Cognitive Joyce

EDITED BY
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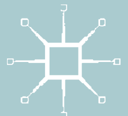
Cognitive Studies in Literature and Performance



Cognitive Studies in Literature and Performance

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Cognitive Studies in Literature and Performance
ISBN 978-3-319-71993-1 ISBN 978-3-319-71994-8 (eBook)
https://doi.org/10.1007/978-3-319-71994-8

Library of Congress Control Number: 2017961117

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Printed on acid-free paper

This Palgrave Macmillan imprint is published by Springer Nature
The registered company is Springer International Publishing AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

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In memory of André Topia

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Acknowledgements

First and foremost, our deepest thanks go to all the contributors in this volume: through the vicissitudes of its lengthy completion, they have all shown us the extent of their patience, support, and true friendship.

For valuable advice in discussing this collection, we also owe debts of gratitude to Carle Bonafous-Murat, Daniel Ferrer, and Catherine Rovera-Amandolese.

For their encouragement, assistance, and precious counsel, we also wish to thank especially our editor at Palgrave Macmillan, Allie Bochicchio, her assistant Emily Janakiram, as well as G. Nirmal Kumar and the production team.

Finally, there are no words to adequately express all we owe to the late Professor André Topia—as a teacher and as a friend. This book was one of his last projects and we know he would have been glad to see it in print. It is dedicated—with abiding respect and affection—to his memory.

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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.

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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*.

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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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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_1

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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

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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

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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:

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> 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).

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> 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

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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

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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).

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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.

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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

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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).

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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).

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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

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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

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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?"

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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

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Michael Furey's thoughts on the night when he paid her an ultimate visit. This *mise en abyme*, in conjunction with the reader's efforts to make sense of Gabriel's mental state, makes "The Dead" the perfect illustration of Herman's theory that narratives offer insights into the true nature of other people's experience of the world.[9]

Surprisingly, given the presence of references to his work in cognitive literary criticism, there has until now been only one book-length cognitive study exclusively devoted to Joyce and, in point of fact, exclusively devoted to *Ulysses*. This is Patrick Colm Hogan's *"Ulysses" and the Poetics of Cognition* (2014), which considers in turn all the episodes of Joyce's book, "exploring the key components of cognition and poetics: simulation, narration, processes of character thought (both inferential and affective), and idiolectal and emotional elements of style" (Hogan 5–6). Looking at "Calypso" and "Lotus Eaters," for instance, Hogan examines the operation of the process of simulation, which consists in building hypothetical or counterfactual models of action. In later chapters, he argues that the elaboration of spatial simultaneity in "Wandering Rocks" enabled Joyce to innovatively present parallel thought processes in "Sirens," thus foreshadowing insights of contemporary cognitive science. Another section looks at the use of metaphors and the semanticizing of non-speech sounds in "Circe," which Hogan interprets as conveying the simultaneity of perception and association, and thus offering a ground-breaking representation of fantasy.

The attempts already made at developing a cognitive approach to Joyce's work thus go a long way towards accrediting the thesis that his writing distinguishes itself not so much by its psychological realism, as was widely thought at the time early reviewers like Joseph Collins and Holbrook Jackson wrote about *Ulysses*, as by its cognitive realism. As Jon Day argues, such realism may even consist in acknowledging the limits of literature's capacity to render cognition. However, what all these critical endeavours join in revealing is that Joyce's oeuvre constitutes an artistic artefact that is particularly congenial to exploring the multiple aspects of the functioning of the human mind, and the diversity of the literary

[9] Cf. also "From Narrative Narcissism to Distributed Intelligence: Reflexivity as Cognitive Instrument in *Finnegans Wake*" (2004), where Herman argues that the repeated comments by the text on itself in the last chapter of the book invite comparison with contemporary notions of *ricursivity*, which involve mental processes capable of operating on their own output.

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techniques that may be employed to represent it. Thus feeling fully justified in its object of study, and in the exceptionally rich material that may be collectively and cognitively explored in Joyce's work, this collection will proceed "by the halp of his creactive mind" (*FW* 300.20–21).

* * *

Drawing on many different branches of cognitive science and envisaging the whole of Joyce's fictional oeuvre, including the earlier works about which so little cognitive criticism has yet been produced, this volume wishes to be generous in its compass. It also wants to be open-minded, or rather open in its approaches to the mind, developing across two sets of the habitual distinctions in the field. First, some of the essays in this collection will follow a historicist approach to cognitive sciences, considering the links between Joyce's work and the theories of cognition that were popular in his time, or contemporary with his writing. In some cases we will also envisage more ancient premises to cognitive sciences—in particular Aristotle's classical philosophy. Others will reveal how, perhaps unexpectedly, Joyce was a precursor in noticing and describing phenomena of mental processes that would only be explained and analysed much later, in a period closer to our own. This contemporary cognitive approach is also that of several chapters that make use of the most recent developments of cognitive science to explain the mental processes identifiable in Joyce's work. Joyce's eerie adaptability to the most recent developments of cognitive research makes us at times wonder whether he would not be, like Proust in Jonah Lehrer's popular bestseller (2007), a neuroscientist, or at least one of these writers who—reversing the usual presupposition that the scientific progress of an age influences creation—may have on the contrary helped scientists to identify phenomena gone previously unnoticed. This broad distinction between historicist and contemporary cognitive approaches, we nevertheless chose to not make the central organizing principle of this collection, not only because, in some articles, the focus on a single scientific approach is not easy to pinpoint, but also because in some cases, writers begin with a focus on a specific historical theory, to end by identifying processes for which only contemporary scientific studies may account.

Illustrating an idea we noted from the very opening of this Introduction, our collection also studies cognitive phenomena at two different levels—internal and external to the fictional narrative level. Within the stories are

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unravelled some of the physiological intricacies and mental subtleties inherent in Joyce's description of his characters' minds at work; but at a more distanced level, some of our contributions also look into the subtle functioning of the human mind as it encounters Joyce's work, the extraordinarily complex and varied operations demanded from readers as they tackle, for instance, the over-systematized, complex construction of *Ulysses*, at times nicknamed "the most difficult book, but one"—and that one being, of course, *Finnegans Wake*, with its trove of neologisms and portmanteaux, experimental formal experiments and polyphony—or cacophony—of polyglot voices, the whole work making the very process of reading itself a new cognitive experience. In this respect, if David Herman's application of the enactivist model to modernist literature seems particularly adequate to describe how fictional characters navigate their environment, the case could also be made for its application to the readers' relation to the works themselves. Indeed, the metaphor of a newcomer to a large city employed by Herman has been used by commentators in the past (Wilson 210, Rabaté 5), to characterize the manner in which readers inhabit Joyce's later novels and develop strategies to find their bearings in them. However, this divide between studying the mental processes in the books and the mental processes required to apprehend the books could not become a structuring principle of the collection either, be it only because so many of our contributors envisage both processes in a single article, not to mention that, beyond reader reception, some also draw attention to the processes of composition, this time at the level of Joyce's mind itself.

The decision was eventually made to go back to the earliest principles of logic and to move from the general or universal to the particular. Thus, the book opens with a series of wide-view articles introducing studies of the links between Joyce and cognition. A double philosophical introduction draws first on classical philosophy, second on phenomenology. Having thus situated debates within a larger historical perspective, the following chapters focus on general aspects of cognition: the role of the "extended mind" in Joyce's compositional process, his interest in the cognitive value of etymology, and the hitherto neglected presence of visual imaginings in his work. Essays in the second part focus on specific works and are arranged in chronological order following the progression of Joyce's fictional oeuvre, from *Dubliners* to *Finnegans Wake*, via *A Portrait of the Artist as a Young Man* and *Ulysses*. Covering the whole of the Joycean corpus and developing specific angles on each of the major works, these case studies

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explore and reassess some of the broad critical issues raised in the first section, introduce new theories of their own, provide a truly literary approach supported by stimulating close readings, and remain faithful to Joyce's active and concrete engagement with cognitive processes.

In the first philosophical article (Chap. 2), Fran O'Rourke offers an overview of the numerous theories about knowledge, the semantic core of the concept of cognition, and of their traces in Joyce's works. Examining how Joyce's writing constantly addresses questions, such as permanence and change, which date back to classical philosophy, O'Rourke problematizes both the possibility of attaining stable knowledge about realities in constant flux and the subject's very status as knower. Exploring the notebooks Joyce kept when reading Aristotle at the Bibliothèque Sainte-Geneviève in Paris, he shows that Stephen grounds the reliability of knowledge in Aristotle's theory of sensation and develops it through the theory of the soul as "form of forms." The phrase conveys the soul's powerful cognitive role as receptive of all reality, i.e. its capacity to grasp intellectively the essence or form of every substance it encounters.

The question of the thinking subject's apprehension of the world is also at the centre of the second philosophical article (Chap. 3), Jean-Baptiste Fournier's chapter, which explores the representation of Dublin in *Ulysses* in the light of Edmund Husserl's phenomenology. Fournier argues that both Joyce's and Husserl's works represent a turning point in the history of western philosophy, one that saw a new understanding of the relationship between consciousness and reality. While the natural approach consists in conceiving the world as objective and external, and our perspective on it as ontologically secondary, phenomenology reverses this hierarchy. *Ulysses* appears to illustrate this Copernican revolution, since Dublin is constructed from a series of sketches or "adumbrations" which are discontinuous but given unity and coherence through the spatial wanderings of the characters. It is not, therefore, a reality that precedes the characters but rather a horizon gradually constituted as the reader follows their progress along the city streets. However, whilst Husserl sees this problem of our consciousness's access to the world as purely methodological, Fournier claims that Joyce clings to a mystical interpretation centred on the notion of epiphany.

Epiphany is still a central concept in the following essay (Chap. 4) where, in the wake of David Herman, Dirk Van Hulle argues for the relevance of the enactivist model to the representation of characters' minds in Joyce's works. Opening his reflexion with a thought-provoking reading

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of Virginia Woolf, he observes that the modernists do not so much look within as show how the mind is constituted by its constant interaction with its physical environment. Van Hulle unveils a similar discrepancy in Stephen's explanation of the epiphany of the clock of the Ballast Office in *Stephen Hero*, where an apparently sudden spiritual manifestation is de facto described as the result of a gradual process. In the "Lestrygonians" episode of *Ulysses*, when Bloom looks up at the same clock, the epiphanic model has definitely been replaced by that of the extended mind. Van Hulle goes on to mobilize this enactivist notion within his signature genetic approach and shows how Joyce's cultural and material environment—particularly his libraries—played a key role in his evolution. The ceaseless interaction between mind and books, to which his reading notes amply testify, served as model for the depiction of his characters' mental lives. Analysing Stephen's rambling thoughts in the "Proteus" episodes, Van Hulle convincingly illustrates how Daniel Dennett's Multiple Drafts Model of consciousness is valid at the level both of the author and of his characters.

Although offering respectively a historicist and a contemporary cognitive approach, Fournier and Van Hulle both consider the thinking subject's relationship with his or her material surroundings. They are followed by three articles engaging with the under-studied question of the cognitive parameters involved in the reception of Joyce's works. Sylvain Belluc (Chap. 5) envisages how readers "process" these works through the linguistic lens, demonstrating that, from *Dubliners* to *Finnegans Wake*, Joyce granted pride of place to etymology, following his reading of Richard Chenevix Trench, the Victorian philologist who revealed to him the poetical and cultural riches hidden within words. As Trench was convinced that the metaphors contained within words were clues deliberately left there by God, Joyce was a staunch believer in the cognitive value of etymology in his fiction: etymology is a cognitive tool deposited in language itself to further readers' understanding and perception, and shedding light on each reader's individual store of knowledge, making the text's appeal more universal while at the same time more personal.

While Belluc unveils some of the linguistic mechanisms triggered by Joyce's works in his readers' minds, Thomas Jackson Rice (Chap. 6) sets out to redress what he perceives as a critical imbalance in recognizing their visual dimension. Defending the importance of visual imaging in the author's creative as well as in the reader's interpretative process, Rice focuses especially on the phenomenon of "hypnagogia," which consists in

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unintentionally experiencing quasi-perceptual and often highly visual images while in the condition of half-sleep. Noting the numerous occurrences of such states in Joyce's oeuvre, Rice notes how they often lead to acts of artistic creation. Placing himself at the very centre of the cognitive question of language, Rice thus reads Joyce's work as contradicting the consensus of early twentieth-century psychologists over human thought as imageless. To him, Joyce demands of his reader, not only consummate linguistic skills, but also a powerfully visual imagination.

These general articles are followed by essays focusing on particular works, which have been arranged in chronological order following Joyce's oeuvre. Here also are mixed historicist and contemporary cognitive approaches, as well as reflexions on mental processes illustrated by Joyce's characters, set in parallel with the mental processes demanded from Joyce's readers. Thus, through rich close readings and alertness to the linguistic subtleties in *Dubliners*, Caroline Morillot (Chap. 7) presents the condition of waiting as a cognitive state in its own right, which may assume different forms. She illustrates this idea through her reading of three particular stories: "Two Gallants," where Lenehan's rambling movement and thoughts prove the act of waiting to be a mode of cognitive apprehension of time through space; "Eveline" where, in a waiting posture which seems geared towards the future, the young woman apprehends her environment in a manner which is saturated by a past inexorably leading her to paralysis; and "Araby," where the apprehension of space and time is entirely transformed by the boy's intense feelings of longing for his friend's sister, and where the frustration born from the impossibility of action in reality is replaced with complex scenarios where waiting is acted, or rather staged, in fictional compensation.

Morillot probes the problematic articulation between body and mind in Joyce's works, and this is also at the centre of the next article about *Dubliners*: Benoît Tadié (Chap. 8) compares Joyce's creation of Dublin as the locus for an intensely pathological life with Michel Foucault's analysis of the clinic as a site where the relationship between man, pathology, observation, and language was radically reconfigured at the turn of the nineteenth century. Tadié argues that, in Joyce's *Dubliners* as in Foucault's *Naissance de la clinique*, pathological anatomy constitutes the dominant form of cognitive procedure. Although this type of rationality is accessible to the reader, it ironically escapes the characters in the stories, who remain locked in a faulty cognitive game of sign-reading in which any pseudo-scientific interpretation threatens to branch off into esoteric paths, and in which even

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authoritative interpretations of morbid signs betray, or become themselves, other morbid signs. The characters' interpretive faculty is itself a symptom of Dublin's pathology, in an endless interplay of signs prefiguring the complex semiotic reversibility that is the hallmark of Joyce's later prose.

André Topia's article (Chap. 9) focuses on *A Portrait of the Artist as a Young Man*, studying how Stephen experiences reality through highly formalized and mediated modes of cognition, observing his own mind, brain, and memory as if from a distanced standpoint. The incongruity between cognition and the subject's awareness of it—in effect a cognition of cognition—is played out in Stephen's relations with other characters, in the discrepancy between the words spoken in dialogue—for instance with Cranly—and the much more elaborate mental process taking place simultaneously but silently in Stephen's mind. In this, Topia argues in echo to O'Rourke's earlier chapter, Stephen resorts to Aristotle's distinction between nominal and essential definitions. Further examination of the exchange with the dean of studies shows how Stephen is unable to encounter the world without projecting onto it a grid of hypotheses where the answer is already potentially contained in the question: no longer a discovery process going from the unknown to the known, cognition thus turns into the mere saturation of a field outlined in advance by the preliminary *quaestiones*, as in the dialectical exercises of the scholastics' ancient manuals.

Far from scholastics, Pierre-Louis Patoine's reading of *A Portrait* (Chap. 10) connects with the most recent research in cognitive sciences, offering an alternative to traditional formalist approaches to focus on the involvement of the reading body. In the wake of critics such as Richard Gerrig (1993) and David Miall (2006, 2009), who have granted sustained attention to physiology as a determining factor in literary interpretation, Patoine focuses on Stephen's punishment by the prefect of studies, showing how Joyce wrote the scene so as to facilitate the reader's empathic simulation of Stephen's sensorimotor experiences, making the body a site of encounter between the physiological and the poetical, with synesthetic combinations of pain and sound triggering embodied participation: readers' somatic and nociceptive sensibilities are heightened, making physical empathy—via neural simulation—a central component of our reading. Patoine convincingly argues for empathic reading as a sensualist technique in its own right and in need of further development.

The next two chapters, by Lizzy Welby (Chap. 11) and Teresa Prudente (Chap. 12), both focus on *Ulysses*. Welby employs the twin concepts of

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Theory of Mind and Meta-representation to unravel the skein of perspectival shifts in the book, noting how Bloom displays a rare capacity to imagine other people's perspectives and to see Dublin through the eyes and minds of its atomized population. Although Bloom and Stephen exist only as black marks on white pages, our evolved mammalian brains are able to invest emotion in them as well as to attribute a weighty degree of truth-value to their introspective contemplations. *Ulysses* is thus the ultimate study in Theory of Mind and Meta-representation, constantly requiring readers to pick up complex cues as to the intentionality of characters, to read not just their minds but the minds represented by these characters' minds, in an endless process of mental *mise en abyme*. Solidly grounded in evolutionary biology, Welby's primary concern is with the way *Ulysses* exercises the cognitive skills developed by the human species, thus echoing Blakey Vermeule's idea that our enjoyment of narrative stems from its stimulation of social reflexes.

Teresa Prudente's contribution (Chap. 12) explores the "Circe" episode in the light of recent debates on hallucination in neurosciences and the philosophy of mind. Bridging the gap between these two fields, she offers an alternative to the traditionally vague definition of hallucination as intuitively grasped experience deviating from ordinary perception. Prudente argues that the technique of the episode, often compared to film, is actually similar to phantasmagoria, a pre-cinematic genre whose deceptive nature foreshadows the shifting viewpoints of "Circe" and the interplay of subjective and objective elements through which hallucinations are both private and shared experiences. Drawing on Lev Vygotsky's study of the fundamental dialogism of inner speech (Vygotsky 1962, 1987), and on its refinement by the developmental psychologist Charles Fernyhough (2004), Prudente reaches an integrated definition of the status of "hallucination" in art, which does justice to both its epistemological and narrative implications.

In tentative closure to this collection, Annalisa Volpone's essay (Chap. 13) envisages the influence of the medico-cultural discourse contemporary to Joyce on his treatment of cognition in *Finnegans Wake*, with particular emphasis on the phenomenon of stuttering. She points to Samuel Orton and Lee Edward Travis's theory of hemisphere lateralization, popular at the time, arguing that stuttering is not only an idiosyncrasy of HCE's, but the gate to a previously undiscovered poetic territory, as Joyce modifies the pathological deferral of meaning produced by stuttering into an epistemological quest for a new order of speech. She sees Shem and Shaun as

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respectively the left and right hemispheres of HCE's brain, their different functional specializations struggling for dominance. She identifies Shem with writing: his stuttering is a symptom of his *chora*—the prelingual stage in development dominated by a confused combination of opposite drives—and is connected to memory through the amygdala. Shem's alleged infirmity may thus be read as a challenge to language itself and as the foundation of a new poetics.

* * *

In spite of the diversity of approaches adopted by the contributors to this volume, their concerns at times echo one another. Conversely, essays focusing on the same work or on similar phenomena or concepts, for instance epiphanies, may appear to contradict one another. It was our conscious decision not to iron out either these echoes or these contradictions, but rather to leave them open to plain sight, regarding them not as flaws, but as fruitful conflicts around which other important cognitive questions could cluster, even in the very process of mapping the contributors' different views. We wanted to let readers make their own sense of the parallels and contrasts, make their own way through the maze of Joyce's work, which does anything but provide a smooth or simple picture of the human mind. Joyce was well known for deriding established theories, scientific discourses, for instance popular theories of the brain's organization, such as when Stephen Dedalus enquires from The Cap in "Circe": "[w]hich side is your knowledge bump?" (*U* 15.2095). Indeed, as serious, illuminating, and scientifically expert as these cognitive approaches are here proven to be, let us not forget that Joyce's talent was ever in the mocking of any system that thought itself uncontested or incontestable, and that flourished on empty clichés, which Joyce was always prompt to denounce. As André Topia's article hints, providing one answer to the question of the role of language in cognition: language, if it becomes strained and constricted, is not necessarily a mode of cognition—it can even become a hindrance. And certainly, its ossification into stiff stereotypes is always the sign of a reflexion that has ceased evolving or critically reflecting upon itself. The interest of our volume therefore lies, to a large degree, in its eschewal of uniform or artificially coherent readings of Joyce, in favour of the tensions that run across his works and of the debates these can spark in terms of cognition and mental processes. To our reader, it will be left, like Nuvoletta in *Finnegans Wake*, to "ma[k]e up all her myriads of drifting minds in one" (*FW* 159.7).

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Knowledge and Identity in Joyce

Fran O'Rourke

Questions of knowledge and identity were of constant concern to James Joyce. He was an elementally philosophical author with a keen sense for primordial questions. It is significant that the philosophical themes recurring throughout his work are those which first emerged in early Greek philosophy: diversity and unity, identity, permanence and change, the nature and reliability of knowledge. Joyce was challenged by such questions as they arose in modern philosophy regarding the identity both of that which we know, and of ourselves as knowers. In so far as he may be said to have found a satisfactory answer, he did so, I suggest, in his reading of Aristotle. To be fully appreciated, however, Joyce's concerns must be viewed within the context of modern philosophy, which questioned the stable existence both of the world and the knower, and also against the ancient background of these questions in their inchoate articulation.

A number of fundamental assumptions distinguish modern philosophy from the classical tradition. The central concern for modern philosophy was not the nature of reality, but whether we can know anything with certainty. The modern question centres primarily, not upon the nature of the world itself, but upon our human powers of cognition; unsurprisingly,

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_2

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this preoccupation leads in turn to expressions of self-doubt. A. N. Whitehead remarked: "The ancient world takes its stand upon the drama of the Universe, the modern world upon the inward drama of the Soul" (Whitehead 174). Seeking the unshaken foundation of truth, the *fundamentum inconcussum* of his entire system, in the subjective experience of the *cogito*, Descartes not only placed knowledge of the independent world in doubt, but sowed the seeds for the demise of the self as autonomous substance. For Descartes consciousness is a closed world, limited to internal ideas or representations: we can know only what is *in* the mind. This assumption was adopted unquestioningly by the British empiricists and Kant. What I know directly are not things themselves, but impressions or ideas of things. The direct realism of traditional philosophy gave way to an indirect realism, a position shared equally by Continental idealism and British empiricism. In the words of John Locke, "the mind, in all its thoughts and reasonings, hath no other immediate object but its own ideas, which it alone does or can contemplate" (Locke 525).[1] If all we know are the contents of our mind, what grounds have we to affirm the reality of an independent world? The logical conclusion, drawn by the Irishman George Berkeley, was that reality itself consists of nothing but perceptions.

