourses, John Rickard reads *Ulysses* as insistently probing the implications of the multiple models of the mind and memory that were popular during the modernist period. In *Joyce's Book of Memory: The Mnemotechnic of "Ulysses,"* he argues that Joyce's characters are generally unable to use voluntary memory to move beyond past traumas, but that they are simultaneously offered chance opportunities to tap into involuntary memories and thus fashion a new relationship to the present. Rickard's study is also an illuminating investigation of the "mnemotechnic" activity required by *Ulysses*, that is to say, of the reader's need to unpeel the countless strata making up its intertextual memory and to construct innumerable patterns of inter- and intra-textual correspondences.

Just as Rickard unveils the tension at the heart of Joyce's works between the competing models of memory that circulated during his lifetime, the Swedish scholar Sara Danius (2002) contends that Joyce's writing reflects the new status given to the senses in modernist fiction. She combats the traditional opinion according to which the connection between modernism and the new contemporary means of production is external, writers and painters allegedly reacting to technology by crafting elaborate artistic objects. The relationship, in her view, is on the contrary internal: turn-of-the-century inventions such as X-ray imaging, cinema photography, sound recording, the railway or the automobile led to a radical shift in modes of perception, an evolution to which the major modernist texts are said to

testify. Danius demonstrates that Joyce's narrative strategy relies on isolating each of the senses, and that the raw data of the human sensorium fulfil the role of narrative content, the representation of the senses at work thus becoming an aesthetic end in itself.

Another thought-provoking historicist approach, which is both well grounded in cognitive sciences, but running counter to what he terms the "neuroaesthetic" approaches to literature, is that developed by Jon Day.[6] Day bases his argumentation on the notion (or as he terms it "the problem") of qualia, a concept first introduced by the American pragmatist philosopher C. I. Lewis in 1929, and which derived from G. E. Moore's "sense-data" and Bertrand Russell's "sensibilia"—in other words, a notion which is contemporary with high modernism. In the *Oxford Dictionary of Philosophy*, qualia are defined as "[t]he felt or phenomenal qualities associated with experiences, such as the feeling of a pain, or the hearing of a sound, or the viewing of a colour. To know what it is like to have an experience is to know its qualia" (Blackburn 302). Day's argumentation is quite simply that, since qualia constitute "a property of consciousness that resists translation into public language," then if it exists it is by definition "inherently and irreducibly subjective, and can *never* be shared with other minds directly."[7] Instead of seeing some of the modernists as being the best at conveying the ineffable, Day reads Joyce's work, for instance, as the dramatization of an impossibility, of this poverty of language which, in Samuel Beckett's words from *Molloy*, is incapable of writing "the within, all that inner space one never sees, the brain and heart and other caverns where thought and feeling dance their sabbath" (Beckett 2009, 10). Day convincingly illustrates his argumentation by showing how in *Ulysses* Bloom spends a large part of his day imagining what it feels like to be a cat, a mouse caught by a cat, a bat,[8] or a blind stripling, claiming that, at the end of Bloomsday, we may not be enlightened about any of those other

[6] This argument is a chapter of Day's book, *Novel Sensations: Modernist Fiction and the Problem of Qualia*, soon to be published with Oxford University Press. Unfortunately, as it is not yet in print it could not be included in our Bibliography, but we are grateful to Jon Day for letting us read his chapter about Joyce and quote from it in this Introduction.

[7] Day expounds the philosophical debates surrounding the notion, which we will just briefly allude to here: to philosophers like Frank Jackson and John Searle, qualia are what David Chalmers calls the "hard problem" of consciousness; whilst others, like Daniel Dennett, deny the very existence of qualia.

[8] Here of course we are reminded of Thomas Nagel's famous essay on the philosophy of the mind, "What is it like to be a bat?"

beings, but what we have gained is "a literary understanding of what it might be like to be Bloom." Day's view is particularly far-reaching in epistemological terms in that it eventually questions the very ontological status of the mimetic literary reproduction: to him, the neuroaesthetic approach is a reductionist impasse, and he sees "Joyce's neurological legacy" as "draw[ing] attention to the void between mind and world rather than closing it."

While the cognitive studies of Joyce mentioned so far have a distinctly historicist bent, and aim at explaining some features of his writing in the light of theories or technological developments characteristic of his time, others on the contrary apply recently developed models to his works. Tom Simone (2013) turns to neuroscience, especially to the research carried out by cognitive psychologist Stanislas Dehaene, to show that the countless linguistic quirks and slips that can be found in *Ulysses* are as many perceptive insights into the physiological functioning of language. Simone envisages *Ulysses* as a novel about reading that explores the deeply rooted bodily mechanisms involved in language recognition, letter decoding and the retrieving of auditory pathways.

Simone's fascination for the manner in which Joyce lays bare the inner workings of the brain is shared by Kerri Haggart (2014), who applies to Joyce's works recent concepts derived from the situated movement in cognitive science. For instance, she examines the tense exchange between the characters in the first part of the "Hades" episode of *Ulysses*: borrowing a concept from discursive psychology, she calls the question of adultery lurking at the back of their minds a "thematic frame," that is to say a semantic substratum directing almost all their thoughts, actions and words, but never actually intruding into their conversation. In her view, the scene reveals the role played by both social pressures and the physical setting (the disposition of the characters in the carriage) in the creation of the characters' mental configuration.

Another significant contribution to the cognitive studies of Joyce was made by David Herman in "Cognition, Emotion and Consciousness" (2007), where he looks into the crucial role played by representations of consciousness in "The Dead." He fruitfully applies the Theory of Mind to the story, whose linchpin, he rightly remarks, is Gabriel's recognition that he has formed mistaken inferences about Gretta's intentions in their hotel room. Herman notes that the entire story relies on a *mise en abyme* of the process of mind-reading, since Gretta's distress, the symptoms of which Gabriel finds so hard to decipher, itself rests on a tentative reading of