Yet another consequence derived from the primacy of the *cogito*: in his obsession with clear and distinct ideas Descartes identified the soul with conscious activity, defining the self as *res cogitans*, a thinking thing. From the Aristotelian standpoint this was to equate substance with one of its accidental or secondary modes, separating activity from its underlying, abiding, and enduring agent. Moreover, by identifying the body as *res extensa*, Descartes introduced an insoluble dualism into human nature. The traditional notion of individual substance was rejected, the substantial metaphysical unity of the person abandoned, the self dissipated and dispersed. The English empiricist John Locke confirmed the demise of the self when he discarded the notion of substance as the supposed but unknown support of qualities that cause our simple ideas.

[1] Common to the idealist and empiricist views of knowledge is the recognition—itself a truism—that what is known must somehow be "in" the mind or consciousness. Descartes, Locke, and Hume failed, however, to recognize the analogical use of the preposition in the context of cognition: whereas a physical object can only be in a single location, the object of knowledge—while enjoying an independent autonomous existence—is also, as known, somehow mysteriously present within the mind. In this sense Joyce could remark to his brother Stanislaus: "What can a man know but what passes inside his own head?" (*JJII* 265).

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David Hume inherited Descartes' obsession with clarity and distinction. He adopted Locke's criterion that an idea must be "clear and intelligible" (Hume 251). And since there is no clear and intelligible idea of the self, there is no such reality. In a famous passage from his *Treatise of Human Nature* David Hume drew the logical consequence of Descartes' equation of the ego with thought. The personal, individual, substantial self disappears:

> For my part, when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception, and never can observe any thing but the perception. (Hume 252)

According to Hume, the self is "nothing but a bundle or collection of different perceptions, which succeed each other with an incomparable rapidity, and are in a perpetual flux and movement" (Hume 252). Hume's theory became known as the "bundle theory" of the self, a theory that has since remained popular. The notion of self is inseparable from that of soul—another idea which likewise went into decline, notably at the start of the twentieth century. In a lecture at Oxford in 1908 William James declared: "[s]ouls are out of fashion" (McDougall xii). James was commenting on the increased popularity of materialist interpretations of man and the decline of religion in the West. Qualifying Virginia Woolf's provocative claim that "on or about December 1910 human character changed" (Woolf 421), Richard Rorty has suggested that "the big change in the outlook of intellectuals—as opposed to a change in human nature—that happened around 1910 was that they began to be confident that human beings had only bodies, and no souls" (Rorty 168). This was the climate against which Joyce was forming his intellectual outlook, often in reaction to the dominant influences around him.

It is most significant that "soul" is one of the words most frequently used by Joyce, occurring twenty times in *Dubliners*, thirty-five in *Stephen Hero*, 204 in *Portrait*, 106 in *Ulysses*, fourteen in *Exiles*, and thirty-four in *Finnegans Wake*, a total of over 400. In *Portrait* in particular, when speaking of himself, Stephen repeatedly does so by referring to his soul. For Stephen the soul is what essentially constitutes the self. Notwithstanding Aquinas' important statement: "*Anima mea non est ego*" ("My soul is not I"), this is consonant with the declaration in Aristotle's *De Anima*: "It is

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the soul by which we primarily live, perceive, and think" (*De Anima* 414a12–14).[2]

In his library in Trieste Joyce had a copy of *Psychology: Empirical and Rational* by Michael Maher, S.J., published in the series "Catholic Manuals of Philosophy" (Maher was the nephew of Fr Delaney, Jesuit President of University College Dublin during Joyce's student days, referred to in *Stephen Hero* as Fr Dillon). Emphasizing the unity of soul and body as one person, Maher explains the different connotations of the related terms "substance," "person," "nature," and "essence," which he states "points to the reality of which the being is constituted" (Maher 559, n. 9). Joyce drew a line in pencil from the word "reality" to the phrase "acting totality" which he wrote in the margin. Maher offers an exhaustive account of "the Aristotelico-Scholastic doctrine" of soul and body, stating: "[t]he most satisfactory theory is the old Peripatetic doctrine. This explanation was formulated by Aristotle, and later on adopted by St. Thomas and all the leading Scholastic philosophers. The soul is described by these writers as the *substantial form* of the living being" (Maher 555). This is the concept of soul that is repeatedly articulated by Stephen Dedalus.

The enigma of the soul is its elusive nature; St Augustine likened it to an abyss that cannot be fathomed or comprehended. The early Greek thinker Heraclitus declared: "[y]ou could not in your going find the ends of the soul, though you travelled the whole way, so deep is its *Logos*" (Frg. 45). It was of course Heraclitus who gave classic expression to the unsettling theory that nothing whatsoever is permanent, but that all is flux. This is a common motif pondered throughout Joyce's work. Reality resembles a stream that never remains the same. Precisely the opposite was asserted by Parmenides, who rejected all change as involving the contradiction that, in order to change, being must become other; and since the only alternative to being is non-being, if something were to change, logically it must cease to be. It was to reconcile these opposites that Aristotle developed his metaphysics: particularly his distinction of act and potency, and it is in his formulation of these concepts that we can best understand the context of Joyce's philosophical concerns. Hugh Kenner has suggested that "[t]he sharpest exegetical instrument we can bring to the work of Joyce is Aristotle's great conception of potency and act. His awareness of it helps distinguish Joyce from every other writer who has used the

[2] For a comprehensive account, see *De Anima* II, 4, 415a14–415b28.

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conventions of naturalist fiction" (Kenner 107). A brief explanation of Aristotle's distinction between act and potency will therefore be helpful.

The central philosophical question facing Aristotle was to explain, on the one hand (against Parmenides), how reality could involve change without thereby incurring contradiction; and, on the other hand (against Plato, who took too seriously Heraclitus's view of physical nature in perpetual flux), how it is possible to attain stable knowledge concerning changing realities. Aristotle's greatest merit was to discern that "being is said in many ways." He recognized the distinction between what things are and what they can be and formulated the distinction between actual and potential being. Being in the primary sense is actuality. Potency only makes sense in light of its possible actualization. Aristotle defines change or movement as "the act of the potential as potential"; this can only be effected through the agency of a cause which is itself actual. Joyce copied this definition into his notebook in Paris in 1903: "Movement is the actuality of the possible as possible" (O'Rourke 40).[3] He repeatedly uses this phrase; readers are acquainted with its importance in "Nestor." Joyce is in fact quoting a mistranslation, a most significant, but a fortunate one. He was using the translation of Jules Barthélemy-Saint-Hilaire, described by Jules Tricot (whose translation was published in 1940), as a "traduction très défectueuse" (Tricot x). Aristotle defines motion or change as the actuality, or actualization, not of the "*possible as the possible*", but of the "*potential as potential*". The correct word in French would be "potentialité" or "puissance." The phrase "actuality of the potential as the potential," it must be said, does not have the same flowing cadence, and would not have had the same appeal for Joyce: the error is *bien trouvée*.

Aristotle distinguished between two related meanings of actuality. There is firstly the word "*energeia*" (whence our word "energy"), which connotes that something is active, or literally "at work." He also coined the term "*entelecheia*" to denote the fully actualized perfection of something having attained perfection or completion. (The Greek word "*entelēs*" is derived from the word "*telos*," i.e. goal or end, and means "complete" or "full"). In this sense "entelechy" also denotes the actuality of an individual in so far as it is fundamentally determined as a definite kind of substance; another word for this is essence or "form" (Greek *eidos*). Unfortunately our word "form" suggests something external or

[3] The Paris notebook can be read online from the National Library of Ireland website (catalogue.nli.ie): MS 36,639/2/A ("The Joyce Papers 2002").

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superficial, "outline," or "shape"; but for Aristotle *eidos* is the deepest intrinsic principle which determines the very essence of things. It is the basic perfection or actualization of an individual as itself—its first determination. The most significant instance of form for Aristotle is the soul, which he defines as "the first actuality (*entelechy*) of a natural body with organs" (*De Anima* 412b5–6). The body is endowed with a variety of distinct organs, i.e. tools or instruments (hands, legs, kidney, heart, eyes, etc.), but in order to function as an individual, these must first be constituted together as a unity: this precisely is the work of the soul. Aristotle provides the radical explanation for the unity of the body when he defines the soul as the "first actuality of a natural body which potentially possesses life" (*De Anima* 412a31–2). The soul gives to the body actual existence, unity, and life. It is fundamental for Aristotle that the soul unifies all vital activities of the human individual: vegetal, sensitive, and intellective.

"The soul is the first entelechy of a naturally organic body" (O'Rourke 7). This was the first quotation noted by Joyce in his notebook in February 1903, as he read Aristotle in the Bibliothèque Sainte-Geneviève in Paris. The definition was to become crucial for his formulation of personal identity in *Ulysses*. Aristotle made use of other related concepts in his psychology to explain knowledge and Joyce adopted many of these into his vocabulary. Among the phrases that he copied from Aristotle's *De Anima* the following are relevant to our topic:

> "A sense receives the form without the matter."
> "The sensation of particular things is always true."
> "The intellect conceives the forms of the images presented to it."
> "The intellectual soul is the form of forms."
> "The soul is in a manner all that is." (O'Rourke 15, 16, 23, 24)

In his treatise on the soul Aristotle states that while a sense faculty assimilates the sensible form of a material body, it is confined to one object. Intellect is not so restricted, since it can receive immaterially the forms of all things. That is what is meant by the phrase cited by Joyce: "The intellectual soul is the form of forms" (*De Anima* 432a2). It has unrestricted cognitive openness towards the entirety of reality, with the capacity to grasp intellectively the essence or form of every substance which it encounters. This is stated in another phrase of *De Anima* that Joyce entered in his *cahier*: "Summing up what we have said about the soul, let us assert once

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more that the soul is in a manner all that is" (*De Anima* 431b20–21). It is impossible to exaggerate the importance for Joyce of the Aristotelian concepts of form, actuality and potency/possibility, and their application to the soul. In the metaphysical context the soul is defined as the "entelechy," first form or actualization of the body, which constitutes the human individual as a real single entity; epistemologically it is the "form of forms," allowing the individual to know all reality. I will return to these concepts as they relate to the identity of what is known, and of the person who knows.

First, however, I wish to draw attention to the pervasive importance of questions of knowledge in Joyce's writings. The nature and modalities of cognition are thematized in the opening pages of both *A Portrait of the Artist as a Young Man* and *Ulysses*, as well as the final pages of *Finnegans Wake*. It is worth referring to these passages to appreciate the scope and importance of the theme of knowledge for Joyce.

In *A Portrait*, the child's awakening to the world is specified according to the different senses through which he first perceives its surroundings. One of the questions raised by Aristotle in his treatise *On the Soul* was that of the unity among the diverse senses; he solved it by affirming the existence of an internal common sense. Other internal senses—also relevant for Joyce—are memory and imagination. We may observe in passing that Stephen, in his practice of spiritual self-mortification, systematically disciplines each of the five senses (*P* 150–1). It is also worth noting that in the famous sermon in *A Portrait* the preacher states that the internal faculties are more perfect than the external, and therefore more susceptible to greater torment (*P* 130).

Dilemmas of knowledge and identity are centre stage in the opening paragraphs of *Ulysses*. The contrast between Stephen and Buck Mulligan is evident from the outset: Mulligan is the crass empiricist for whom life is a beastly affair, Stephen Dedalus the reflective, realist, introspective and sensitive Aristotelian. Mulligan intones: "For this, O dearly beloved, is the genuine christine: body and soul and blood and ouns. Slow music, please. Shut your eyes, gents. One moment. A little trouble about those white corpuscles. Silence, all" (*U* 1.21–3). In this parody of the Mass Mulligan mocks the transubstantiation of bread into the body of Christ (*corpus Christi*). The mockery also alludes to the theory of corpuscles which was central to the empiricist theory of John Locke. According to Locke, natural bodies are composed of particles which give to bodies the primary qualities of solidity, extension, figure, motion or rest, and number, which

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are retained even after repeated division. These primary qualities also cause our simple ideas (Locke 9–10).

The theory of corpuscles had been proposed by Robert Boyle, Irish scientist and friend of John Locke.[4] In his address, "Of the Origins of Forms and Qualities," to the Royal Society in 1665, he declared: "There are in the world great store of particles of matter, each of which is too small to be, whilst single, sensible, and being entire or undivided, must needs both have its determinate shape and be very solid" (Boyle 41). With this theory, Boyle was praised by the German theologian Henry Oldenburg for having "driven out yt Divell of Substantiall Forms … that has stopt ye progres of true Philosophy, and made the best of Schollars not more knowing as to ye nature of particular bodies than the meanest ploughman" (Oldenburg 61, 67). This was another major challenge to the dominant role of Aristotelian *eidos* or form which had occupied a central place in the worldview of the medieval period and beyond.

Locke's theory of enclosed consciousness and indirect realism is played out when Mulligan plays down his insult to Stephen: "What? Where? I can't remember anything. I remember only ideas and sensations. Why? What happened in the name of God?" (*U* 1.192–3). Stephen's direct memory of the actuality of the experience by contrast is still raw: "I am not thinking of the offence to my mother./—Of what then? Buck Mulligan asked./—Of the offence to me, Stephen answered" (*U* 1.218–20). The response is cruel: "—O, an impossible person!" (*U* 1.222). Mulligan typifies the vivisective mentality which typifies the modern age.[5] "To me it's all a mockery and beastly. Her cerebral lobes are not functioning" (*U* 1.210–1). The death of his mother affects Stephen profoundly and personally. For Mulligan it is a physiological event that happens to everyone, a "beastly" event devoid of personal import. The question of identity, personal life and personal death, is close to the surface: "—And what is death, he asked, your mother's or yours or my own? You saw only your mother die. I see them pop off every day in the Mater and Richmond and cut up into tripes in the dissectingroom. It's a beastly thing and nothing else. It simply doesn't matter" (*U* 1.204–7). The contrast between Stephen and Mulligan could not be greater.

[4] Locke and Boyle studied together at Oxford in the late 1650s and early 1660s, and corresponded on scientific matters.

[5] See *SH* 186: "The modern spirit is vivisective. Vivisection itself is the most modern process one can conceive."

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One of the most significant passages at the close of *Finnegans Wake* is the conflict between the idealism of George Berkeley and the common-sense realism of St Patrick.[6] There is patent reference to Berkeley's theory of vision, prompted by the bishop's multicoloured vestments, with their "heptachromatic sevenhued septicoloured roranyellgreenlindigan mantle finish" (*FW* 611.6–7). Scepticism is voiced over the "all too many much illusiones through photprismic velamina of hueful panepiphanal world spectacurum" (*FW* 611.12–14), as the search continues for the "wisdom of Entis-Onton he savvy inside true inwardness of reality, the Ding hvad in idself id est" (*FW* 611.20–1). References to the "mantle finish" and the "velamina of hueful panepiphanal world" echo the call to "roll away the reel world, the reel world, the reel world!" (*FW* 64.25–6).

The potent references to the "wisdom of Entis-Onton" (a combination of Latin and Greek genitives, singular and plural, of "being"), the "true inwardness of reality" (an echo perhaps of Hopkins), and "the Ding hvad in idself id est," referring to Kant's distinction between the "thing in itself" (*Ding an sich*) and its appearance (Noumenon and Phenomenon), and Aquinas' *quidditas*: these all combine to emphasize Joyce's concern with the real in itself. They also recall Aristotle's statement in his *Metaphysics*: "[t]he question which, both now and of old, has always been raised, and always been the subject of doubt, namely, what being is, is just the question, what is substance?" (*Metaphysics* 1028b). Regarding Joyce's basic outlook Harry Levin has pertinently remarked: "There are times, even in his maturest writing, when he still seems to be a realist in the most medieval sense" (Levin 35).

Having referred to these passages spanning Joyce's entire oeuvre which illustrate Joyce's preoccupation with complex questions of knowledge, I wish now to focus on the contrasting attitude of Joyce's protagonists to questions of identity and cognition. It is striking that both Stephen and Bloom are exercised by the enigma of self-identity as well as the challenge

[6] Joyce explained to Frank Budgen in a letter: "Much more is intended in the colloquy between Berkeley the archdruid and his pidgin speech and Patrick in answer and his Nippon English. It is also the defence and indictment of the book itself, B's theory of colour and Patrick's practical solution of the problem. Hence the phrase in the preceding Mutt and Jeff banter 'Dies is Dorminus master,' = Deus et Dominus noster plus the day is lord over sleep, i.e. when it days" (*Letters I*, 406). Anthony Burgess refers to "St. Patrick refuting the philosophical gibberish of the archdruid Berkeley-Bulkily-Buckley" (Burgess 1973, 259). See Burgess: "'Bilkilly-Belkelly' spouts sesquipedalian idealism which makes as much sense as blackfellow's gibberish" (Burgess 1965, 260).

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of a changing world. Each speculates whether he persists as the same individual in a stable world. In the case of Stephen this already occurs in *Portrait*, when he confirms his own sense of selfhood and self-creation when asked about his attitude to his abandoned religion, and if he was now happier:

> —Often happy, Stephen said, and often unhappy. I was someone else then.
>
> —How someone else? What do you mean by that statement?
>
> —I mean, said Stephen, that I was not myself as I am now, as I had to become.
>
> —Not as you are now, not as you had to become, Cranly repeated. (*P* 240)

This awareness is repeated in the opening scene of *Ulysses* in which Mulligan enacts his mock liturgy. Stephen recalls how years earlier he participated in a religious ceremony: "So I carried the boat of incense then at Clongowes. I am another now and yet the same. A servant too. A server of a servant" (*U* 1.310–12). He frequently refers to past events in order to interpret current experiences. He sympathizes with the struggling pupil, Cyril Sargent, through a certain self-interpretation: "Like him was I, these sloping shoulders, this gracelessness. My childhood bends beside me" (*U* 2.168–9). The subsequent conversation with Mr. Deasy likewise triggers memories of the self, and attendant problems: "The same room and hour, the same wisdom: and I the same. Three times now. Three nooses round me here. Well? I can break them in this instant if I will" (*U* 2.233–5). This is an interesting indication of Joyce's persisting struggle for personal identity in self-liberation from the nets of nationality, language, and religion, famously challenged at the end of *A Portrait*.

The question of identity arises for Stephen at two levels: that of the individual self as an abiding entity, and the development of the individual artistic persona. I am concerned here with the first, but the following passage presents his twofold challenge:

> As we, or mother Dana, weave and unweave our bodies, Stephen said, from day to day, their molecules shuttled to and fro, so does the artist weave and unweave his image.[7] And as the mole on my right breast is where it was

[7] Joyce almost certainly borrowed this phrase from the conclusion to Walter Pater's *The Renaissance* (which has as its slogan Heraclitus' declaration of universal flux): "It is with this

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> when I was born, though all my body has been woven of new stuff time after time, so through the ghost of the unquiet father the image of the unliving son looks forth. In the intense instant of imagination, when the mind, Shelley says, is a fading coal, that which I was is that which I am and that which in possibility I may come to be. So in the future, the sister of the past, I may see myself as I sit here now but by reflection from that which then I shall be. (*U* 9.376–85)

The question of personal continuity and identity arises most visibly, as stated in the preceding passage, due to physical transformation, i.e. renewal by replacement: "Five months. Molecules all change. I am other I now. Other I got pound. Buzz. Buzz. But I, entelechy, form of forms, am I by memory because under everchanging forms. I that sinned and prayed and fasted. A child Conmee saved from pandies. I, I and I. I. A.E.I.O.U." (*U* 9.205–13). Stephen ponders his own self-identity: with the passage of time does he really still exist? Put crassly, have not all his molecules changed? More subtly: is he still the same, despite his discrete memories. Is he the same enduring "I"—indicated punctually: "I, I"—or are there different successive selves: "I. I"? (*U* 9.212). The dilemma is articulated with the help of Aristotle; Stephen persists as identical by virtue of his personal entelechy—enduring under the ever-changing forms as remembered, because the soul is the primordial "form of forms." Stephen briefly entertains Locke's theory of self-identity as grounded in memory, but holds fast to his belief in soul, the primary determination (entelechy) that governs the exchange of molecules and gives actuality to memory. In one of his metaphysical insights in Nighttown, Stephen brilliantly describes the first entelechy, the soul, as "the structural rhythm" (*U* 15.107). With this principle, Aristotle could respond to the *panta rhei* of Heraclitus ("all is flux"); one could step twice into the same stream, indeed step out of it, while the stream itself flows on: "human nature was a constant quantity," we read in *Stephen Hero* (*SH* 175).

That Stephen's solution to personal identity is the Aristotelian soul or entelechy ("form of forms") is already announced in "Proteus": "Take all, keep all. My soul walks with me, form of forms. […] The flood is following me. I can watch it flow past from here" (*U* 3.279–82). The "I" necessarily stands above the flow, otherwise it could not observe that which

movement, with the passage and dissolution of impressions, images, sensations, that analysis leaves off—that continual vanishing away, that strange, perpetual, weaving and unweaving of ourselves" (Pater 236).

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flows. Stephen confirms his conviction that the self is rooted in the soul as "form of forms": "I throw this ended shadow from me, manshape ineluctable, call it back. Endless, would it be mine, form of my form?" (*U* 3.412–14).[8] Aristotle occasionally used the word "shape" (*morphé*) as synonymous with "form" (*eidos*); combined with one of Joyce's favourite words, "ineluctable," it conveys that which for Aristotle is essential, necessary, and inalienable within the human individual. The phrase "form of forms" conveys the soul's powerful cognitive role as receptive of all reality. Shortly afterwards in the same episode we have what is tantamount to Stephen's ultimate existential self-affirmation: "As I am. As I am. All or not at all" (*U* 3.452).

Even in his inebriated state Stephen manages to come up with a remarkable formula for the development of self: "What went forth to the ends of the world to traverse not itself, God, the sun, Shakespeare, a commercial traveller, having itself traversed in reality itself becomes that self. Wait a moment. Wait a second. Damn that fellow's noise in the street. Self which it itself was ineluctably preconditioned to become. *Ecco!*" (*U* 15.2117–21). The problem may be summed up: "To me or not to me. Satis thy quest on" (*FW* 269.19–20). The question is asked: "Fas est dass and foe err you"? (*FW* 273.6).

So much for Stephen's concern with his own permanence and identity. It is highly revealing of Joyce's preoccupation with permanence and self-identity that Stephen and Bloom are both challenged by the phenomenon of change, which occupies much of the background in "Proteus," "Lestrygonians," and "Scylla and Charybdis." The approaches of Bloom and Stephen, however, are significantly different. While Bloom is equally baffled by the question of self-identity through time, he does not have Stephen's theoretical apparatus to resolve the question. As well as puzzlement with a Heraclitean vision of the world in constant flux, Bloom is also troubled by the question of his own personal permanence and identity: "I was happier then. Or was that I? Or am I now I? Twentyeight I was. She twentythree. When we left Lombard street west something changed. Could never like it again after Rudy. Can't bring back time. Like holding

[8] The word "manshape" echoes Hopkins's poem "That Nature is a Herclitean Fire":

> Man, how fast his firedint, his mark on mind, is gone!
> Both are in an unfathomable, all is in an enormous dark
> Drowned. O pity and indignation! Manshape, that shone.

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water in your hand. Would you go back to then? Just beginning then. Would you?" (*U* 8.608–12). Reminiscing about his amorous adventures with Molly on Ben Howth, he muses: "Me. And me now" (*U* 8.917). He also wonders about the identity of his personality: "Am I like that? See ourselves as others see us!" (*U* 8.662). His self-doubt is illustrated in the final scene of "Nausicaa" by his failure to trace his identity in the sand, in the hope of arranging another encounter with Gerty MacDowell: "I./[…] AM. A./No room. Let it go./Mr Bloom effaced the letters with his slow boot. Hopeless thing sand. Nothing grows in it. All fades" (*U* 13.1258, 1264–7). Bloom somehow seems uncertain of his identity, and muses at the graveside in Glasnevin: "If we were all suddenly somebody else" (*U* 6.836). This is, of course, a futile and contradictory exercise. The illusory assumption is that while remaining oneself, one might also become another, which is of course a complete impossibility. Aristotle remarks in his *Nicomachean Ethics*: "No one would choose to possess every good in the world on condition of becoming somebody else […] but only while remaining himself, whatever he may be" (*Nicomachean Ethics*, 1166a19–23). The impossible presumption is that one could become someone else, while remaining oneself—a patent contradiction.

By contrast it is interesting to compare Bloom's self-image with the perception others have of him. Molly, who presumably knows him better than anyone, on the one hand recognizes his uniqueness: "I suppose there isnt in all creation another man with the habits he has" (*U* 18.1197–8), but also raises a troubling question regarding Bloom's core personality: "hes always imitating everybody" (*U* 18.1204–5). Hoppy Holohan exclaims in "Circe": "Good old Bloom! There's nobody like him after all" (*U* 15.1727).

Stephen and Bloom are alike concerned with the question of personal identity. Let us consider also their attitude to change. Stephen's reflections on change which dominate "Proteus" are well known and need not be rehearsed here. Suffice it to say that his response is from the start that of the intellectual who theorizes about what he observes: "God becomes man becomes fish becomes barnacle goose becomes featherbed mountain" (*U* 3.477–9). Stephen goes beneath the perceptible to seek an underlying and enduring undercurrent. In his analysis of change he was, perhaps unawares, searching for a common element analogous to Aristotle's "prime matter." Prime matter, *prote hule*, a principle of pure potency, allows Aristotle to make sense of radical, substantial, change: since change is a succession within an identity there must be an underlying

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element that persists throughout the process and which is receptive to all possible transformation.

Bloom is likewise struck by the phenomenon of change. In "Lotus Eaters" he reflects: "Won't last. Always passing, the stream of life, which in the stream of life we trace is dearer thaaan them all" (*U* 5.563–4). In "Lestrygonians" he muses: "How can you own water really? It's always flowing in a stream, never the same, which in the stream of life we trace. Because life is a stream" (*U* 8.93–5). The phrase is repeated shortly afterwards: "The stream of life" (*U* 8.176). Later in the same episode we find him reflecting upon the fluidity of the world, in a passage strongly reminiscent of Heraclitus. Bloom ponders the flux of his metropolitan world:

> Trams passed one another, ingoing, outgoing, clanging. Useless words. Things go on same, day after day: squads of police marching out, back: trams in, out. Those two loonies mooching about. Dignam carted off. Mina Purefoy swollen belly on a bed groaning to have a child tugged out of her. One born every second somewhere. Other dying every second. Since I fed the birds five minutes. Three hundred kicked the bucket. Other three hundred born, washing the blood off, all are washed in the blood of the lamb, bawling maaaaaa.
>
> Cityful passing away, other cityful coming, passing away too: other coming on, passing on. Houses, lines of houses, streets, miles of pavements, piledup bricks, stones. Changing hands. This owner, that. Landlord never dies they say. Other steps into his shoes when he gets his notice to quit. They buy the place up with gold and still they have all the gold. Swindle in it somewhere. Piled up in cities, worn away age after age. Pyramids in sand. Built on bread and onions. Slaves Chinese wall. Babylon. Big stones left. Round towers. Rest rubble, sprawling suburbs, jerrybuilt. Kerwan's mushroom houses built of breeze. Shelter, for the night.
>
> No-one is anything. (*U* 8.476–93)

This last phrase is strikingly similar to the conclusion drawn in Plato's *Theaetetus*, where Socrates refers to the secret doctrine, inspired by Heraclitus' theory of flux, that underlies the extreme sensism of the doctrine that "[m]an is the measure of all things": "All things are always in every kind of motion. […] One must not use even the word 'thus,' nor yet 'not thus'" (*Theaetetus* 182a, 183b). According to this theory, it is impossible either to think or speak about anything, since nothing remains constant, neither the knower nor the known. The Greek word for knowledge, *episteme*, derives from the same root as the verb "to stand" and implies fixity.

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Because Plato believed there could be no stable knowledge of changing things, he posited a separate world of unchanging Ideas. With his theory of form (*eidos*) as the abiding defining principle of natural beings, Aristotle explained how there can be stable knowledge of changing things: form guarantees the underlying identity of the individual even as it changes accidentally. With his theory of soul, which is metaphysically the entelechy of the body and cognitively the "form of forms," he provided an explanation of the continuity and identity of the knowing subject.

Bloom is as concerned as Stephen with the question of permanence and identity. But while Stephen is compelled to theorize about everything, Bloom is more practical. We might apply the words from *Finnegans Wake*: "Let us leave theories there and return to here's here" (*FW* 76.10). In Glasnevin cemetery Bloom reflects upon the decay of the body. Just as Stephen finds permanence in Aristotle's principles of form and prime matter, Bloom (whose mentality is more scientific than philosophical)[9] finds ultimate stability in the cells that go on living:

> I daresay the soil would be quite fat with corpsemanure, bones, flesh, nails. Charnelhouses. Dreadful. Turning green and pink decomposing. Rot quick in damp earth. The lean old ones tougher. Then a kind of a tallowy kind of a cheesy. Then begin to get black, black treacle oozing out of them. Then dried up. Deathmoths. Of course the cells or whatever they are go on living. Changing about. Live for ever practically. Nothing to feed on feed on themselves. (*U* 6.775–82)

Bloom views all happenings in the world as natural phenomena; indeed the world is composed entirely of natural phenomena that can be explained in terms of natural causes and events. Stephen is the Aristotelian philosopher. He finds the guarantee of self-identity in Aristotle's theory of the soul as the entelechy, or first actualization, which is the substantial form of the human individual. He grounds the reliability of knowledge in Aristotle's theory of sensation and develops it through Aristotle's theory of the soul as "form of forms." The intellectual soul apprehends the essential form of the object, its whatness or quiddity, which it expresses in definition: "Unsheathe your dagger definitions. Horseness is the whatness of allhorse" (*U* 9.84–9).

[9] Stephen stands for the Hellenic, intellectual, and artistic, as against Bloom, the Hebraist, sensualist, and scientific. See Wagner 178.

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In a delightful and cleverly-worded exchange in "Eumaeus" we are given a clear insight into the contrasting outlooks of Bloom and Stephen concerning human nature and the foundation of human thought. Bloom is forthright in his challenge:

> —You, as a good catholic, he observed, talking of body and soul, believe in the soul. Or do you mean the intelligence, the brainpower as such, as distinct from any outside object, the table, let us say, that cup? I believe in that myself because it has been explained by competent men as the convolutions of the grey matter. (*U* 16.748–52)

Stephen is obliged to recall what he has learned about the ultimate metaphysical ground of the soul and its enduring identity:

> —Thus cornered, Stephen had to make a superhuman effort of memory to try and concentrate and remember before he could say:
>
> They tell me on the best authority it is a simple substance and therefore incorruptible. It would be immortal, I understand, but for the possibility of its annihilation by its First Cause Who, from all I can hear, is quite capable of adding that to the number of His other practical jokes, *corruptio per se* and *corruptio per accidens* both being excluded by court etiquette. (*U* 16.754–60)

Bloom's reaction is one of the cleverest and most amusing characterizations in the entire book: "Mr Bloom thoroughly acquiesced in the general gist of this though the mystical finesse involved was a bit out of his sublunary depth" (*U* 16.761–2). He entirely misunderstands Stephen's use of the word "simple": "Simple? I shouldn't think that is the proper word. Of course, I grant you, to concede a point, you do knock across a simple soul once in a blue moon" (*U* 16.764–5). Bloom innocently assumes that "simple" means weak-minded, innocent or naïve, whereas Stephen intends it in its original sense of undivided. He correctly outlines the Thomist argument that since the human soul is not composed of parts, it is of its nature incorruptible. The only conceivable possibility is that God would annihilate it or reduce it to nonbeing. But since God has out of love created souls in his own image and likeness, it would negate his divine goodness if he were to do so. Such a practical joke on God's part would be intrinsically a contradiction, since he would be destroying his own work; his action would be void of purpose.

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In connection with the identity of the object as known, it is necessary to refer to the reliability of sense knowledge. One of the phrases noted by Joyce in his notebook was the phrase from Aristotle's *De Anima*: "The sensation of particular things is always true" (*De Anima* 428b18–19, 427b11–12). According to Aristotle, each of the senses is infallible with respect to its specific object, within its own particular, very restricted, domain; in the simple apprehension of their respective objects the senses cannot err. This follows by definition from the nature and function of the sense faculty itself: the eye is the organ specifically equipped to grasp colour; the ear is the faculty which necessarily and inevitably grasps sound. To suggest that a particular sense faculty, operating according to its nature, is deceived in its grasp of its proper object is contradictory: it would be to deny the existence of such a faculty. Joyce captures the kernel of Aristotle's theory of sensation in the twin phrases "ineluctable modality of the visible" (*U* 3.1) and "ineluctable modality of the audible" (*U* 3.13). These phrases summarize with accurate clarity Aristotle's fundamental teaching regarding the infallibility of sense knowledge.

Aristotle makes the important distinction between the proper and the common objects of perception. Colour is the proper sensible of the eye, sound the proper sensible of the ear; size, shape, speed and distance, on the other hand, are among what he calls the "common perceptibles." These may be grasped by more than one sense faculty and the perceiver is liable to err if he carelessly judges an object on the evidence of one sense alone. There is a necessity, however, attaching to our knowledge of the proper sensibles; this derives from the very nature of our faculties of sensation, which must grasp their proper objects correctly. John Locke, on the other hand, gave primacy to data such as extension and number, describing them as primary qualities, since they are less dependent upon the observer's subjective condition. Experiences such as colour and taste are less reliable; these he termed "secondary qualities."

The difficulty involved in the perception of the common sensibles is dramatized in "Lestrygonians," as Bloom admires the fieldglasses in the window of Yeates and Son on Nassau Street: "Must get those old glasses of mine set right" (*U* 8.554). Distance appears to distort size; the clock on the top of the bank appears no larger than a watch: "There's a little watch up there on the roof of the bank to test those glasses by" (*U* 8.560–1). Distance, size, shape, perspective: these are all situation-dependent. Bloom improvises the experiment suggested by the Irish astronomer Sir Robert Ball in *The Story of the Heavens* (first published in 1885) to illustrate "the

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conception known to astronomers by the name of *parallax*; for it is by parallax that the distance of the sun, or, indeed, the distance of any celestial body, must be determined." It is, notes Ball, "a geometrical problem of no little complexity" (Ball 151–2).[10]

Parallax is the "apparent displacement" of an object in the foreground relative to a distant background when viewed separately by the right and left eye. This optical displacement of the object in relation to the background increases as one approaches, and decreases as one moves away. This is because distance, perspective, size, and shape are not the proper sensible of any one of the senses alone; they are what Aristotle calls "common sensibles," since we can grasp these data not only by sight but also by touch.[11]

It will be of interest to refer our foregoing discussion of personal identity to the characters of Bloom and Stephen. Joyce remarked to Frank Budgen that he no longer found Stephen interesting; he had "a shape that can't be changed" (Budgen 107). This seems paradoxical, since Joyce was not only Stephen's creator, but also his model. Had Joyce grown tired of himself? Had he exhausted all possibilities for self-representation? He famously confessed that he did not have the gift of imagination, only those of memory and organization. Was he unable to find further possibilities of character? It appears from the text that there was a predictability about Stephen. In *Portrait* he states: "I was someone else then. […] …I was not myself as I am now, as I had to become" (*P* 240). In *Ulysses* he refers to the "Self which it itself was ineluctably preconditioned to become. *Ecco!*" (*U* 15.2120–1). This is even sensed by Bloom, who "saw in a quick young male familiar form the predestination of a future" (*U* 17.780).

For the author of *Ulysses* the figure of Bloom was vastly more interesting. Stephen was the intellectual, interpreting the world in terms of fixed categories and an already defined *Weltanschauung*. Bloom was untrained and curious, eager to inquire, an amateur scientist. He had still to discover and understand the world and displays the innocent enthusiasm of one

[10] See *U* 8.110: "Fascinating little book that is of sir Robert Ball's. Parallax." Also *U* 15.1010–12: "I was just chatting this afternoon at the viceregal lodge to my old pals, sir Robert and lady Ball, astronomer royal at the levee. Sir Bob, I said…"

[11] Anatole France expresses a similar phenomenon, perceived by Riquet, M. Bergeret's dog: "Men, animals, and stones grow larger as they approach me, and become enormous when they are quite close. It is not so with me. I remain the same size wherever I am" ("Les hommes, les animaux, les pierres grandissent en s'approchant et deviennent énormes quand ils sont sur moi. Moi non. Je demeure toujours aussi grand partout où je suis" [France 87]).

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who names it for the first time; to portray this was for Joyce a greater challenge. Stephen, although he contemplates "possibilities of the possible as possible: things not known" (*U* 9.349–50), is already fixed and formed; Bloom remains open to possibility. Like most of Joyce's characters he is not inflexible, but is receptive to new development; he does not yield to rigid definition.

The challenge for philosophy is to justify the common-sense belief that there is an abiding unity in each of us, while also accounting for the interaction of that self-unity with the ever-changing flux of experience. The self must be at once constant and dynamic: is this not a contradiction? It is clear that the individual must be inalienable and self-possessed. This insight is articulated in "A Painful Case," where Mr. Duffy realizes that the self is a solitary and isolated entity: "as he attached the fervent nature of his companion more and more closely to him, he heard the strange impersonal voice which he recognised as his own, insisting on the soul's incurable loneliness. We cannot give ourselves, it said: we are our own" (*D* 111). In *Finnegans Wake* such isolation becomes exile, conveyed in a very powerful passage: "the whirling dervish, Tumult, son of Thunder, self exiled in upon his ego, a nightlong a shaking betwixtween white or reddr hawrors, noondayterrorised to skin and bone by an ineluctable phantom (may the Shaper have mercery on him!) writing the mystery of himsel in furniture" (*FW* 184.5–10). This isolation is also suggested by Anna Livia, who in her concluding introspective reflections recognizes this fundamental fact of life: "Ourselves, oursouls alone" (*FW* 623.28–9).

The question of identity pervades, even dominates, *Finnegans Wake*, which it may be suggested, deals with "the first riddle of the universe: asking, when is a man not a man?" (*FW* 170.4–5). Given the constantly changing prosopography ("intermutuomergent," *FW* 55.11–12) inhabiting its dreamworld, the conflict between identity and plurality of personality is repeatedly dramatized but, as we might expect, never resolved. It is no use to appeal to either Aristotle or Aquinas, since the domain of concrete facts gives way to the realm of dream and imagination. And yet the work is in a very real sense a testament to the profound mystery of selfhood and its multiple manifestations: ever most real, it remains elusive and beyond defining. Its most important lesson is, perhaps, that it is impossible "to identifine the individuone" (*FW* 51.6). This coincides indeed with the deepest sentiment of both Aristotle and Aquinas, who joyfully affirm the mystery of concrete reality: *individuum est ineffabile.*

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Intentionality and Epiphany: Husserl, Joyce, and the Problem of Access

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In an essay entitled "E. Husserl and J. Joyce or Theory and Practice of the Phenomenological Attitude," the Spanish philosopher Juan David Garcia Bacca argues that:

> It seems as though Joyce were practicing or realizing the program outlined by Husserl…, [since] Joyce speaks in a manner corresponding to an attitude of thinking in a transcendental phenomenological state. (Garcia Bacca 589)

According to Garcia Bacca, Joyce's writing, Joyce's voice, corresponds to what Husserl calls the "phenomenological attitude." In Husserl's works, especially in the 1913 *Ideas Pertaining to a Pure Phenomenology*,[1] the phenomenological attitude consists in focusing on the pure field or stream of consciousness of a thinking subject, eliminating any direct

[1] Edmund Husserl, 1913, *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. Erstes Buch: Allgemeine Einführung in die reine Phänomenologie*. Husserliana (Hua) III, 1. The Hague: Nijhoff, 1976. English translation by F. Kersten, *Ideas Pertaining to a Pure Phenomenology*, The Hague, Nijhoff, 1982. Hereafter, references and page numbers taken from Hua texts.

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_3

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reference to an external world, by the method of phenomenological reduction. The world is only considered insofar as it appears or presents itself in the pure field of consciousness, because it is in our consciousness that the world is constituted for us. The task of phenomenology is to describe the structures of consciousness in order to understand the constitution of the world.

Indeed, the comparison with *Ulysses* is tempting, since Joyce chooses to describe the microcosm of early twentieth-century Dublin neither externally nor objectively, but through the wanderings and thoughts of two very particular, individual characters. *Ulysses* is an example of phenomenological constitution in the sense that it combines both the task of drawing a true and universal picture of the city of Dublin, and the description of the stream of consciousness of normal people. The constitution of the microcosm of Dublin is both objective and subjective.

There are many reasons for comparing Joyce to Husserl, one of them being that both are figures pertaining to what Frédéric Worms calls "le moment 1900," where huge changes were observed in the history of the myth of interiority. We will focus here on the cognitive and ontological aspects of this comparison and examine the relevance of Husserl's concept of constitution in Joyce's *Ulysses*. In what sense is it possible to describe *Ulysses* as a work of applied phenomenology? By comparing Joyce with Husserl, we will first draw a general picture of Joyce's implicit theory of constitution, and then study its ontological and cognitive consequences.

From a phenomenological point of view, the constitution of the city of Dublin is one of the most striking aspects of *Ulysses*. Indeed, the city is one of the most important objects of the novel—even one of its main characters; it is the horizon or background of the story, but it is never—or at least not often or systematically—described as a whole for its own sake or in an objectivist way. The city is the result of a complex and oblique elaboration: it is mostly constructed through the wanderings and thoughts of the different characters. Each episode of *Ulysses* gives us but a glance or an aspect of the city of Dublin; every chapter adds a new element to the constitution of the city, that is to say, to its progressive structuration in the minds of the characters and of the reader. This is in keeping with what Husserl calls constitution or donation of an object by sketches or adumbrations, which is typical of the phenomenological attitude towards the world.

Indeed, in *Ideas Pertaining to a Pure Phenomenology*, Husserl distinguishes between two attitudes towards the world: the "natural attitude" and the "phenomenological attitude" (Husserl 1982, §§30–3, 52–7). The

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natural attitude consists in conceiving the world as objective, external, and not depending on the thinking I. On the contrary, I perceive myself as part of the world; everything is or takes place *in* the world. The world is what comes first, what is always already there: the unquestioned being. "The world is always here as a reality" (Husserl 1982, §30, 53). According to Husserl, the natural attitude bears an implicit ontology: the world, the physical things which inhabit the world, and the events which involve those physical things, are the most "*wirklich*" (i.e. real or effective) of beings, much more *wirklich* than my spirit and my subjective representations of the world, of the objects and of the events, and so on and so forth. My perspective on the world is ontologically secondary, because it depends ontologically and cognitively on the actual objective being of the world. The phenomenological attitude consists in inverting this hierarchy.

If we are to describe Joyce's *Ulysses* as a work written in a state of phenomenological attitude, we also have to find what a work written in a state of natural attitude would actually be like. This equivalent of natural attitude in literature is the classical external description. In such descriptions, the object (in this case: the city) would be described objectively, once and for all, because it is implicitly considered as ontologically first—which means that it is considered as given before the events involving it or taking place in it, and long before any subjective representation of it. Thus, in a "natural" description of the city of Dublin, the narrator would begin with a bird's-eye view of the city, as in Flaubert's view of Rouen, and he would depict the colours and shapes of the buildings. The narrator would consider neither the subjective perception nor the process of apprehension or constitution of the city. On the contrary, he would describe the city externally and as the fixed background of the plot. This kind of description abides by the laws of the logic of natural attitude: the city is independent of what happens in it, and it is ontologically anterior to the meanderings of the different characters in it, and to their own subjective perception of it.

Joyce's elaboration of the city of Dublin in *Ulysses* does not belong to such a natural description. Indeed, the city itself is not the background of a plot fixed beforehand, it is on the contrary *elaborated at the same time as the plot*. This is why, properly speaking, it is not a background: it is a *horizon*. Indeed, the property of a horizon is to be constituted at the same time as the objects of which it is the horizon. In order to understand this concept, let us take a concrete example of constitution in *Ulysses*. This example enhances the phenomenological dimension of *Ulysses*, but what is obvious here is also true in the rest of the novel.

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Let us consider the "Wandering Rocks" episode, which is, from the point of view of the phenomenological constitution of Dublin, the densest chapter of the novel, since its nineteen sections have the same constitutional effect as the eighteen longer episodes of the whole novel—which is to draw a sketch of the city. The first episode of the chapter relates the itinerary of Father Conmee around Gardiner Street in North Dublin.

> Father Conmee began to walk along the North Strand road and was saluted by Mr. William Gallagher who stood in the doorway of his shop. Father Conmee saluted Mr. William Gallagher and perceived the odours that came from baconflitches and ample cools of butter. He passed Grogan's the Tobacconist against which newsboards leaned and told of a dreadful catastrophe in New York. In America those things were continually happening. Unfortunate people to die like that, unprepared. Still, an act of perfect contrition.
>
> Father Conmee went by Daniel Bergin's publichouse… (*U* 10.85–93)

This very simple quotation encapsulates Joyce's constitution of Dublin in *Ulysses*. The first thing worth noting is that the constitution of the city, its elaboration in the novel, is simultaneous with the development of the plot: the city only appears insofar as the character wanders and thinks; *its donation depends on the stream of consciousness* and on the movements of Father Conmee. This is exactly what Husserl calls *donation by sketches or adumbrations* (*Abschattungen* in German, *esquisses* in French): the object is not apprehended as a whole or at a glance, but it is given through a system of adumbrations or partial appearances, as Husserl puts it:

> Of essential necessity there belongs to any "all-sided," continuously, unitarily, and self-confirming experimental consciousness of the same physical thing a multifarious system of continuous multiplicities of appearances and adumbrations in which all objective moments falling within perception with the characteristic of being themselves given "in person" are adumbrated by determined continuities. Each determination has its system of adumbration… (Husserl 1982, §41, 74)

In accordance with the phenomenological description of the perception of a spatial object, the city of Dublin "appears *in* continuous multiplicities of adumbrations." Thus, the comparison with Husserl's theory of constitution by adumbrations emphasizes the fact that in *Ulysses* the city of Dublin is never given as a whole, but always partially.

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But it would be a complete misinterpretation of Husserl's theory of constitution to focus on this aspect only. Objects are not constituted by random glances; the adumbrations are part of a continuum, and therefore they are immanently structured. The fact that the constitution of the city depends on the wanderings of the characters does not only mean that the city is never absolutely given: it means that the constitution obeys the laws of a phenomenological or transcendental logic; the movements of the characters, as well as their streams of consciousness, are not discrete or discontinuous, they are continuous and possess a certain unity and internal logic, and this continuity guarantees the coherence of the constitution of the city. Actually, in the quotation from "Wandering Rocks," the description of Mountjoy Square is neither an objective, external description, nor a mere succession of glances; the constitution is not random, but *it is immanently structured by the continuous stream of consciousness in which it is given*. The main discovery of phenomenology is that a subjective logic, such as the logic of the constitution of an object through a stream of consciousness, is a *real* and effective logic. This is why, in *Ulysses*, itineraries are so important, from a phenomenological point of view: they guarantee the structuration of the glances or adumbrations of the city of Dublin, which is essential to its coherent elaboration, that is to say: to its constitution.

Another aspect of the same phenomenon is the fact that, in this quotation from "Wandering Rocks" as well as in the rest of the novel, the city is rarely described or given *independently*: it is one of the most important objects in the novel, but it is not often the actual object or focus of the attention of any of the characters. In other terms, especially in "Wandering Rocks," the characters rarely contemplate or even actually pay attention to the city. The city is mostly only *co-involved* in their thoughts or actions. Let us explain this point. To Husserl, an object always has an "intentional existence," which means that it is never fully given as a unity, but our consciousness aims at it in such a way that it gives it a mere intentional unity. Here, for instance, the city of Dublin is never given as a whole, but since it is given in a structured and continuous way (the wanderings and thoughts of mainly Bloom and Stephen), it receives a certain unity, which is not the objective unity that a classical description would have given, but an *intentional unity*. The city of Dublin is one of the most important intentional objects in *Ulysses*, perhaps the most important. But Husserl distinguishes between intention and attention: the city of Dublin is rarely the object of the characters' attention, it is not their *thematical* object.

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The characters are thematically thinking of their hunger, their memories, their friends, etc., but in doing so they are *obliquely* or unthematically thinking of the city. The ego, Husserl explains in §37 of the *Ideas*, has the property of "directedness-to": it always focuses on an object, "directing itself to it" and putting the other objects in what Husserl calls a horizon.

> It should be noted that *intentional* Object of a consciousness (taken in the manner in which the intentional Object is the full correlate of a consciousness), by no means signifies the same as Object *seized upon*. We are accustomed simply to include being seized upon in our concept of the Object (any object whatever) because, as soon as we think *of* the Object, as soon as we say something *about* it, we have made it the object in the sense of what is seized upon. (Husserl 1982, §37, 66)

The constitution of the city of Dublin is interesting because it is the constitution of a horizon and not of a seized-upon object. This is why, in our quotation from "Wandering Rocks," the description of the elements of the city are only secondary, and always combined with the perception of odours, with general thoughts about America, and so on. The city is constituted as a *horizon*; and this is the most phenomenological dimension of *Ulysses*: *the horizon itself is constituted*. In a natural description, the horizon is only a background, since it is described as what is here, independently from the plot; this is why it is extremely frequent in literature and in ordinary language to describe the *topos* of the action before actually setting the action in it. Here, on the contrary, the city is constituted as a non-thematical object, and its constitution is simultaneous with the development of the plot and the wanderings of the characters; thus it is properly a horizon, because according to Husserl, the horizon of constitution is itself a constituted object.

Now we are on the threshold of the phenomenological attitude: we are about to discover that, in Joyce as in Husserl, *the world ontologically depends on the stream of consciousness*, and also that consciousness is the absolute being whereas the world, the city of Dublin and everything else, are only relative. Husserl's theory of constitution has an ontological counterpart: the fragility of the world correlative to the absolute value of consciousness. If the constitution of the city of Dublin is to be compared with Husserl's theory of constitution, it is probable that it faces the same problem. *There is a loss at the very core of Joyce's novel*; but in order to define the loss in question more accurately, we have to discuss the ontological and

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cognitive counterpart of the shift from the natural attitude to the phenomenological attitude in Husserl's phenomenology.

As we have seen, everything seems to be constituted: not only the objects of attention, but every object, even the horizon of every perception which is the world itself (and, in *Ulysses*, the microcosm of Dublin), are constituted insofar as they appear to a consciousness. Everything depends on consciousness; even in Husserl, this implies that the world is fragile; but this is even truer in Joyce.

The phenomenological theory of constitution depends on the concepts of intention and fulfilment. Let us consider a spatial object: as we have seen, it is not actually perceived as a whole, or as an objective unity. This unity is only intentional, it is a posit, the result of an intention. In Husserl's terms, our consciousness gives sense and unity to the object. But as soon as there is an intention, the possibility of a misfire arises. That is to say: it is always possible for an intention to miss the object. Our consciousness aims at the object *as* this and this, but this opens the logical possibility for the object to be otherwise: in that case, the intention would not be fulfilled. The gap between intention and fulfilment generates a level of fragility in the process of constitution.

Normally, our constitution of an object is a continuous process leading to an ever-increasing fulfilment. Indeed, a certain amount of adumbrations of an object motivates a related intention, which normally leads to a progressive construction of the object, since every new adumbration corroborates the others. A perfect fulfilment is impossible, but it is only the ideal achievement of constitution. The problem is that the possibility of a discontinuity in the process of constitution engenders the possibility of a conflict in the stream of adumbrations, and thus a fragility of the constituted object may ensue. The ontological consequence of the gap between intention and fulfilment, which is a consequence of the concept of perception through adumbrations, is nothing else than the *possibility of a failure of the constitution.*

There can always be a radical discontinuity in the constitution and thus a radical conflict between the adumbrations. This is true of one object, but it is also true of the world itself.

> … in our experiencing it is conceivable that there might be a host of irreconcilable conflicts not just for us but in themselves, that experience might suddenly show itself to be refractory to the demand that it carry on its positings of physical things harmoniously, that its context might lose its fixed

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> regular organizations of adumbrations, apprehensions, and appearances—in short, that there might no longer be any world. (Husserl 1982, §49, 91)

The consequence of phenomenology is the possibility of an annihilation of the world, because the world now depends on a fragile equilibrium, which is threatened by the possibility of a discontinuity in the process of constitution.

Husserl's essential discovery is that our stream of consciousness is not affected by the possibility of an annihilation of the world. If the world is never given as a whole, but only constituted by adumbrations or sketches, if it depends on the constituting activity of our consciousness, then the unity and the existence of the world are not necessary: "*no real being*, no being which is presented and legitimated in consciousness by appearances, *is necessary to the being of consciousness itself* (in the broadest sense, the stream of mental processes)" (Husserl 1982, §49, 92).

Even without a world, our stream of consciousness would be the same: "*Immanental being* [that is to say, the stream of consciousness and every lived experience immanental to it] *is therefore indubitably absolute being in the sense that by essential necessity immanental being nulla 're' indiget ad existendum*" (Husserl 1982, §49, 92). The phenomenological theory of constitution reveals an ontological hierarchy between the world and our consciousness: our consciousness's being is absolute, whereas the world and every worldly reality depend on it, and thus are *relative beings*. As Husserl puts it, "a veritable abyss yawns between consciousness and reality" (Husserl 1982, §49, 93).

But this absolutization of the stream of consciousness has a counterpart:

> … consciousness considered in its *"purity"* must be held to be a *self-contained complex of being*, a complex of *absolute being* into which nothing can penetrate and out of which nothing can slip, to which nothing is spatiotemporally external and which cannot be within any spatiotemporally complex, which cannot be affected by any physical thing and cannot exercise causation upon any physical thing—(Husserl 1982, §49, 93)

In other terms, because it is closed in on itself, *our consciousness has lost contact with the real external world*. Everything is in our consciousness, but our consciousness has no access to anything real, in the sense that it would be independent and external. Our consciousness is no longer in

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contact with the world, and it is now immersed in what we shall call, with Jocelyn Benoist, the "problem of access" (Benoist 22).

The problem of access designates this typically post-Cartesian and post-Kantian situation where the subject is conceived as ontologically distinct from worldly reality, and thus has to regain it, *to construct or constitute an access to reality*. The possibility of an annihilation of the world, which is the logical consequence of the fact that it is constituted, means the dissolution of the natural access to reality. The problem of access arises when the world is no longer considered what we obviously already have.

The problem of access is one of the most important philosophical problems in nineteenth- and twentieth-century philosophy, and it structures very different movements of philosophy and literature of the time. I believe it is the cognitive and ontological background to *Ulysses*.

In Husserl's phenomenology, the ontological gap between consciousness and reality can be filled by the ideal possibility of a fully achieved constitution of objects in a continuous process; objects cannot be given once and for all, but a pure consciousness always has the possibility of constantly focusing on an object and give it such a fulfilment that it is almost as if it were perfectly given. *The problem of access can be resolved by a constant constitution of the object*. But in *Ulysses*, the possibility of a continuous constitution is denied, and thus the problem of access is all the more central.

Indeed, unlike Husserl, Joyce emphasizes the fact that a continuous constitution is impossible in an actual stream of consciousness, that is to say, in the stream of consciousness of an actual human being, having desires, being hungry, incapable to keep his mind focused on a certain object, and so on. Unlike Husserl's pure phenomenological constitution, the constitution of the city of Dublin in *Ulysses* is essentially discontinuous. Thus it is all the more fragile, because our access to the microcosm of Dublin, embodying our access to the world, actually depends on the continuity of the constitution.

The reason for this refusal of a continuous constitution is Joyce's own conception of the human mind. Husserl acknowledged that our consciousness could not actually be so pure as to accomplish a continuous constitution of the world, but nevertheless he thought that this did not affect the essence of constitution and the logical possibility of a continuous constitution. Joyce, on the contrary, does not distinguish between the logical possibility of a continuous constitution and the actual nature of

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human consciousness. As he puts it in "Oxen of the Sun," the main characteristic of the human mind is its changeability:

> What is the age of the soul of man? As she hath the virtue of the chameleon to change her hue at every new approach, to be gay with the merry and mournful with the downcast, so too is her age changeable as her mood. (*U* 14.1038–41)

This fact cannot be put into brackets by phenomenological reduction: it is an essential dimension of the soul, of consciousness. A human consciousness simply cannot achieve a continuous constitution. Indeed, our conscious life is bound by our bodily life; our apprehension of the world is not free from the influences of our desires, our hunger, and so on. The pure interiority of consciousness is not free from the interiority of the body, of the stomach, of sex, and so on.

Thus, when Stephen is drunk, at the end of "Oxen of the Sun" and in "Circe," the boundaries between the categories necessary to constitution tend to fade out, and the constitution itself becomes fragile. For instance, one of the most important categorial distinctions, i.e. the distinction between dream and reality, tends to disappear. We do not know for sure what is real and what is not real, because reality and dream have the same status in the Joycean text. The continuity and the solidity of the constitution are affected by this possible fragility of our main categories. What happens to the body (here drunkenness) endangers the whole constitution, and thus our access to the world. Because of the interaction between the stream of consciousness and the stream of bodily life, the constitution is, in *Ulysses*, essentially discrete or discontinuous.

Discontinuities are at the very core of Joyce's novel: the literary or stylistic differences between the different episodes, the breaks in the narration or in space and time, enhance the discontinuities caused by the instability of the characters' streams of consciousness. Thus, in a passage like Father Conmee's wanderings on the north side of the Liffey, the constitution of the city is roughly continuous, and despite the possibility of a change of mood threatening the continuity of the constitution, the elaboration of the city of Dublin remains in keeping with Husserl's phenomenological constitution. But between the episodes, breaks annihilate the remains of continuity in the elaboration of the city. In Husserl's phenomenology, sketches or adumbrations of an object are essentially related to one another in a continuous stream and it is only *locally* that there can be a break; in *Ulysses*, on the contrary, sketches or adumbrations are essentially discrete, unrelated to one

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another, and it is only within a single episode that they can be locally linked to a certain continuity. Through the constitution of the microcosm of Dublin, we face the fact that the donation of the world is essentially discrete or fragile, and that the moments of actual donation are rare and precious.

This leads to the main difference between Husserl's phenomenological constitution and Joyce's epiphanic constitution. In order to understand this distinction, we have to come back to the scholastic origin of Joyce's ontology. In *A Portrait of the Artist as a Young Man*, Joyce develops a version of the problem of access in an Aristotelian and scholastic conceptual scheme. The problem of access emerges in a spiritual context: Stephen's progression to a more spiritual knowledge, in Chap. 4, leads him to index the reality of the world on God's divine will. "The world for all its solid substance and complexity no longer existed for his soul save as a theorem of divine power and love and universality" (*P* 150). As soon as the reality of the world depends on something else, the access to the world becomes a problem, because the world is no longer considered what is obviously and necessarily there for us. In the mind of the young artist, the world becomes a problem—a mystical and actual problem.

The difference with phenomenology is obvious: in Husserl's philosophy, the world is precisely not a problem in the real life or natural attitude. The world is generally here; its existence is patent and unquestioned. The passage to a phenomenological attitude and the fiction of an annihilation of the world only possess a methodological value: they are artificial. Normally, we have no problem to reach the world; we are even bound to the world. Indeed, what phenomenology discovers in human consciousness is its intentionality, that is to say the fact that it is necessarily open to reality. Intentionality, in the first place, means that every act of consciousness *aims* at something, that is to say, every consciousness is consciousness *of* an object, more precisely of something which becomes an object insofar as it is aimed at. But the true meaning of intentionality is that an act of consciousness cannot be purely immanental: it is always opened to a transcendency, something else, exterior to consciousness itself. Phenomenology does not discover a consciousness closed on itself and in search of the world: on the contrary, the phenomenological reduction reveals that consciousness has always something to do with the world. Consciousness is always concerned with the world; it has an interest in the world and aims at it. The fiction of an annihilation of the world reveals that the world cannot really be annihilated.

In other words, the problem of access, in real life, is only a local problem: sometimes, we miss the world, our constitution fails because there is a break in it; but generally, by essence, the world itself is not a problem. But the

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phenomenologist has to artificially generalize the problem of access in order to create the conditions where consciousness would be isolated and would lose its contact with the world. Indeed, this fiction is the only way to reveal the intentional nature of consciousness, and thus the fact that it cannot be isolated from any world. *The problem of access has but a methodological meaning*, it is not a general problem of life, that is to say an existential problem.

Joyce's version of the problem is extremely different. Indeed, in *Ulysses*, the intentionality of consciousness is not always aiming at the world, but on the contrary the bodily life of the characters, their desires and instincts always lead our consciousness back into itself; our conscious life is bound to interiority. Our contact with the world is limited to the rare moments when our very bodily interiority releases the links of consciousness. Thus, when for Husserl we can say that the problem of access is only local, because its solution, that is to say intentionality, is general, we can say that for Joyce, the problem of access is general, because its solution is local. The situation is even more patent in *A Portrait*.

Indeed, in the mystical and scholastic conceptual scheme of *A Portrait*, the solution to the problem of access is Stephen's concept of epiphany. The interpretation of the problem of access in *A Portrait* is a mystical and artistic interpretation: our mind or soul is isolated from the world in the sense that it has no immediate access to the essence of things. According to Husserl, "First the word 'essence' designated the most intimate part of an individual which presents itself as its *quid*" (Husserl §3, 10).[2] Thus, the first meaning of the world "essence" is a mystical meaning. Things have a *quidditas*, an intimate essence, thanks to which the thing is that thing and not another. Essences are the principles of identity concealed in things and, according to Heidegger's reading of Aristotle, the aim of knowledge or even of art is to reveal or un-conceal the essences of things. Here, Joyce's reading of Aristotle is very similar to Heidegger's, and his interpretation of the word "essence" has much more in common with Heidegger's than with Husserl's. According to this view, essences or *quidditates* are normally inaccessible, but they can suddenly appear. This sudden revelation of the thing is what Stephen, following the scholastics, calls "epiphany." Joyce writes in *Stephen Hero*:

> By an epiphany he meant a sudden spiritual manifestation, whether in the vulgarity of speech or of gesture or in a memorable phase of the mind itself. He believed that it was for the man of letters to record these epiphanies with

[2] My translation. Kersten's translation reads: "*At first* 'essence' designated what is to be found in the very own being of an individuum as the What of an individuum" (Husserl 1982, §3, 10).

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> extreme care, seeing that they themselves are the most delicate and evanescent of moments. (*SH* 211)

According to this definition, epiphanies designate the moments when the truth of things, their essence, normally concealed, is revealed. The insistence on the evanescence of these moments proves that we normally have no access to this kind of reality. Epiphanies are rare, they are not the normal way to apprehend a thing, but they are the only way to apprehend the actual intimate essence or *quidditas* of things. Such distinctions do not exist in Husserl's phenomenology: the reality that we ordinarily perceive is the only and true reality. Unlike Husserl, Stephen distinguishes between the reality of normal perception and the suddenly revealed intimate essence of things, to which we normally have no access.

Husserl does not interpret the word "essence" in a mystical way; the essence is the whatness or *quidditas* of a thing only in the sense that it is its conceptual content. Thus, any perception of a thing can be transformed into a perception of essence: "This Quid can always be put into idea. The empirical intuition or intuition of the individual can be converted into the vision of the essence" (Husserl §3, 10).[3] The perception of essences is nothing rare, it is part of our normal cognitive activity: this is how we know things, and nothing more. On the contrary, given Stephen's mystical interpretation of the word "essence," the perception of essences becomes something rare, the object of a quest.

Epiphanies, like intentionality, are the bridge between our consciousness and reality.[4] The difference is that intentionality is an essential and continuous structure of consciousness, whereas epiphanies are evanescent, discontinuous, and mysterious.

In *Ulysses*, Joyce no longer considers epiphanies the ultimate donation of things, and as we have seen, his implicit cognitive and ontological theory is much more comparable to Husserl's. Joyce's attitude towards epiphanies is even rather ironical:

> Remember your epiphanies written on green oval leaves, deeply deep, copies to be sent if you died to all the great libraries of the world, including Alexandria? (*U* 3.141–3)

[3] My translation. Kersten's translation reads: "Any such What can, however, be '*put into an idea*.' Experiencing, or *intuition of something individual* can become transmuted into *eidetic seeing (ideation)*—"(Husserl 1982, §3, 10).

[4] Both concepts incidentally have the same scholastic origin, in relation to the German philosopher Franz Brentano's interpretation of the scholastic concept of intentionality.

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However, in a different conceptual scheme, the structure of epiphanies remains in *Ulysses*. Indeed, the ontological and cognitive meaning of the theory of epiphanies is that reality, primarily out of the scope of our consciousness, can be reached through rare appearances or sketches and that the role of literature is to carefully describe these experiences. The theory of epiphanies reveals a structure which is also the structure of the constitution of the microcosm of Dublin in *Ulysses*. Thanks to the theory of epiphanies, we can define Joyce's version of the problem of access in *Ulysses* more accurately: the microcosm of Dublin, like many other things in the novel (Stephen's home, Bloom's wife, etc.), is *the object of a quest*, since it is not primarily given—a fact easily linked with Joyce's own exile. The city has to be reconstructed or elaborated through the wanderings of the different characters. But given the fragility of human minds, the actual moments of constitution are rare, discontinuous, and thus precious. The role of literature is to carefully describe these moments, and this is what *Ulysses* is: a patient elaboration of the microcosm of Dublin through a precise description of the rare moments when, in the changeable streams of consciousness of real human beings, this world appears, when it is revealed, un-concealed. This is why the constitution of Dublin, even in *Ulysses*, remains epiphanic.

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Authors' Libraries and the Extended Mind: The Case of Joyce's Books

Dirk Van Hulle

Stephen Dedalus's "epiphanies," representing a particular model of the mind, were part of an early stage in James Joyce's developing poetics. Later on, the notion of epiphany seems to have become more peripheral in Joyce's work. My research hypothesis is that Joyce gradually developed other literary methods for evoking the workings of the fictional mind, methods that presage a post-Cartesian approach (Herman 2011), notably

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This essay is a revised and expanded version of a section in *Modern Manuscripts: Creative Undoing and the Extended Mind from Darwin to Beckett and Beyond* (London: Bloomsbury, 2014), in which the main argument of this essay is also further explored in manuscripts by other authors besides Joyce. The research for this essay and monograph was made possible with the support of the European Research Council, under the European Union's Seventh Framework Programme (FP7/2007–13)/ERC grant agreement no. 313609 (ERC consolidator grant "CUTS": "Creative Undoing and Textual Scholarship: A Rapprochement between Genetic Criticism and Scholarly Editing"), and the University of Antwerp (TOP BOF project "Literature and the Extended Mind: A Reassessment of Modernism").

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_4

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the so-called extended mind thesis. This post-Cartesian or post-cognitivist paradigm is inspired by the foundational article "The Extended Mind" (1998), in which Andy Clark and David J. Chalmers argue that cognitive processes do not exclusively take place "in" the head, but in constant interaction with an external environment. One of their examples is that of a notebook:

> Now consider Otto. Otto suffers from Alzheimer's disease, and like many Alzheimer's patients, he relies on information in the environment to help structure his life. Otto carries a notebook around with him everywhere he goes. When he learns new information, he writes it down. When he needs some old information, he looks it up. For Otto, his notebook plays the role usually played by a biological memory. […] The information in the notebook functions just like the information constituting an ordinary non-occurrent belief; it just happens that this information lies beyond the skin. (Clark and Chalmers 2010, 33–4)

Given the prominent role of this example in the extended mind thesis, notebooks—and more specifically reading notes—will therefore serve as a starting point for the present essay, in which I would like to examine (1) to what extent Joyce's evocations of the fictional mind can be understood from the perspective of this post-Cartesian paradigm, and (2) how his reading notes may have been instrumental in the gradual transition from the "epiphany" model to a model that prefigures the extended mind.

Context: Modernism and "The Journey Within"

In "Re-Minding Modernism," David Herman suggests that, for several decades during the twentieth century, modernist methods for evoking the workings of the fictional mind have been studied from a cognitivist perspective, dominated by a Cartesian slant. On the one hand, modernist writers themselves are partially responsible for insisting on the commonplace view of the mind as an interior space; on the other hand, critics of modernism have perhaps all too inadvertently adopted this internalist image of the mind. David Herman calls this "inward turn" a "critical commonplace" (Herman 2011, 249). To Herman's list of examples of this kind of criticism (such as Kahler 1973; Kaplan 1975, 1–2; Matz 2004, 15–19), I would like to add the chapter "The Journey Within," from Albert J. Guerard's book *Conrad the Novelist* (published in 1958). Guerard

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interprets Conrad's *Heart of Darkness* as a "journey into self" and a "confrontation of an entity within the self" (Guerard 2006 [1958], 326, 329).[1] To some extent, the metaphor of the journey within is inspired by Conrad himself, more precisely by his narrator Marlow, whose narrative is explicitly structured by means of the chronotope or "psychic geography" (Guerard 2006 [1958], 331) of the journey upstream, divided into three stages: the outer station, the central station, and eventually the "inner station," where he finds Kurtz.

It is not a coincidence that Guerard's chapter is included as the first essay in the section "Essays in Criticism" of the appendix to the Norton critical edition of *Heart of Darkness* (2006), for it is still a valuable interpretation. But it is more than fifty years old (originally published in 1958) and in the meantime cognitive science has developed the theory of the "extended mind," which nuances this metaphorical representation of the mind as an interior space. In "Re-Minding Modernism," David Herman has convincingly argued that this metaphor might be replaced by a more "enactive" conception of the workings of the fictional mind, using Woolf's *Mrs Dalloway* and Joyce's *A Portrait of the Artist as a Young Man* as his main examples. Woolf's case is particularly striking because of the complex variations between what she *did* and what she *said she did*. What she *said she did* marks her efforts to distinguish "modern fiction" from the kind of fiction produced by a previous generation of writers. The rhetoric of her argument is characterized by the imperative "Look within" (Woolf 1972, 106). But what she *did* often deviates from this motto. For instance, her story "The Mark on the Wall" (Woolf 2000, 53) is not just a great exercise in what is usually referred to as "interior monologue," but—as the title indicates—it also evokes a mind that is at work *thanks to* the interaction with an environment: a mark on the wall.

Ariane Mildenberg's phenomenological interpretation focuses on the "swarming" mind of Woolf's narrator: "In 'The Mark on the Wall,' we

[1] Another interesting instance of an "inward turn" that is contrasted with an outside is Otto Weininger's statement: "***Das Leben ist eine Art Reise durch den Raum des*** *inneren* ***Ich***, eine Reise vom engsten Binnenlande freilich zur umfassendsten, freiesten Überschau des Alls" ["Life is a sort of journey through the space of the inner self, a journey from the tiniest inner space to the most comprehensive, panoramic view of the universe."] (Weininger 1912, 108). The words in bold were excerpted by Joyce in his Subject Notebook (see Van Mierlo 2007).

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sink with the swarming mind deeper and deeper into a state of primordial perception until the mind thinks not merely of how 'Wood is a pleasant thing to think about,' but of *being* wood" (54). Numerous possibilities or hypotheses are suggested as to what the mark on the wall might be.

To paraphrase David Herman and apply his argument to Woolf's story "The Mark on the Wall": the successive mental states are constantly in circulation with the possibilities of action and interaction that help constitute the mind in the first place (Herman 2011, 258). Again and again the mind "swarms" in divergent directions, but every so often the text returns to the mark on the wall, and a new hypothesis about what the mark might be sets off a new string of thoughts. The structure of the text mimics this interactive way in which an intelligent agent negotiates opportunities for action and interaction with an environment.

David Herman therefore proposes to regard modernist writers as "explorers of the lived, phenomenal worlds that emerge from, or are enacted through, the interplay between intelligent agents and their cultural as well as material circumstances" (266). These material circumstances in the environment can be anything. In the case of a writer, for instance, this environment can simply be a notebook, like the one that features in Clark and Chalmers' article "The Extended Mind." Richard Menary has developed this idea in an essay called "Writing as Thinking," in which he argues that "the creation and manipulation of written vehicles is part of our cognitive processing and, therefore, that writing transforms our cognitive abilities" (Menary 2007, 621).

If an author's mind—like any other mind—consists of the interaction between an intelligent agent and his/her cultural as well as material circumstances (Herman 2011, 266), this cultural and material environment can also be, for instance, a book by another author. Very often the marginalia in authors' libraries show the traces of an interaction with the body of the text. My suggestion is that this interaction is not just an illustration of what post-cognitivists call the "extended mind" (the writer's mind), but that it also served as a model for many modernists' methods of evoking the workings of fictional minds (the characters' minds). To explore this hypothesis, Joyce's reading of two books (Sir Robert Ball's *The Story of the Heavens* and Otto Weininger's *Über die letzten Dinge*) and their function in the evocation of respectively Bloom's and Stephen's minds in *Ulysses* will serve as a case study.

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Bloom's Books: Sir Robert Ball's *The Story of the Heavens*

On Leopold Bloom's "two bookshelves," among the "several inverted volumes improperly arranged" (*U* 17.1358–60), there is a book called "*The Story of the Heavens* by Sir Robert Ball (blue cloth)" (*U* 17.1373). Bloom associates the book with one word that is explained by Sir Robert Ball: the word "parallax" (cf. *infra*). This is the example by means of which Ball tries to make the concept comprehensible to a broad audience:

> We must first explain clearly the conception which is known to astronomers by the name of parallax; for it is by parallax that the distance of the sun, or, indeed, the distance of any other celestial body, must be determined. Let us take a simple illustration. Stand near a window from whence you can look at buildings, or the trees, the clouds, or any distant objects. Place on the glass a thin strip of paper vertically in the middle of one of the panes. Close the right eye, and note with the left eye the position of the strip of paper relatively to the objects in the background. Then, while still remaining in the same position, close the left eye and again observe the position of the strip of paper with the right eye. You will find that the position of the paper on the background has changed. […] This apparent displacement of the strip of paper, relatively to the distant background, is what is called parallax.
>
> Move closer to the window, and repeat the observation and you find that the apparent displacement of the strip increases. Move away from the window, and the displacement decreases. […] We thus see that the change in the apparent place of the strip of paper, as viewed with the right eye or the left eye, varies in amount as the distance changes; but it varies in the opposite way to the distance, for as either becomes greater the other becomes less. We can thus associate with each particular distance a corresponding particular displacement. (Ball 1892: 151–2)

Knowing this explanation, Joyce uses the notion of parallax to make a connection between Stephen Dedalus and Leopold Bloom. They both see the same cloud from a different perspective. In both cases, the cloud has a similar function as Woolf's mark on the wall, in that it serves as an environmental stimulus that sets off a "swarm" (Woolf 2000, 53) of thoughts in the fictional minds of the two protagonists. Stephen's thoughts wander off to his mother's deathbed, but only after seeing the cloud:

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> *A cloud began to cover the sun slowly, wholly, shadowing the bay in deeper green. It lay beneath him, a bowl of bitter waters.* Fergus' song: I sang it alone in the house, holding down the long dark chords. Her door was open: she wanted to hear my music. Silent with awe and pity I went to her bedside. She was crying in her wretched bed. For those words, Stephen: love's bitter mystery. (*U* 1.248–53; emphasis added)

When Bloom sees the cloud covering the sun, this environmental circumstance immediately results in equally gloomy thoughts, but his stream of consciousness is additionally marked by an extra environmental impulse, "a bent hag" whom he sees crossing the street:

> *A cloud began to cover the sun slowly, wholly. Grey. Far.*
>
> No, not like that. A barren land, bare waste. Vulcanic lake, the dead sea: no fish, weedless, sunk deep in the earth. No wind could lift those waves, grey metal, poisonous foggy waters. Brimstone they called it raining down: the cities of the plain: Sodom, Gomorrah, Edom. All dead names. A dead sea in a dead land, grey and old. Old now. It bore the oldest, the first race. *A bent hag crossed from Cassidy's, clutching a naggin bottle by the neck.* The oldest people. Wandered far away over all the earth, captivity to captivity, multiplying, dying, being born everywhere. It lay there now. Now it could bear no more. Dead: an old woman's: the grey sunken cunt of the world. (*U* 4.218–28; emphasis added)

The same cloud conjures up different memories and connotations in the two protagonists' minds. The question is whether these two different perceptions of the same cloud also mark a change in Joyce's model of the mind. Stephen sees the cloud as a "trivial incident" (*SH* 211) followed by an epiphany, connected to a memorable phase of the mind, as he defined the notion of epiphany in Chap. 25 of *Stephen Hero*, a "sudden spiritual manifestation, whether in the vulgarity of speech or of gesture or in a memorable phase of the mind itself" (*SH* 211). Bloom's perception of the cloud sets off a train of thought that interacts more readily with the cultural and material circumstances—in this case not only with the meteorological circumstances but also with the concrete situation of a bent hag crossing the street. Stephen and Bloom's separate perceptions could be regarded as representing two different models of the mind. Stephen's (especially the younger Stephen's) perception is mainly associated with Model 1: Epiphanies; Bloom's perception generally shows more characteristics of Model 2: The Extended Mind.

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Model 1: Epiphanies

In *Stephen Hero*, Stephen's definition of the epiphany, quoted above, is immediately followed by an example:

> He believed that it was for the man of letters to record these epiphanies with extreme care, seeing that they themselves are the most delicate and evanescent of moments. He told Cranly that the clock of the Ballast Office was capable of an epiphany. Cranly questioned the inscrutable dial of the Ballast Office with his no less inscrutable countenance:
>
> —Yes, said Stephen. I will pass it time after time, allude to it, refer to it, catch a glimpse of it. It is only an item in the catalogue of Dublin's street furniture. Then *all at once* I see it and I know *at once* what it is: epiphany.
>
> —What?
>
> —Imagine my glimpses at that clock as the *gropings* of a spiritual eye which seeks to adjust its vision to an exact focus. The moment the focus is reached the object is epiphanised. It is just in this epiphany that I find the third, the supreme quality of beauty. (*SH* 211; emphasis added)

As in the case of the variance between what Woolf did and what she said she did, there seems to be a discrepancy between Stephen's abstract definition of the epiphany and his concrete example. In the definition, the epiphany is reduced to the sudden spiritual manifestation. The word "sudden" has prominence of place as the first word of the definition. In the example, the same suddenness is expressed by means of the repetition of "at once": "Then *all at once* I see it and I know *at once* what it is: epiphany." But to some extent the suddenness is also undermined by the repetition of "at once" and by the long process that precedes it: "I will pass it time after time, allude to it, refer to it, catch a glimpse of it. It is only an item in the catalogue of Dublin's street furniture." This street furniture can be considered part of what David Herman refers to as the cultural and material circumstances. According to Scott Berkun, the effect of the epiphany is comparable to the completion of a jigsaw puzzle. The last piece of the puzzle may seem more significant than the others, because it marks the epiphanic moment, but this effect is only due to the pieces that have been put into place before. Instead of the magic moment, Berkun emphasizes "the work before and after" (8).

Before Stephen's description of how he has the epiphany ("all at once…at once"), there is an intermediate explanation that seems to do

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more justice to “the work before and after”: “Imagine my glimpses at that clock as the gropings of a spiritual eye which seeks to adjust its vision to an exact focus” (*SH* 211). The mind is presented here as a “groping” process. This comes much closer, for instance, to what Daniel C. Dennett has termed the “Multiple Drafts Model.” Dennett compares the workings of the conscious mind to a process of editorial revision: “These editorial processes occur over large fractions of a second, during which time various additions, incorporations, emendations, and over-writings of content can occur, in various orders” (112). Observations or feature discriminations are spatially and temporally distributed over various specialized parts of the brain and combine into narrative sequences that are subject to continuous editing. The result is that “at any point in time there are multiple “drafts” of narrative fragments at various stages of editing in various places in the brain” (113) and there is “no single narrative that counts as the canonical version, the “first edition” in which are laid down, for all time, the events that happened in the stream of consciousness of the subject, all deviations from which must be corruptions of the text” (136).

Instead of an epiphanic moment, the *process* or “the work before and after” becomes more prominent in this Multiple Drafts Model. By confronting what Stephen says he does with what he actually does, applying his definition of the epiphany to his own actions, the text suggests the untenability of the epiphanic model of the mind, even while Stephen is explaining it. For instance, after Stephen’s exposition of his aesthetic theory, Cranly seems to be baffled by it:

> Having finished his argument Stephen walked on in silence. He felt Cranly’s hostility and he accused himself of having cheapened the eternal images of beauty. For the first time, too, he felt slightly awkward in his friend’s company and to restore a mood of flippant familiarity he glanced up at the clock of the Ballast Office and smiled:
>
> —It has not epiphanised yet, he said. (*SH* 213)

Stephen’s witticism “It has not epiphanised yet” strangely works against him and paradoxically undermines his theory. The line is what according to his own theory would be “a trivial incident,” and in the “vulgarity of speech” it is not a sudden ephiphany, but a gradual process that manifests itself in the words “not…yet.”

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Model 2: The Extended Mind

In *Epiphany in the Modern Novel*, after quoting Stephen's example of the Ballast Office, Morris Beja draws attention to the external circumstances that trigger the epiphany: "Although such an epiphany would arise from the perception of something external, Joyce's emphasis is generally on the perceiving consciousness, the subject who *actively adjusts* his 'spiritual' vision to focus on the object, which in turn 'is epiphanised'" (Beja 1971, 77). The emphasis on the perceiver increases in *Ulysses*, to such an extent even that the magic moment of the epiphany becomes less prominent than the mental work before and after (Van Hulle 2013, 231). Ever since Stephen employed it as an example, the Ballast Office can no longer be entirely dissociated from the notion of "epiphany." When Joyce refers to the Ballast Office in the "Lestrygonians" episode of *Ulysses*, however, he seems to deliberately deny Leopold Bloom an epiphany:

> Mr Bloom moved forward, raising his troubled eyes. Think no more about that. After one. Time*ball* on the ballastoffice is down. Dunsink time. Fascinating little book that is of sir Robert *Ball*'s. Parallax. I never exactly understood. There's a priest. Could ask him. Par it's Greek: parallel, parallax. Met him pike hoses she called it till I told her about the transmigration. O rocks! (*U* 8.108–13; emphasis added)

Here, the interplay or negotiation between the intelligent agent Leopold Bloom and his cultural and material circumstances is triggered by the word "ball." The "ball" in timeball reminds him of the book by Sir Robert Ball on his shelves. But this does not lead to an epiphany, on the contrary. Robert Ball's popularizing explanation of parallax apparently failed to enlighten Bloom. Instead of having an epiphany, Bloom admits: "I never exactly understood." By now, the example that once served to illustrate the notion of epiphany (the Ballast Office) is employed to illustrate the mental "work before and after," and with regard to evoking these workings of the fictional mind Joyce seems to have intuited or prefigured the recent insights of cognitive science in terms of the "extended mind." What is especially interesting in this context of the extended mind is that Joyce introduces a book in this nexus between the intelligent agent Bloom and the environments he navigates. Bloom's thoughts do not jump immediately from the timeball to parallax; the transition is made by the explicit mention of the book and its author.

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Stephen's Books: Lessing or Otto Weininger's *Über die letzten Dinge*

Stephen's fictional mind is quite different from Bloom's, and yet the view on cognition (the "extended mind" thesis *avant la lettre*) that informs the evocation of its workings is based on the same principle of extension. Take for instance Stephen's line "Moment before the next Lessing says" (*U* 15.3609). Lessing is also mentioned in *A Portrait of the Artist as a Young Man*, when Donovan interrupts Stephen's exposition of his aesthetics: "Goethe and Lessing, said Donovan, have written a lot on that subject, the classical school and the romantic school and all that. The *Laocoon* interested me very much when I read it. Of course it is idealistic, German, ultraprofound" (*P* 211). Usually Lessing's *Laocoon* is seen as the reference that was missing in Stephen's memorable reflection during his walk on Sandymount strand.[2] After the exposition of his high-flown aesthetic theories, Stephen has not managed to flee from Dublin like a Daedalus, but has fallen back down like an Icarus and is now walking on the beach, reflecting on the "ineluctable modality" of the visible and the audible:

> You are walking through it howsomever. I am, a stride at a time. A very short space of time through very short times of space. Five, six: the *Nacheinander*. Exactly: and that is the ineluctable modality of the audible. Open your eyes. No. Jesus! If I fell over a cliff that beetles o'er his base, fell through the *Nebeneinander* ineluctably! I am getting on nicely in the dark. (*U* 3.11–15)

As in the case of Bloom's mental process in reaction to seeing the timeball at the Ballast Office, Stephen's stream of consciousness is not an epiphany but a groping thought process. Unlike Bloom and the word parallax, Stephen does seem to grasp the German notions of *Nacheinander* and *Nebeneinander*, which have been linked to Lessing's *Laocoon*. However, in his study of the Subject Notebook (NLI 36,639/3) Wim Van Mierlo convincingly argues that the words most probably derive from Otto Weininger's *Über die letzten Dinge* (Van Mierlo 2007), via Joyce's

[2] Fritz Senn, "Esthetic Theories," *JJQ* 2 (1965), 135. In the endnotes to the Penguin edition of *A Portrait of the Artist as a Young Man*, Seamus Deane also refers to the third chapter of *Ulysses*: "*Laocoon*: in this essay of 1766, Lessing developed a theory of the essential differences between poetry and the plastic arts. The work was left unfinished. More substantial reference is made to this essay in the *Proteus* episode of *Ulysses*" (Deane in Joyce 2000, 319).

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notes on Weininger in his Subject Notebook (the passages in bold are excerpted by Joyce in his notebook):

> Die Zeit ist die Art, in welcher der Raum einzig durchmessen werden kann; es gibt keine Fernwirkung. Sie ist aber auch die einzige Form, in welcher das Ich (Gott im Menschen) sich findet.
>
> **Der Raum** ist also eine Projektion des Ich (aus dem Reich der Freiheit ins Reich der Notwendigkeit). Er **enthält im Nebeneinander, was nur im zeitlichen Nacheinander erlebt werden kann**. Der Raum ist symbolisch für das vollendete, die Zeit für das sich wollende Ich.
>
> [Time is the way in which space can be measured; there is no remote effect. But time is also the only form in which the I (God in the human being) is contained. /So, space is a projection of the I (from the realm of freedom into the realm of necessity). It contains in the *Nebeneinander* what can only be experienced in the temporal *Nacheinander*. Space symbolizes the completed I, time symbolizes the wanting I.] (Weininger 1912, 107)

Wim Van Mierlo not only provides a plausible source for the opening page of the "Proteus" episode, he also argues that the reference to Lessing is improbable: "Despite the accepted orthodoxy of the allusion, the *Laokoön* as a source never rang completely true for a passage that does not really treat of poetry and art anyway (although Stephen in 'Circe' remembers Lessing rather than Weininger: 'Moment before the next Lessing says' [*U* 15.3609])" (Van Mierlo 2007). Still, even if Joyce would have had only the slightest notion of Lessing's aesthetic theory, it may have played a role in drawing his attention to Weininger's use of the terms *Nebeneinander* and *Nacheinander*, i.e. it may have had an impact on Joyce's decision to excerpt that particular passage (quoted above) in his notebook in the first place. The main point for the purposes of this essay is not whether Joyce based the passage on Lessing or on Weininger, but whether this kind of interaction with a book, which characterizes the "writing-as-thinking" process, served as a model of the mind for Joyce when he tried to evoke the workings of a *fictional* mind, in this case Stephen's.

The argument for which this example serves as an illustration is certainly not to suggest a blurring of the borders between author, narrator and character. If anything, the example emphasizes the difference between the fictional world evoked in the textual product and the historical reality of the writing process. On the concrete levels both of the narrated action and of the action of writing, the difference between Stephen's attribution

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to Lessing and Joyce's reliance on Weininger demarcates the border quite clearly. But that does not mean there is no connection whatsoever between the writing process and the fictional world. This is evidently not a matter of one-on-one biographical correspondence. The affinity is to be situated on a more abstract level. In both cases, a cognitive process is at work, and in both cases the reference to the act of reading or having read a book plays an important role. This extension of one's mind by means of a book accords with the "extended mind" thesis. On this abstract level, the model of the mind that is implicitly being applied does connect the two realms of the storyworld and the worldmaking. So, the argument is not that the concrete situation of Joyce writing this scene would be mimicked by his character; the argument is about an abstract model of the mind that characterizes many writers' (also Joyce's) interaction with their manuscripts and that informs the evocation of fictional minds in their storyworlds (also that of *Ulysses*).

In the National Library of Ireland's copybook II.ii.1.a with partial drafts of the "Proteus" episode, there is a fragment that contains a sentence based on the Weininger notes:

> The dog ambled about, tro[tt]ing, sniffing on all
> sides. **Looking for something he lost here in a past**
> **life.** Suddenly he made off like a bounding
> hare, ears flung back, chasing ~~a bird's~~
> on the [s]and the shadow of a lowflying
> gull. (NLI p. II.ii.1.a [p. 1][3]

The sentence in bold typeface derives from the following passage in Otto Weininger's *Über die letzten Dinge*, excerpted by Joyce in his Subject Notebook:

> Das **Auge des Hundes** ruft underwiderstehlich den Eindruck hervor, daß der Hund **etwas *verloren*** habe: es spricht aus ihm (wie übrigens aus dem ganzen Wesen des Hundes) eine gewisse **rätselhafte** Beziehung zur ***Vergangenheit***. Was er verloren hat, ist das Ich, der Eigenwert, die Freiheit. [The dog's eye gives the distinct impression that the dog has *lost* something: a certain mysterious relationship with the past speaks from it (as it does from the dog's entire being). What it has lost is the I, its self-worth, its freedom.] (121–2; see Van Mierlo 2007)

[3] http://catalogue.nli.ie/Record/vtls000357771/HierarchyTree#page/1/mode/1up

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The passage is further elaborated in the next draft stage, the manuscript preserved in Buffalo:

> The dog ambled about a bank of dwindling
> sand, trotting, sniffing on all sides. **Looking**
> **for something he lost here in a past life.**
> Suddenly he made off like a bounding
> hare, ears flung back, chasing the
> shadow of a lowflying gull. (V.A.3, f. 7r [p. 13]; cf. *U* 3.331–3)

Stephen's attempt to interpret a dog's view of the world (based on Weininger) is only a feeble foretaste of Bloom's empathetic endeavour to understand the way his cat sees the world (in Chap. 4 of *Ulysses*). But what is noteworthy in the context of Dennett's Multiple Drafts Model is that Weininger's speculative interpretation of dogs' eyes in relation to a lost past is the only Weininger excerpt that found its way into the "Proteus" episode next to the *Nach*- and *Nebenander* note:

> Five, six : the ~~n~~**Nacheinander** one after the other. Exactly:
> and that is the ineluctable modality of
> the audible. Open your eyes. No. Jesus!
> If I fell over a ~~precipice~~ cliff that beetles o'er his base now. Fell through
> the **Nebeneinander**. Ineluctably. I am
> getting on very nicely in the dark. My
> two feet in Mulligan's boots are at the ends of my two legs:
> **nebeneinander**. (V.A.3, f. 1r [p. 1])

Joyce's selection of only two of his Weininger notes illustrates the mechanism of "editing choices" and "value-stamped selections" that also characterize the workings of cognition according to Antonio Damasio (2012, 72). If Joyce's reading notes can be regarded as "observations," Dennett's description of the workings of consciousness does not only apply to Joyce's multiple drafts (the author's mind), but also to Joyce's method of evoking the workings of Stephen's consciousness (a fictional character's mind). Paraphrasing Dennett, the observations are spatially and temporally distributed over the different specialized portions of the brain and combine into narrative sequences that are subject to continuous editing by various processes at various instances in the brain (Dennett 1993, 113).

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In these opening paragraphs of the "Proteus" episode, Stephen is explicitly thinking *through* his senses ("thought through my eyes" *U* 3.1–2). Regarding the "ineluctable modality" of the visible and the audible, Antonio Damasio notes, from a neuroscientific perspective, that "Perception, in whatever sensory modality, is the result of the brain's cartographic skill" (70). This form of mental cartography is summarized as follows: "Signals sent by sensors located throughout the body construct neural patterns that map the organism's *interaction* with the object" (72; Damasio's emphasis), and these patterns are also referred to as "patterns of interconnectivity."[4] Damasio presents this mapping process in terms of images, "a subtle, flowing combination of actual images and recalled images, in ever-changing proportions"[5] (71). These ever-changing proportions suggest a similar model as Dennett's Multiple Drafts Model, and Damasio also employs the metaphor of editing, applied to cinema.[6] This pattern of connectivity marks Stephen's consciousness, as it is being evoked by Joyce, connecting Jakob Boehme to Aristotle to Dante (referring to Aristotle as the "*maestro di color che sanno*," the master of those that know) to George Berkeley and Samuel Johnson's refutation of Berkeley's idealism, to Otto Weininger and—possibly—Lessing. Moreover, this method of evoking the workings of a fictional mind is partially modelled after the patterns of interconnectivity in the multiple drafts preceding the published version of the text.

Conclusion: The "Miteinander" Model

After the publication of *Ulysses*, Joyce kept refining his model of the mind, presaging the extended mind thesis and its patterns of interconnectivity. And in order to do so, he kept using more and more notebooks, even reusing his old notebooks. His practice was to cancel a note as soon as he

[4] "All regions involved in mind-making have highly differentiated patterns of interconnectivity, suggestive of very complex signal integration" (Damasio 2010, 86).

[5] "The process of mind is a continuous flow of such images, some of which correspond to actual, ongoing business outside the brain, while some are being reconstituted from memory in the process of recall. Minds are a subtle, flowing combination of actual images and recalled images, in ever-changing proportions" (71).

[6] "[M]inds are not just about images entering their procession naturally. They are about the cinemalike editing choices that our pervasive system of biological value has promoted" (72).

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incorporated it in a draft. Many notes, however, were left unused for several years, until Joyce gave his old notebooks, including the Subject Notebook, to France Raphael in 1933 with the instruction to copy all the uncancelled, i.e. unused, notes into a new notebook. She tried but often failed to decipher the German words in Joyce's handwriting. For instance: "Die Geburt ist eine Feigheit" ["Birth is a cowardice"] (Weininger 1912, 62) becomes "Wie gebut ist eine Feigheid" (VI.C.7:265); and "Unethisch ist es, die Vergangenheit ändern zu wollen" ["It is unethical to want to change the past"] is changed into "Muthisch ist es die Vergangenheit zu ändern"—which inadvertently suggests that it is courageous ("mutig") rather than unethical ("unethisch") to change the past. The irony is that this procedure of transcription and the inevitable distortion it entails corresponds with mechanisms that characterize the workings of cognition according to Jonah Lehrer:

> Our vision begins with photons, but this is only the beginning. Whenever we open our eyes, the brain engages in an act of astonishing imagination, as it transforms the residues of light into a world of form and space that we can understand. By probing inside the skull, scientists can see how our sensations are created, how the cells of the visual cortex silently construct sight. Reality is not out there waiting to be witnessed; reality is made by the mind. (Lehrer 2007, 97)

Similarly, our remembrance of past images is also mutable: "No longer can we imagine memory as a perfect mirror of life. As Proust insisted, the remembrance of things past is not necessarily the remembrance of things as they were" (95).

How the combination of actual images and recalled images "in ever-changing proportions" (Damasio 2012, 71) works can be illustrated by the only cancelled note in France Raphael's transcription, "Nur ideale Gegenwart kann zu realen Zukunft führen" ["Only an ideal present can lead to a real future"] (VI.C.7:266), which may have served as the basis for the following line in *Finnegans Wake*, where it is combined with "scenic artist," a term derived from *Fay, A Short Glossary of Theatrical Terms* (p. 21; see notebook VI.B.44:181): "What scenic artist! It is ideal residence for realtar" (*FW* 560.13). Apart from the words "altar" and the Irish word "realta" ("star"), the "portmanteau" word "realtar" also suggests a combination of the "real" and the verb to "alter," or even "re-alter." With these portmanteau words, Joyce moved one step beyond the

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description of the extended mind. Here, his text no longer describes, but *performs* or *enacts* the combination of actual and recalled images. It is neither a *Nebeneinander* nor a *Nacheinander*, but a *Miteinander*, as Samuel Beckett suggested in his *German Diaries* in March 1937, when he realized "how *Work in Progress* is the only possible development from *Ulysses*, the heroic attempt to [erasure] make literature accomplish what belongs to music—the miteinander + the simultaneous" (26/3/37, Munich; Knowlson 1996, 258).

To accomplish this "miteinander" effect, Joyce made extensive use of books and reading notes. By treating his notebooks the way Otto's notebook functions (in Clark and Chalmers' article), Joyce not only found a useful way to process information, but also discovered—or perhaps merely intuited—a model of the mind (which only with hindsight can be defined as a precursor of the "extended mind" thesis) that is *enacted* in the literary evocations of his characters' consciousness in terms of the "extended mind." If one regards the project of literary modernism as an endeavour to explore "the interplay between intelligent agents and their cultural as well as material circumstances" (Herman 2011, 266), and if one regards literary studies as a balancing act of cultural negotiation between the reader, the author's self-presentation, the text and the context (Herman and Vervaeck 2011, 19), the study of authors' libraries may usefully contribute to a cognitive approach to modernists' writings and constitute a valuable part of this negotiation.

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Characters' Lapses and Language's Past: Etymology as Cognitive Tool in Joyce's Fiction

Sylvain Belluc

A fundamental characteristic of Joyce's aesthetics is its reliance on the diachronic dimension of language. More than any other writer of his time, Joyce is constantly striving to make the fullest use possible of the literary and semantic past of words. Although that strategy is on evident display in *Finnegans Wake*, where it is taken to extreme limits, it is in fact at work throughout Joyce's oeuvre. The reason behind that inclination can be found in the essay entitled "The Study of Languages," which Joyce wrote during his first year at University College, in 1898/1899. In this piece, he makes a clear case in favour of the capacity of etymology to open our eyes to the myriad information locked up within language, stating, for instance, that "in the history of words there is much that indicates the history of men, and in comparing the speech of to-day day [*sic*] with that of years ago, we have a useful illustration of the effect of external influences on the very words of a race" (*OCPW* 15). Joyce was therefore made aware, from an early age, of the cognitive value of etymology, that is to say, of its potential role as a door of access to historical knowledge.

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_5

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From that role derived, in turn, its potential usefulness for writers. Joyce, whose entire essay is a passionate defence of language study, goes on to write: "this knowledge tends to make our language purer and more lucid, and therefore tends also to improve style and composition" (*OCPW* 15). Such an argumentative jump might strike the modern reader as old-fashioned at best, and at worst as completely misplaced. Although the capacity of words to provide information on past historical customs or events seems today undeniable, as is testified by the ever-increasing flow of studies on the subject,[1] the rhetorical shortcut Joyce takes from cognition to stylistics looks rather arbitrary. For who, after Saussure, would deny that any language operates in a manner which is entirely independent of its past, and that etymology should therefore have no influence on the way words are used?

Joyce, in his early writings, makes the exactly opposite claim. I shall show that the significant role devolved to etymology in his aesthetics proceeds precisely from its value as a cognitive tool, and that this link, far from being arbitrary, is in fact the product of a particular philosophical tradition which granted etymology paramount importance because of the decisive help it could provide in the quest for truth. The light shed on the roots of Joyce's early approach to language will, in turn, explain the specific use to which etymology is put in *Dubliners.*

The roots of the arguments Joyce makes in "The Study of Languages" plunge very deep. They go back to John Locke's *An Essay Concerning Human Understanding*. Locke divides ideas into two categories: those simple and those complex. He further divides the first group into the ideas of sensation (such as colour, taste, noise, etc.) and the ideas of reflection (belief, desire, disgust, etc.). From the combination of those two types of ideas are born the complex ones, such as "truth," "justice," and so on. Locke's core argument in the *Essay* being that we get all our ideas from experience, a way had to be found to account for the inclusion of ideas of reflection in the category of simple ideas. Locke gives the solution in Book III, Chap. 1:

> It may also lead us a little towards the *Original* of all our *Notions* and *Knowledge*, if we remark, how great a dependence our *Words* have on common sensible *Ideas*; and how those, which are made use of to stand for Actions and Notions quite removed from sense, have their rise from thence,

[1] See Forsyth, *The Etymologicon*, 2011.

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> and from obvious sensible *Ideas* are transferred to more abstruse significations, and made to stand for *Ideas* that come not under the cognizance of our senses: e.g. to Imagine, Apprehend, Comprehend, Adhere, Conceive, Instill, Disgust, Disturbance, Tranquillity, etc. are all Words taken from the Operations of sensible Things, and applied to certain Modes of Thinking. *Spirit*, in is primary signification, is Breath; *Angel*, a Messenger: and I doubt not, but if we could trace them to their sources, we should find, in all Languages, the names which stand for Things that fall not under our Senses, to have had their first rise from sensible *Ideas*. (Locke 403)

Many readers understood that passage to mean that names for simple ideas of reflection are in fact nothing but metaphors derived from their literal use as names for ideas of sensation. The repercussions for etymology were enormous. Roy Harris and Talbot Taylor explain the importance of the paragraph as follows:

> [T]aken literally, it seems to imply that the vast majority of words are metaphorical in origin (given that only a small minority of words could be taken as names for simple ideas of sensation). This in turn suggested to many that, with the help of etymology, we should in principle be able to work out the original meaning (for some, such as Horne Tooke, the "true meaning") of those words not standing for simple ideas of sensation. The structure of our vocabulary (and so of the ideas for which the vocabulary items stand) could thus be exposed in terms of a step-by-step metaphorical expansion from an original core vocabulary of names for simple ideas of sensation. (Harris and Taylor 118–19)

Etymology was, from then on, intimately tied to the quest for philosophical truth. Horne Tooke, whose book entitled *The Diversions of Purley* was immensely successful in the eighteenth century, posited that the capacity of etymology to make us share in a more sensory approach to the world, one freed from the corrupting influence of civilization, invested it with an irrepressible power of political liberation. Etymology would help ordinary people reclaim control over ordinary words, whose meaning, he argued, had been appropriated by intellectual authorities to keep the social order stable. People would be able to find out the true meaning of contentious words, and therefore break free from the tyranny under which they suffered. Studying etymology suddenly meant regaining power. The cornerstone of Tooke's theory was thus the stress it laid on the cognitive value of etymology, which became the means to partake in a mode of

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apprehension of the world that was liberating because it shattered mystifications of all kinds.

The impressive hold Tooke's system of etymological investigation had on the minds of most eighteenth- and early-nineteenth-century British etymologists can, in a great measure, be put down to its simplicity and to the rhetorical skills Tooke showed at expounding it. Tooke alleged that to each word, whatever its grammatical function, corresponded a simple idea of sensation. The preposition "through," for instance, was said to come from a Gothic word meaning "door" (Tooke 180–3; Harris and Taylor 149). Needless to say, most of his so-called etymologies were spurious. But at a time when the so-called "new philology" from the continent, with all its phonetic and morphological rules, had not yet reached Britain, Tooke's so-called "discovery" looked ground-breaking, and his evidence compelling.

One etymologist who knew Horne Tooke's book well was Richard Chenevix Trench. In his preface to *On the Study of Words*, his most widely read book, he pays explicit tribute to Horne Tooke, declaring:

> Whatever may be Horne Tooke's shortcomings (and they are great), whether in details of etymology, or in the philosophy of grammar, or in matters more serious still, yet, with all this, what an epoch in many a student's intellectual life has been his first acquaintance with *The Diversions of Purley*. (Trench 1892, ix)

That sentence, however, with its series of caveats, says a lot about the peculiar nature of Trench's discourse on language, and on the motivations which led him to launch his enterprise aimed at popularizing etymology. Trench was an Anglican minister who had obtained his extensive knowledge of English etymology from his exegesis of the New Testament, and whose main goal was to edify people and make them good Christians. He therefore valued etymology, first and foremost, for the moral lessons it could teach. Where Tooke thought etymology could be of great help in emancipating people from political tyranny, Trench viewed it as an instrument to raise awareness of the extent to which humans had strayed from the right path. He thus devotes a long chapter of his *Study of Words* to "the morality in words," showing, for instance, how some societies throw a veil on their vices by resorting to euphemistic terms to refer to condemnable actions. He thus bitterly laments the habit of calling an illegitimate child a "love-child," arguing that for many women, "it may have helped to make the downward way more sloping still" (Trench 1892, 104).

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His explanation of the sensory origin of words is also informed by his deep religious faith. According to Trench, the metaphors inherent in words work exactly in the same way as Jesus' parables do: they are clues left by an all-powerful God to help humans apprehend the world above them. Etymology, for Trench, is therefore a quintessentially cognitive tool meant to lead humans to a better understanding of their Creator's wishes and to provide them with an inkling of the afterlife. This is a theory he set out very early on, in his *Notes on the Parables of our Lord*, where he declared that parables, proverbs, and the metaphors hidden within words differ not in nature, but only in the degree to which they unfold the divine message at their heart. They speak the same language, rooted in the sensory world, which Trench describes as "a mighty parable, a great teaching of supersensuous truth, a help at once to our faith and to our understanding" (Trench 1906, 17).

Trench, although for different reasons than Tooke, from whom strong ideological differences separated him, accordingly makes his the latter's core argument about the degeneration of language from a purer origin, and the corollary criticism of the cardinal mistake philosophers commit when they overlook that origin. The link Joyce posits in "The Study of Languages" between cognition—the power of etymology to provide historical information— and stylistics—the power of etymology to make our prose purer—is therefore anything but arbitrary. It is the legacy from a philosophical tradition which regarded any use of language divorced from etymology as an obstacle in the quest for truth, whether earthly or divine.

The logical consequence of Tooke and Trench's complaint about the deleterious effects which a chronic neglect of etymology has had on philosophical discourse is their attempt at rehabilitating its role as a cognitive tool and at making it a crucial factor again in deciding the meaning of words. The enterprise on which Richard Trench embarks is aimed at doing just that. Comparing words to mines of Californian gold, he intends to examine their past use with the highest degree of care and precision. Then, he says:

> shall we often rub off the dust and rust from what seemed to us but a common token, which as such we had taken and given a thousand times; but which now we shall perceive to be a precious coin, bearing the "image and superscription" of the great King; then shall we often stand in surprise and in something of shame, while we behold the great spiritual realities which underlie our common speech, the marvellous truths which we have been witnessing *for* in our words, but, it may be, witnessing *against* in our lives. (Trench 1892, 42–3)

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The metaphor equating words with coins extended here and at numerous other points of his book by Trench left a deep impression on the young Joyce. We find two echoes of it in *Stephen Hero*, in passages that touch on the subject of etymology, since they explicitly mention the name of Walter Skeat, one of Britain's foremost etymologists in the latter part of the nineteenth century. The first passage evokes the fascination fostered in Stephen by his avid reading of Skeat's dictionary:

> He was at once captivated by the seeming eccentricities of the prose of Freeman and William Morris. He read them as one would read a thesaurus and made a garner of words. He read Skeat's etymological dictionary by the hour and his mind, which had from the first been only too submissive to the infant sense of wonder, was often hypnotised by the most commonplace conversation. People seemed to him strangely ignorant of the value of the words they used so glibly. (*SH* 26)

The second passage deals with Stephen's wanderings around Dublin, and in particular with the boundless nature of his linguistic curiosity:

> As he walked thus through the ways of the city he had his ears and eyes ever prompt to receive impressions. It was not only in Skeat that he found words for his treasure-house, he found them also at haphazard in the shops, on advertisements, in the mouths of the plodding public. (*SH* 30)

The words "thesaurus" and "treasure-house," which are etymologically related, as well as the word "value" in the previous quote, are reminiscent of Trench's metaphor.[2] But Stephen's feeling of sheer wonder at the marvels hidden within language and his criticism of ordinary people's ignorance of etymology hark back to another passage of the *Study of Words*, in which the notion of trampling conveyed by the heavily alliterative expression "plodding public" and the awareness of the general disregard for etymology are fused into a single image:

> Oftentimes here we move up and down in the midst of intellectual and moral marvels with vacant eye and with careless mind, even as some traveller passes unmoved over fields of fame, or through cities of ancient renown—unmoved because utterly unconscious of the great deeds which there have

[2] André Topia has noted the economic connotations conveyed by the term "thesaurus"; see "Incipit joyciens: le fœtus et le dictionnaire," 109.

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> been wrought, of the great hearts which spent themselves there. We, like him, wanting the knowledge and insight which would have served to kindle admiration in us, are oftentimes deprived of this pure and elevating excitement of the mind, and miss no less that manifold teaching and instruction which ever lie about our path, and nowhere more largely than in our daily words, if only we knew how to put forth our hands and make it our own. "What riches," one exclaims, "lie hidden in the vulgar tongue of our poorest and most ignorant. What flowers of paradise lie under our feet, with their beauties and their parts undistinguished and undiscerned, from having been daily trodden on." (Trench 1892, 11)[3]

The echoes between Trench and Joyce's works show that Joyce's early approach to etymology owed a lot to Horne Tooke and, ultimately, to empiricist philosophy. Joyce had assimilated the idea spread by eighteenth-century readers of Locke that at the root of any abstract concept conveyed by language was a sensation anchored in the real world, and that a figurative meaning had always been preceded by a literal one. He had further learned from reading *On the Study of Words* that each and every one of the metaphors with which language teemed had been programmed by an all-powerful deity to help humans apprehend the nature of the life to come. Far from being the dead remnants of a decayed system, past meanings were means of instruction, windows onto a different, pristine world whose organization mirrored that of God's kingdom. The study of etymology was therefore a quintessentially cognitive activity, one which, by enabling people to share in the dramatic insights arrived at by previous speakers, elevated them above their earthly condition. That Joyce espoused such an approach to language is made clear by Stephen's description of words as "receptacles for human thought" during his conversation with Father Butt in *Stephen Hero*. Through the use of that expression can be felt the influence of Richard Trench, who, as in the following passage, is often at pains to stress that in each word is encapsulated a deep thought whose preservation in language expanded the store of humanity's knowledge:

[3] The words in inverted commas are pronounced by the character of William Shakespeare in the fictional version of his trial written by Walter Savage Landor; cf. *Citation and Examination of William Shakespeare*, 13. Legend has it that Shakespeare had to leave Stratford-upon-Avon to escape arrest after engaging in deer-stealing on the lands of Sir Thomas Lucy.

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> [T]he single kinglier spirits that have looked deeper into the heart of things have oftentimes gathered up all they have seen into some one word, which they have launched upon the world, and with which they have enriched it for ever—making in that new word a new region of thought to be henceforward in some sort the common heritage of all. Language is the amber in which a thousand precious and subtle thoughts have been safely embedded and preserved. It has arrested ten thousand lightning flashes of genius, which, unless thus fixed and arrested, might have been as bright, but would have also been as quickly passing and perishing, as the lightning. (Trench 1892, 28)[4]

Stephen's characterization of words as "receptacles for human thought" comes in the context of his defence of the language of literary tradition as opposed to that of the marketplace. The rest of his sentence reads: "in the literary tradition [words] receive more valuable thoughts than they receive in the marketplace." What Stephen affirms here is not just the superior semantic richness of literary language, but its profoundly cognitive nature. Because great writers, contrary to ordinary speakers, are aware of the metaphors inherent in words, they will strive to use words in such a way as to set off these metaphors, and thus make reading an intrinsically cognitive act, a partaking in the thoughts of our ancestors that will push back the limits of our own knowledge. In arguing so much, Stephen is only repeating Richard Trench's argument in his *Study of Words*, which makes the linking back of words with their etymon the task of every writer. In a passage which Joyce would (re)read and take notes from while writing the "Oxen of the Sun" episode of *Ulysses* in 1920,[5] Richard Trench had written:

> the etymology of a word exercises an unconscious influence upon its uses, oftentimes makes itself felt when least expected, so that a word, after seeming quite to have forgotten, will after longest wanderings return to it again.

[4] The view of language as a book of dead metaphors, which Trench sets out here, was very common in the nineteenth century. One famous adherent of it was Friedrich Nietzsche, who claimed that truth could only be reached *with the help of* the metaphors sealed up in words and not *in spite of* them. What is original about Trench's discourse, however, is that it gives that argument a Christian twist, turning the metaphors into God-given clues, and thus extending to language the theory of the "signature of all things" formulated by the seventeenth-century German mystic Jakob Böhme and alluded to by Stephen in the opening lines of the "Proteus" episode of *Ulysses* (*U* 3.2).

[5] See Sarah Davison, "Joyce's Incorporation of Literary Sources in 'Oxen of the Sun'," *Genetic Joyce Studies* 9 (Spring 2009); http://www.geneticjoycestudies.org/GJS9/GJS9_SarahDavisonOxen.htm

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> And one main device of great artists in language, such as would fain evoke the latent forces of their native tongue, will very often consist in reconnecting words by their use of them with their original derivation, in not suffering them to forget themselves and their origin, though they would. How often and with what signal effect does Milton compel a word to return to its original source, "antiquam exquirere matrem"; while yet how often the fact that he is doing this passes even by scholars unobserved. (Trench 1892, 274–5)

The practice Trench champions here, which consists in equating the meaning of each word with that of its etymon, is known among linguists as the "etymological fallacy." Trench saw in it something much more precious than a mere stylistic ploy; by advocating its use, he shows he was aware that, for words to have any value as cognitive tools, they had to be handled as rhetorical tools. Because a word's original meaning bore the handprint of God, who had generously left moral clues in language to guide us through life, writers had to engage in the practice of etymological fallacy to put their readers back on the path to truth. Trench quotes the example of John Milton, whose extensive use of etymological fallacy was part and parcel of a wider rhetorical strategy aimed at "justify[ing] the ways of God to men" (Milton 3).

This is where the link between cognition and stylistics Joyce posits in "The Study of Languages" comes from. Moreover, he was not content with simply repeating Trench's argument: he put it into practice. We can deduce so much, in the semi-biographical *Stephen Hero*, from the narrator's description of Stephen's style as "over affectionate towards the antique and even the obsolete and too easily rhetorical" (*SH* 27). One can also find examples of etymological fallacy in Joyce's non-fictional prose. In "Drama and Life" for instance, he discusses the "changeless laws which the whimsicalities and circumstances of men and women involve and overwrap" (*OCPW* 23). The verb "to involve" seems to be used here in the sense of the Latin verb "involvere" from which it derives, and which meant "to roll up," all the more so as it is followed by the verb "to overwrap." The same phenomenon can be witnessed in the first paragraph of the article "Ibsen's New Drama," in which Joyce, after enumerating the various labels used by critics to define Henrik Ibsen, writes: "[t]hrough the perplexities of such diverse criticism, the great genius of the man is day by day coming out as a hero comes out amid the earthly trials" (*OCPW* 30). The word "perplexity" seems to be employed here by Joyce in the sense of its post-classical Latin etymon *perplexitas*, which meant "entanglement, entwining" (*OED*).

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One would be hard put, however, to identify clear cases of etymological fallacy in *Dubliners*. Not that etymology does not matter in *Dubliners*. On the contrary, Joycean criticism, over the last decades, has shown etymology to be an essential tool to which Joyce constantly resorts to build the symbolic or metaphoric architecture of his work. This begs the obvious question: what has become of Trench's theory? Does Joyce no longer regard words as "receptacles for human thought," as he did in *Stephen Hero*, and view etymology as instrumental in the quest for truth and knowledge? Or has he, before Saussure, drawn a rigid distinction between the separate roles of words as cognitive tools and as communicational tokens? I shall argue that, far from turning his back on the lesson Trench's book taught him, Joyce seized on the ignorance of etymology which ordinary people's language betrayed, and to which Trench had drawn his attention, and gave it a central place in the aesthetics of *Dubliners*. Such a strategy might strike one as particularly ironical, not to say perverse, as the goal of both Tooke and Trench was precisely, albeit for different reasons, to open people's eyes to the way their misuse of language contributed to their moral or political plight. However, that impression would be wrong, because Joyce, far from acting as a mere puppet handler ruthlessly exploiting people's linguistic mistakes to erect a complex artistic masterpiece, decided to illustrate ordinary speakers' ignorance of etymology only to denounce the spiritual crisis in which Dubliners were caught, and to lay bare the mechanisms which kept them in such a state of paralysis. His decision, it is to be noted, did not spell the end of the cognitive role played by etymology. This role, instead of disappearing, shifted: from shedding philosophical or semantic light, etymology came to provide information on the author's and the reader's individual stores of knowledge, even though the distinction between the two is never clear. Such a change in the cognitive content to which etymology gives access goes along with a shift in the way the process of apprehension functions. While the thoughts which etymology makes possible to decipher lie in words by a law of necessity, the manner in which the reading process sheds light on certain aspects of the reader's store of knowledge is much more subject to chance.

James Joyce's wish to raise Dubliners' awareness of their spiritual condition is well known and explicitly expressed in the famous passage from the letter of 23 June 1906 to Grant Richards: "I seriously believe that you will retard the course of civilisation in Ireland by preventing the Irish people from having one good look at themselves in my nicely polished looking-glass" (*SL* 90). It is in the light of that willingness to hold up a

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mirror to Dubliners that Joyce's use of the diachronic dimension of language has to be seen. It is an integral part of a wider aesthetic strategy that relies in great part on the characters' utter blindness to the purport of their very words and deeds or to the significance of their surroundings. As a consequence, it is not just the forces of etymology that Joyce marshals, but those of the intertext and of Dublin's topography as well. Mary T. Reynolds, in her seminal book on Joyce's relation to the work of Dante Alighieri, has shown how the characters of *Dubliners* often unwittingly re-enact the action from the *Inferno*, an insight that has been elaborated upon by succeeding generations of Joyce scholars. Reynolds even went as far as to see an entire typology of sins mirroring that created by Dante in the *Inferno* emerge from the different stories in the collection. Each one of them was allegedly organized around one particular sin: while "Ivy Day in the Committee Room," for instance, corresponded to canto XXI, in which grafters and barrators are punished, "A Mother" paralleled canto XXVIII, that of the sowers of discord (Reynolds 159). While this reading may seem to accentuate the ruthlessness with which Dubliners are portrayed and to make the atmosphere of the book grimmer still, Joyce's condemnation can also take a decisively comic turn, as in "Grace" for instance, where the characters often sound blithely unaware of the deeply serious theological implications of their light-toned disquisitions on the history of the Church. Another fascinating illustration of this narrative strategy consisting in turning characters into pawns within linguistic and symbolic structures of which they remain unaware is the story "Two Gallants," in which Corley and Lenehan show a complete disregard for the historical significance of the street buildings or signs which surround them while they perambulate the city.

Only in relation to the constant gap between characters' words and actions and their awareness of what these words and actions imply can Joyce's use of etymology in *Dubliners* be properly understood. In this regard, a particularly interesting window onto the role played by etymology in the collection is the rhetorical figure known as "malapropism," because it both highlights the characters' chronic lack of mastery over the very words they handle and adds a further twist of irony. A case in point is Eliza's famous blunder in the story "The Sisters" when she mistakes the word "rheumatic" for "pneumatic": "If we could only get one of them new-fangled carriages that makes no noise that Father O'Rourke told him about—them with the rheumatic wheels—for the day cheap" (*D* 17). Fritz Senn has pointed out the play on etymology at work here, noting in

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particular that Eliza "is substituting the name of a disease for something spiritual (Gk. *pneuma*, the word also used for the Holy Ghost)."[6] Walter Skeat's dictionary does indeed mention the elements of water and air in its entries on the two words:

> **PNEUMATIC,** relating to air. (L., –Gk.) [...] –Lat. *pneumaticus*. –Gk. *πνευματικός*, belonging to wind, breath, or air. –Gk. *πνευματ-*, stem of *πνεῦμα*, wind, air. –Gk. *πνέειν*, to blow, breathe. (Skeat 1882, 452)

> **RHEUM,** discharge from the lungs or nostrils caused by a cold. (F., –L., –Gk.) –F. *rheume*, "a rheume, catarrh;" Cot. –Lat. *rheuma*. –Gk. *ρεῦμα* (stem *ρευματ-*), a flow, flood, flux, rheum. –Gk. *ρευ-*, occurring in ρεύσομαι, fut. t. of *ρέειν*, to flow [...]; the base of the verb being *ρυ* (for *σρυ*), to flow, cognate with Skt. *sru*, to flow. –√SRU, to flow. (Skeat 1882, 508)

The play on language at work in Joyce's text has to be seen in relation to the multiple details hinting at the priest as a fallen figure of paternal and spiritual authority, such as the probable echo to the canto of the simoniacal popes in the *Inferno*: "I remembered that it [the heavy grey face of the paralytic] had died of paralysis and I felt that I too was smiling feebly as if to absolve the simoniac of his sin."[7] What is so particularly striking about Eliza's slip of the tongue, however, is that etymology plays a role which is exactly opposite to the one ascribed to it by Horne Tooke or Richard Trench. The words "rheumatic" and "pneumatic" *are* recalled to their original, literal meaning (water and air), but to no "liberating" or "purifying" effect. Etymology works here, on the contrary, *at the expense* of the speakers, enclosing them further in linguistic and symbolic structures over which they have no control. The passage pushes to its limits the characters' utter blindness to the cognitive role of etymology, and it feels as if Joyce's

[6] Fritz Senn, drawing attention to the cyclic shape of the wheel and to the fact that water is traditionally associated with life, rightly goes on to point out that another, more positive reading of that mistake is possible; cf. "'He Was Too Scrupulous Always': Joyce's 'The Sisters'," 70–1.

[7] Mary Reynolds notes (Reynolds 236) that the reversal implicit in that passage is a probable allusion to canto XIX of the *Inferno*, in which Dante meets Pope Nicholas III: "Io stava come 'l frate che confessa/lo perfido assessin, che, poi ch'è fitto, /richiama lui per che la morte cessa" (*Inferno* XIX.49–51). English translation: "I was standing like the friar who confesses the perfidious assassin, who, after he is fixed, recalls him, in order to delay his death"; trans. Charles Eliot Norton.

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aesthetics contribute to reinforce the tyranny exerted by what Tooke calls the "established intellectual authorities" over ordinary speakers.

Another instance of such a phenomenon is the play on the word "general" and its cognates throughout the collection. In this case also, malapropism plays an important part. The word "general" first appears in *Dubliners* because of Eliza's second slip of the tongue, when she mistakes "general" for "journal": "It was him [...] wrote out the notice for the *Freeman's General*" (*D* 16). Annotators of the story usually point out that the *Freeman's Journal* was a newspaper which supported Home Rule for Ireland. This means that the word "general" is associated very early on with the Irish struggle for independence. But it is also associated with it in another way. For "general," as Walter Skeat's dictionary informs us in his dictionary, is cognate with "genus," which means "breed, race, kin." The root it comes from, √GAN, which also gave the adjective "generous," means "to beget" (Skeat 231). The words "general" and "generous," because of their etymology, are therefore associated with the notion of race in its most physical, genetic sense. Here lies part of the irony of Gretta's remark when she tells Gabriel he is "a very generous person." Although the etymological logic would tend to imply that he is acting true to type, and that generosity is therefore a defining trait of the Irish, the examples of the stories "Two Gallants" and "Counterparts," as well as the ultimately dubious motives for his gifts of money to Lily and Freddy Malins, cast doubt over that reading. This is why the contemporary meaning, instead of becoming clearer in the light of its etymon, gets undermined by it. And the implication, again, is that the characters are not so much in control of language as language is in control of them. Such a reading is reinforced by the use, especially in Gabriel's speech, of the numerous derivatives of the root √GAN in relation to Irish identity, such as "genuine" or "generation." Gabriel praises, for instance, "the tradition of genuine warm-hearted courteous Irish hospitality," and he keeps referring to both his aunts and their guests in his speech through the word "generation" ("A new generation is growing up in our midst, a generation actuated by new ideas and new principles" [*D* 203]). The adjective "courteous," which Skeat defines as "of courtly manners" (Skeat 138), also hints, through its etymology, at the monarchic authority so much reviled by Irish nationalists. All those examples add a whole new dimension to James Joyce's oft-repeated complaint about the irrepressible urge to betray allegedly characteristic of the Irish. It is almost as if each instance became a malapropism or a slip of the tongue in its own right, revealing as

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it does what Joyce at times thought was the real nature of Irish nationalism, especially its propensity at self-delusion. And on every occasion, etymology plays a key role, which is the exact opposite of the liberating one Tooke or Trench envisioned for it.

Joyce's use of etymology in *Dubliners* can therefore be seen, up to a certain point, as an illustration of Horne Tooke's theory: by showing how his countrymen's spiritual and political entrapment depends on their improper use of language, Joyce works for their liberation. The mirror that he famously wanted to put up to them shows them that their subjection to unworthy authorities is inscribed in and abetted by their own words. However, Joyce distances himself from both Tooke and Trench insofar as his handling of etymology does not proceed from a belief that a word's original, literal meaning is a source of purity that has to be tapped into. He thus eschews the potential role of etymology as an instrument in the quest for divine truth. But that does not mean that etymology is deprived of any cognitive function in *Dubliners*. For although its value may be lost on the characters, it is certainly not so on readers who, when examining the text closely, see their own image. Instead of providing information on the evolution of human understanding or on God's plans, etymology sends readers images of their own minds. With that change, it moves from the realm of necessity to that of chance: it no longer helps to retrieve metaphors programmed by God and discovered by men, but instead suggests connections which rest entirely on the readers' store of knowledge.

An illustration of this process can be found in the story "The Sisters." Nannie offers sherry to her guests: "Nannie went to the sideboard and brought out a decanter of sherry and some wine-glasses" (*D* 15). Fritz Senn has noted that the etymology of "sherry" links it with Caesar, commenting that it is a further hint at the failure of spiritual authority:

> The guests are offered spirits in the form of sherry. Skeat's *Etymological Dictionary* derives "sherry" from the Spanish town of Xeres, and this place-name from Latin *Caesaris*. What spiritual nourishment is offered appears to belong more to Caesar than to God. (Senn 72)

Michael Brian has pushed the analysis slightly further, observing that, because Caesar is "Dante's archetypal secular ruler," the play on "sherry" is a covert allusion to the *Divina Commedia* (Brian 222). Such an interpretation squares well both with the famous example of the usurpation of

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temporal power by a spiritual authority in the story "Grace" and with the numerous allusions to Dante's poem throughout the collection. It is all the more relevant as Eliza's posture ("we found Eliza seated in his armchair in state" [*D* 14]) seems to recall a particular passage from the *Purgatorio*:

> Ahi gente che dovresti esser devota,
> e lasciar seder Cesare in la sella,
> se bene intendi ciò che Dio ti nota,
> guarda come esta fiera è fatta fella
> per non esser corretta da li sproni,
> poi che ponesti mano a la predella. (*Purgatorio* VI.91–6)[8]

Caesar's name is also bound to conjure up in readers' minds the verses in which Jesus discusses the separation of secular and spiritual power, and declares to the Pharisees who try to "entangle him in his talk": "Render therefore unto Caesar the things which are Caesar's; and unto God the things that are God's" (Matthew 22:15–22 [King James Bible]; Mark 12:13–17; Luke 20:20–6). It is a passage which Joyce would explicitly refer to in the "Nestor" episode of *Ulysses*. Stephen, while listening to a pupil read from John Milton's "Lycidas," thinks:

> Of him that walked the waves. Here also over these craven hearts his shadow lies and on the scoffer's heart and lips and on mine. It lies upon their eager faces who offered him a coin of the tribute. To Caesar what is Caesar's, to God what is God's. (*U* 2.83–6)

The tribute penny shown to Jesus later materializes in the shape of the coins enclosed in Mr. Deasy's "savingsbox" (*U* 2.218), before morphing into the seashells Stephen crushes while walking on Sandymount Strand in "Proteus": "Crush, crack, crick, crick. Wild sea money" (*U* 3.19).[9]

The reader aware of the etymology of "sherry" is thus led to think that the word, like the echo to canto XIX of the *Inferno* mentioned above, is

[8] "Ah folk, that oughtest to be devout and let Caesar sit in the saddle, if thou rightly understandest what God notes for thee! Look how fell this wild beast has become, through not being corrected by the spurs, since thou didst put thy hand upon the bridle;" trans. Charles Eliot Norton.

[9] Mr. Deasy's coins are associated with seashells in Stephen's mind because of the shells the headmaster keeps in a "stone mortar" on his desk, and which Stephen sees while he waits for his payment (*U* 2.212–16).

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yet another hint at the sin of simony. This etymology therefore functions like the metaphors which, according to Trench, were programmed by God, discovered by men and have been preserved in language: it answers to a law of necessity, albeit one instituted by Joyce, and serves to invest the story with transcendental meaning. Joyce's system, however, differentiates itself from the divine one delineated by Trench in one essential aspect: its functioning does not require the banishment of chance. Necessity, in Joyce's fiction, works in harmony with chance, not against it. The cognitive value etymology holds in Joyce's aesthetics thus lies in its capacity to shed light on the readers' minds which, in turn, add meaning to the text. Derek Attridge has theorized such an approach in his article entitled "The Postmodernity of Joyce: Chance, Coincidence, and the Reader." Admitting, after Jacques Derrida and his "*joyciciel*" (Derrida 22–3), that Joyce's monumentalizing aesthetics seems to anticipate every interpretation, he nevertheless notes that there is something else to it:

> Yet the particular manner in which Joyce accumulates details, multiplies structures, and overdetermines interpretation achieves something else as well […]: it makes possible, and relishes, the random, the contingent, and—emerging out of these as a necessary effect—the coincidental. Rather than attempting to control the mass of fragmentary detail to *produce* meaning, Joyce's major texts *allow* meaning to arise out of that mass by the operations of chance. (Attridge 120)

Such a phenomenon seems to be happening in "The Sisters," as readers versed in the *Divina Commedia* may read something more into the word "sherry," something which Joyce did not necessarily have in mind, but which happens to fit neatly into one of the overlapping intertextual structures of the collection. Joyce, as early as *Stephen Hero*, links the two Dantean sins of simony and sodomy. The scene in which Stephen meets his former classmate Wells, who confesses to having chosen the path of the priesthood for the comfortable life it offered him, contains some striking parallels with Dante's encounter with Brunetto Latini in canto XV of the *Inferno* (Reynolds 44–51). There are few obvious allusions to canto XV in "The Sisters," but Lucia Boldrini has drawn a parallel between Father Flynn and Brunetto Latini, arguing that both represent failed paternal figures (Boldrini 455–7), and Michelle Lecuyer has pointed out a striking similarity between the movements of the priest to dust tobacco off his coat and those of Dante's sinners to fend off the rain of fire (Lecuyer 51–2).

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Those possible, albeit fragile, bridges may bring to mind another passage from the *Divina Commedia* in which Caesar's name occurs. It is to be found in canto XXVI of the *Purgatorio*. Dante is on the seventh terrace, that on which the lustful are punished. The souls Dante sees are divided into two groups walking in opposite directions, who affectionately hug one another when they meet. The spectacle of their encounter, however, comprises another element, which Dante describes thus:

> Tosto che parton l'accoglienza amica,
> prima che 'l primo passo lí trascorra,
> sopragridar ciascuna s'affatica:
> la nova gente: "Soddoma e Gomorra;"
> e l'altra: "Ne la vacca entra Pasife,
> perché 'l torello a sua lussuria corra." (*Purgatorio* XXVI.37–42)[10]

Dante is given the explanation for that strange ritual by the poet Guido Guinizelli, whom he meets a few moments later:

> La gente che non vien con noi, offese
> di ciò per che già Cesar, trïunfando,
> "Regina" contra sé chiamar s'intese:
> però si parton "Soddoma" gridando,
> rimproverando a sé com' hai udito,
> e aiutan l'arsura vergognando. (*Purgatorio* XXVI.76–81)[11]

Each group shouts examples of the particular type of lust of which its members have proven themselves guilty: there are those who violated natural law, and those who simply exceeded or perverted it. The mention of Caesar's name to refer implicitly to the sin of sodomy relies on the story which holds that Caesar, during a triumph, was ironically hailed as "queen" due to his alleged intimacy with King Nicomedes of Bithynia. This means that the word "sherry" used by Joyce in "The Sisters" contains, along with a host of other intertexts (among which is the one quoted earlier), that

[10] "Soon as they end the friendly salutation, before the first step runs on beyond, each strives to outcry the other; the new-come folk: 'Sodom and Gomorrah,' and the other, 'Into the cow enters Pasiphae, that the bull may run to her lust';" trans. Charles Eliot Norton.

[11] "The people who do not come with us offended in that for which once Caesar in his triumph heard 'Queen' cried out against him; therefore they go off shouting 'Sodom,' reproving themselves as thou hast heard, and aid the burning by their shame;" trans. Charles Eliot Norton.

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particular passage from the *Purgatorio* in the shape of a potentiality waiting to be activated in the reader's mind. That potentiality, furthermore, gains crucial relevance through the numerous references to the *Divina Commedia* in the collection.

One may object that such a reading is far-fetched and that it opens the door to all kinds of etymological and intertextual extrapolations. Derek Attridge's argument, however, which I am taking up here, is that Joyce's aesthetics, piling up allusions and structures as it does, is precisely meant to set off such effects. Etymology is, accordingly, a key element in a system aimed at making each reader's unique store of knowledge an integral part of its signifying process.[12] Far from resorting to etymology as an instrument of stability against the never-ending semantic flux along which words necessarily travel, that system relies on and revels in the reader's contribution of personal cultural references to the text even as it sets up barriers in the form of intertextual clues to keep the interplay between those two forces within strict limits. Etymology thus occupies a place in Joyce's aesthetics that testifies to a radical shift in its cognitive role: from functioning as a window asking to be cleared up onto the mind of God or of the first humans, it now acts as a prism through which the reader's sensibility gets refracted, illuminating the text with a myriad hues and shades.

There is, however, a potentially darker side to that phenomenon. It lies, paradoxically, in the thrills of delight often felt at seeing one's own image in the text. They can, like the will-o'-the-wisps at the start of the "Circe" episode of *Ulysses*, lead to the dangerous temptation to follow the torch of one's own obsession and set out on a quest for serendipitous discoveries. The exploration of such byways, however, is but the natural consequence of the unique cognitive value of Joyce's use of language, which lies in its doubly revelatory function, since any attempt at interpreting Joyce's words often ends up throwing as much light on the reader's store of knowledge as on the text itself.

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[12] Attridge's own illustration is his chance discovery, in the episode of *Finnegans Wake* which is packed with river names, of a string of letters making up the name of the South-African river near whose banks he grew up (Attridge 121).

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Joyce and Hypnagogia

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It has become a commonplace in the critical discussion of James Joyce to claim that he trains his readers how to read him. If we enlarge our understanding of what "reading" itself might mean beyond the linguistic processing of a text, however, we can phrase this observation slightly differently and say that Joyce develops in his readers the cognitive skills necessary to function within the worlds of his fictions. In *Dubliners* Joyce's training of the readers, so the usual argument goes, involves introducing them to a core vocabulary, a trio of emphasized terms on his first page—"*paralysis*," "*gnomon*," and "*simony*" (*D* 9)—that thematically and symbolically unite his story collection so that by the third story his readers, like the young protagonist of "Araby," have learned to "interpret these signs" and navigate within the textual environment of Dublin (*D* 33). *A Portrait of the Artist as a Young Man* opens similarly with a two-page overture introducing its readers to the chief symbolic and thematic leitmotifs—eyes, cows, birds, greenness, guilt, etc.—which enable them to discover cohesiveness and order within the highly selective and episodic narrative that follows. And the startling appearance of the word "Chrysostomos" on the first page of *Ulysses* (*U* 1.26) initiates its readers into the text's strategy of

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_6

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jump-cutting between external narrative and interior monologue in its early stages, preparing them to deal with even more innovative techniques as the book progresses. Yet if we expand our conception of "reading" to consider how texts engage a broad range of cognitive abilities in their audience beyond the (admittedly marvellous) arrival at meaning though the intelligent processing of the arbitrary system of a given language and through the acquired familiarization with the patterns and variations of literary forms—the nearly exclusive foci of academic criticism—what now appears equally central to Joyce's development of his readers' cognitive abilities, though rarely discussed, is his enlisting of their powers of *mental visualization* in these openings. Recognizing Joyce's concern for such visualization or "mental imaging" in his major fiction through *Ulysses* will, in fact, establish these earlier works as a kind of cognitive training regimen for the task of reading *Finnegans Wake*. Yet our present purpose in this essay is to make the more modest claim that Joyce's fascination with a particular form of mental visualization called "hypnagogic" imaging—the intense experience of quasi-perceptual and often highly visual images in the condition of "half-sleep" (Sartre 52–3)—demonstrates his conviction that the mind forms mental images, a cognitive function that was largely rejected by contemporary experimental psychologists, that was correspondingly dismissed by Joyce's early critics, and that continues to be ignored in literary criticism. Not only does Joyce repeatedly invoke the visual imaging of characters and readers throughout his career, but he significantly positions moments of hypnagogic imaging in each of his works of fiction to underline the habitual and highly important act of visualization. These experiences of visually charged hypnagogia occur at the opening and close of the story collection *Dubliners*, at the initial point of creation for the young artist in *A Portrait*, and at the conclusions of both *Ulysses* and *Finnegans Wake*. Although the privileged placement of hypnagogic imaging in his fiction indicates the strength of Joyce's investment in the mental image as one of the central "formats of representation" in the minds of his characters, of his readers, and even of the artist himself, there has been no discussion of imaging in his works (Pinker 89). Hence, the objective of this essay will be threefold: to briefly describe the function of mental imaging through Joyce's major fiction, to account for his critics' apparently inexplicable neglect of such visualization, and to examine his recognition of the ultimate connections between the mental images of hypnagogia and literary creativity.

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I.

The opening scenes of *Dubliners*, *A Portrait*, and *Ulysses* enlist the readers' powers of mental visualization by immediately orienting them within the visual fields of their respective protagonists, each of whom is engaged in the act of spectating: the boy of "The Sisters" gazes intently at the "lighted square of window" behind which the priest may be dying (*D* 9), the toddler Stephen Dedalus meets the eyes of his father, and the young adult Stephen "look[s] coldly" upon Buck Mulligan's form and sacrilegious performance on the parapet of the Martello tower (*U* 1.14). Joyce thus encourages his readers to empathetically envision each of these situations, ensuring that the *scene* is *seen*. Although this simply seems another way of saying that he is drawing the readers into his characters' points of view, a moment's reflection will tell us that "point of view" here quite literally refers to the character's field of vision and is distinct from the conventional literary use of this phrase to identify the teller of the tale. Of these three works only "The Sisters" is in the first-person voice, and its narrator is clearly an older version of the protagonist, a storyteller whose retrospective narrative and mature diction place him at a distance from which he reconstructs and re-envisions his story. The first-person narrator of "The Sisters," in other words, exercises the mental imaging skills that the text invites from the readers. Joyce's subsequent narrators continue to align the readers to the protagonists' fields of visual perception, while increasing their distance from the focal characters by moving from the first-person retrospective to the limited-omniscient viewpoints for the fourth and following stories of *Dubliners*, and for *A Portrait* into *Ulysses*. Prompting the readers' "*quasi*-perceptual" envisioning of the settings and figures in the texts by orienting them toward the protagonists' visual fields ("Mental Imagery" 1.0), the opening scenes of *Dubliners* and *A Portrait* are doing much more than providing key linguistic propositions for the readers' subsequent understanding of their themes, and the opening of *Ulysses*, similarly, is doing more than introducing a key technical strategy that will equip the readers to negotiate the narrative innovations of the text. Joyce trains his readers to see (visualize) as well as to *see* (understand) his works.[1]

[1] For discussion of "the ancient cultural equation between sight and knowledge" (Esrock 199), linguistically encoded in most Indo-European languages, see Tyler 28–30; also see Esrock 183–4 and Dennett 55–60.

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Early, late, and often through the *Dubliners* story collection Joyce models the kind of mental imaging, the experience of sensory response to objects that are not actually present to the senses, that he promotes in his readers and that is the root meaning of the term "*imag*ination" (*OED*, definition 1).[2] The anonymous narrator of "The Sisters" both re-envisions the story he tells and pictures the young protagonist similarly imaging soon after the emphatically visual opening. On the evening of the priest's death, the boy experiences a "hypnagogic" image, to which we shall return, as he drifts off to sleep: "In the dark of my room I *imagined* that I saw again the heavy grey face of the paralytic" (*D* 11; emphasis mine). As Joyce does on so many other levels in *Dubliners*, for instance with his symmetrical allusions to Dante's *Inferno* in the opening line of "The Sisters" and in the closing passage of "The Dead" (see Reynolds 26 and Rice 34), he structurally reinforces this initial act of mental imaging by the boy of the first story by having Gabriel Conroy experience a similar hypnagogic image in the *finale* of the last story: "The tears gathered more thickly in his eyes and in the partial darkness he *imagined* he saw the form of a young man standing under a dripping tree" (*D* 223; emphasis mine). Both of these are moments of visual imaging, the phenomenon of quasi-perception, although mental images need not be exclusively visual in nature as we see with Mr Duffy's experience of auditory and tactile ("haptic") imaging at the conclusion of "A Painful Case," here synesthetic: "At moments he seemed to feel [Mrs Sinico's] voice touch his ear, her hand touch his" (*D* 117). Yet Joyce, like most writers in the realist tradition, privileges visual imaging, aligning his readers' eyes with Stephen Dedalus's from the beginning of *A Portrait of the Artist* and even having Stephen conceive the "esthetic image" and define the stages of artistic apprehension explicitly in visual terms in the fifth chapter (*P* 212–13). Although critics have long associated Stephen's aesthetic principles with his creator's,

[2] Accordingly, the term "image" in this essay refers exclusively to this quasi-perceptual phenomenon—the mental registration of a given sense impression—and thus its meaning is quite distinct from the looser usage of the word in literary discourse: "*imagery* as the term has come to be used in literary criticism [...] usually seems to mean something like *metaphor* or *figurative language*, and, in particular, highly concrete, perceptually specific language that is used primarily for its suggestive or emotional effect" ("Mental Imagery" 1.3a, emphases in original). Since the importance of auditory imaging (i.e. verbal sound effects) in literature has rarely if ever been questioned in criticism, this essay focuses almost exclusively on visual imaging; hereafter, unless otherwise stated, the terms mental image, imaging, quasi-perception, and so on refer to *visual* images.

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few have considered the implications of his emphasis on the visual image. Yet by acknowledging this stress we can see that Father Arnall's portrayal of Hell during his retreat sermon in the central third chapter of *A Portrait* is a kind of artistic creation, though "kinetic" in Stephen's terms (*P* 205; see 119–24). Using St. Ignatius's visual mode of spiritual contemplation called "composition of place"—"to imagine with the senses of the mind, in our imagination, the material character of that awful place" (*P* 127)—Fr. Arnall stimulates Stephen's reciprocal haptic and auditory imaging when he returns to his classroom: "His flesh shrank together as it felt the approach of the ravenous tongues of flames [...] His brain was simmering and bubbling within the cracking tenement of the skull. Flames burst forth from his skull like a corolla, shrieking like voices: / – Hell! Hell! Hell! Hell! Hell!" (*P* 125). Later that same evening in his bed, Stephen has a particularly intense experience of mental imagery when he visualizes the "leprous company of his sins": "He flung the blankets from him madly to free his face and neck. That was his hell. God had allowed him to see the hell reserved for his sins: stinking, bestial, malignant, a hell of lecherous goatish fiends. For him! For him!" (*P* 137, 138).

This of course merely skims the surface of Joyce's attention to mental imagery in his early works, and space prevents a full discussion of this same element in *Ulysses* where Stephen demonstrates his training in imaging, for instance, by carrying over the artistic lesson if not the terrors of Fr. Arnall's sermon for his Shakespeare discussion in "Scylla and Charybdis": "Composition of place. Ignatius Loyola, make haste to help me!" (*U* 9.163). Meanwhile, throughout the book his creator is similarly composing the cityscape of Dublin for his readers. Both Stephen and Bloom provide abundant examples of the kind of visualization that *Ulysses*'s readers exercise for their quasi-perceptual realization of the world of the novel, readers who have privileged access to these characters' minds through the internal monologue technique and can thus imagine their images. One thinks of Stephen envisioning his visit to Aunt Sarah's in "Proteus" (*U* 3.70–103)—a chapter that opens with Stephen's reflections on quasi-perception: "Shut your eyes and see" (*U* 3.09)—or Bloom's numerous reveries, starting soon after we meet him: "Somewhere in the east: early morning: set off a dawn. Travel round in front of the sun [...]" (*U* 4.84–5 and ff.). And Joyce seems especially fond of exploiting as well as training his readers' capacity for visualization. While occasionally the text of *Ulysses* acknowledges that its readers are processing its language—notably in the "Sirens" episode when it cites the opening of "Calypso": "As said before

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[Bloom] ate with relish the inner organs [...]" (*U* 11.519–20)—the text also seems to demonstrate an awareness that it is being seen, especially when Stephen—"Who watches me here?" (*U* 3.414)—or Bloom, who on this day is especially concerned with how he appears to others, even to his cat (*U* 4.28–9), express their sense of being observed.[3] Readers who are visually responsive at these moments experience the odd consciousness of themselves being spotted in the act of observing *in* and *by* the book, a kind of exposure of the voyeur that, not coincidentally, similarly implicates the readers in the originating act of *Finnegans Wake*.

The matter of visualization continues to be a minor yet significant thread in Joyce's interests, among so much else, in the late episodes of *Ulysses* where he increasingly complicates and even interrogates the nature of the mental imaging of both its characters and its readers. Among the several implications of Gerty MacDowell's flights of fantasy in "Nausicaa," for instance, is a kind of caution to the readers—who are positioned to observe Gerty's private thoughts rather than her undergarments—against similar self-indulgently excessive or misplaced imaging, the common enemies of accurate visualization. The next chapter "Oxen of the Sun," on the other hand, provokes and ultimately thwarts the readers' desire to envision the scene in ways that intensify both their awareness of their visualizing tendency and their experience of its frustration. It seems that its readers' preoccupation with the unusual stylistic features of the text of "Oxen" (perception) actually reduces their capacity to engage in imaging (quasi-perception).[4] The point of the episode's visual frustrations is not that imaging is unnecessary or unhelpful to readers; indeed, Joyce has

[3] Bloom acts as if he is under constant observation throughout the "Lotos Eaters" episode, for example, in part because he is anxious that his secret correspondence with Martha Clifford not be discovered (see Norris 95), but also because he seems to be habitually circumspect, an understandable trait of character for a colonized Irishman living in a state of perpetual official surveillance. Enda Duffy notes that Bloom also turns the tables on the authorities by himself becoming the observing *flâneur* (53–73).

[4] Early research on mental imaging, based on personal introspection, recognized that actual perceptual engagement interfered with the individual's ability to image (e.g., see Sartre 171). Recent cognitive science has confirmed this. Because "imagery activates visual representations quite independently of retinal input" and virtually all of the brain's visual centres "can be activated endogenously by the mental intention to form a visual image," both actual perception and mental imaging involve many of the same parts of the human brain and in fact compete for the mind's primary attention (Farah 254; also see Kosslyn, Thompson, and Ganis 71–2). This competition explains why the readers' perceptual attention to the linguistic and stylistic features of the material texts in "Oxen of the Sun" and

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relied heavily on their capacity for imaging thus far in *Ulysses*. Rather, the opacity of "Oxen" introduces into the text for the first time the collateral point that mental images, unlike direct perception, are insufficiently detailed or complete to fully envision the scene. Visualization is not vision, although the realist tradition largely blurs this distinction, typically by conceiving the literary text as a kind of "window" or sometimes a "mirror" allowing a clear (quasi-)perception of reality. Early cognitive studies had concluded that mental images were normally less picture-like than impoverished reductions or approximations of actual perceptions, and "Oxen" suggests that Joyce has a similar understanding of their nature ("Mental Imagery" 2.3). This same recognition underlies the "Circe" chapter where Joyce makes this point again, via contrast, by presenting what are apparently momentary images in the minds of Bloom and Stephen in the form of preposterously extended and detailed sequences; readers now both oversee and over-see the imaging of the characters. These late episodes in *Ulysses* imply Joyce's possible consideration of the limitations of mental images: their potential for abuse by readers who may impose misperceptions upon the text ("Nausicaa"), their fragmentary and imprecise nature ("Oxen of the Sun"), and collaterally, the naïve but common assumption that they are more extensive, detailed, and complete than they actually are ("Circe"). Before Joyce returns to his initial style for "Penelope," an episode where readers can share Molly Bloom's visualizations, he recycles the

"Eumaeus," as noted below, interferes with their capacity to visualize in these same episodes of *Ulysses*.

This competition escalates in the highly idiosyncratic textual environment of *Finnegans Wake* where readers may be perceptually engaged down to the level of individual graphemes, while at the same time they are challenged to visualize what are, in fact, already mental images occurring in a "mind." Thus we might conceive of the ideal readers in the *Wake* as those who can maintain at least one of their eyes, so to speak, on the text's visual images, while their other eye is of course occupied with its linguistic oddness. By demanding that his readers' eyes pursue two different interpretive trajectories, Joyce abandons the optical paradigm of parallax that we find throughout *Ulysses*—representing the concerted and convergent action of the eyes to achieve clarity of focus and depth of both intellectual and ethical perception—to promote the contrary phenomenon of double-vision. The operative optical paradigm for *Finnegans Wake*, then, is *strabismus*, and Joyce makes this explicit by having Shaun accuse the artist Shem of "extruding" on "defenceless paper" his "strabismal apologia," one of the several analogues to the *Wake* we find in the *Wake* (*FW* 189.08–9). Joyce's turn away from parallax as a model for his readers' visual engagement with his text suggests that his daughter Lucia's own experience of strabismus influenced his conception of *Finnegans Wake*. (For extended discussion of Lucia Joyce's role as a major source of his inspiration for the *Wake*, see Shloss 7–10, 186–94, 288–91, 389–92 and passim.)

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message of "Oxen of the Sun" in "Eumaeus," where language in its visions and revisions and circumlocutions and imprecision somewhat interferes with the process of imaging by fixing the readers' perception upon the stylistic idiosyncrasies of the material text; correspondingly, Joyce then reinforces the message of "Circe" in "Ithaca," which mocks—in both senses of the term—literary realism's myth of completeness.

Among so much else in the late episodes of *Ulysses* Joyce seems to be reflecting on the nature and adequacy of mental images and on their potential for self-deception, yet there is no doubt he remains convinced that the mind forms visual images. Not only does he conclude his book with Molly's hypnagogic imaging, but he has Bloom end his day in "Ithaca"—which was actually the last episode that Joyce himself completed—with two significant exercises in visualization: before approaching his bedroom Bloom indulges in an extended reverie of acquiring and furnishing "a thatched bungalowshaped 2 storey dwellinghouse of southerly aspect" (*U* 17.1504–05; *viz.* 17.1497–1758), and upon entering the bedroom and setting his eyes upon Molly for the first time since that morning, Bloom is suddenly "arrested" by his "recall"—prompted by resemblance and/or association—of the "absent face" of her father, "Brian Cooper Tweedy" (*U* 17.2081–2). It is interesting to note that by believing such imaging as his "Bloom Cottage" reverie can be a valuable sedative "before retiring for the night" (*U* 17.1580; 1757), Bloom anticipates later twentieth-century visualization therapies that train subjects to sustain and furnish with detail the normally evanescent and sketchy (or "abstract") mental images one generates ("Mental Imagery" 4.0). The second moment of imaging that occurs when Molly's face stimulates Bloom's recall of her father, though much briefer in the text, is even more important because it confirms that Joyce is thinking about the generation of mental images when he brings *Ulysses* to its conclusion. Here Joyce interestingly anticipates the current model of image recovery—"Generating a mental image can be thought of as, roughly speaking, running the process of perception backwards" (Farah 275)—by amusingly comparing Bloom's memory process, his initial registration and later recall of the visual datum of Tweedy's "absent face," to the departure and subsequent return of a train to its point of origin:

> What recurrent impressions of the same [face] were possible by hypothesis?
>
> Retreating, at the terminus of the Great Northern Railway, Amiens street, with constant uniform acceleration, along parallel lines meeting at infinity, if

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> produced: along parallel lines, reproduced from infinity, with constant uniform retardation, at the terminus of the Great Northern Railway, Amiens street, returning. (*U* 17.2084–9)

A consideration of the role of vision and specifically of the cognitive phenomenon of quasi-perception in the "mind's eye" of both the sleeper in and the readers of *Finnegans Wake* (*FW* 515.23) shows that the long-standing assumption among Joyce's critics that his book "lacks visual imagery" is untenable (Levin 148). In *Joyce's Book of the Dark* (1986), still the best full study of *Finnegans Wake*, John Bishop contends not only that Joyce's book is visually opaque, but that it "actively encourages its reader *not* to visualize much in its pages" (217; emphasis in original). (Although dubious about readerly visualization, Bishop [216–63] nevertheless provides the best available discussion of the *Wake's* unique "system of vision and optics" [226].) While it is true that the eyes of the sleeper in this book are for the most part closed and thus incapable of retinotopic perception, this does not mean that his mind is disengaged from the generation of visual mental images. In actuality, Joyce extends the consideration of the nature and generation of the mental image seen in the later episodes of *Ulysses* into the *Wake*, a book that is ultimately preoccupied with the *cognitive* process of visualization, rather than being a work that somehow rejects the visual. The "action" of *Finnegans Wake* originates, after all, in an imagined moment of vision—apparently a transgressive act of voyeurism or exhibitionism or both—and its narrative locates its readers throughout within the quasi-perceptual field of a single mentality. Almost everything that is seen in the *Wake*, and there is much that *is* seen, is observed by the mind's eye of a sleeper "with his eyes shut" (*FW* 130.19). *Finnegans Wake*, then, not only consists almost exclusively of mental images, both the well-chronicled auditory images of its frequently rhythmic and musical prose and the largely undiscussed visual images that occur throughout, but insofar as it is read, it also repeatedly elicits the collaborative imaging of its readers, appealing equally to their mind's "ears" and their "mine size" (*FW* 509.28).[5]

[5] The notion that the mind possesses something like an inner eye has ancient roots, yet it is most strongly associated with Descartes' views of human consciousness, especially in his discussion of visual perception in the *Treatise of Man* (*De Homine* 1662; *L'Homme* 1664). Modern cognitive science (e.g., Bennett and Hacker 208–14) and philosophy (e.g., Dennett 101–38) have effectively critiqued the Cartesian assumption that the mind contains an imbedded observer, a "Ghost in the Machine" (Ryle 22), or "the infamous homunculus"

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It should be clear that throughout his career Joyce is both intensely interested in visual perception—as many critics have already noted (e.g., see Gottfried)—and intrigued by the phenomena of mental visualization experienced by his characters and his readers alike, an element of his work that has received scarcely any notice from scholars. What explains this state of affairs among Joyce's critics and, for that matter, in literary criticism generally over the past century? The several answers to these questions require us to take a brief excursion through the early history of cognition studies.

II

Stephen Kosslyn claims that the study of mental imaging has been so important "in the history of psychology" from, say, Aristotle to the present, "that a thorough review of the history of imagery would in fact be a history of most of psychology" (438). Our review will thus be very limited, picking up the narrative with the emergence of the applied study of cognitive science in the last quarter of the nineteenth century as an academic discipline in the new field of experimental or "scientific" rather than "philosophical" psychology, founded by the German psychologist Wilhelm Wundt (Kosslyn 438, 446; see Boring 316–27).[6] The assumption that mental imagery is "a primary datum of consciousness" was central to Wundt's experimental programme at Leipzig, where he "established the first psychological research and teaching laboratory" in the late 1870s

(Pinker 79). On the other hand, researchers in artificial intelligence (see Pinker 77–9 and Churchland 406–7) and in the study of mental imaging (e.g., Kosslyn, Thompson, and Ganis 38–44) continue to find the "mind's eye" a useful metaphor for quasi-perception: "We can think of the mind's eye as a processor that interprets depictive representations (which in turn—somehow—ultimately give rise to visual perceptual experiences). When these interpretive processes are applied to remembered perceptual information instead of information that is provided online via the senses, an image rather than a percept will be experienced. […] nobody worries that a homunculus is required to explain perception; rather, its putative functions are understood in terms of processes that create and interpret a series of representations […]. And the same is true of imagery. If we do not need to posit a little man to explain perception, we do not need to posit one to explain imagery" (Kosslyn, Thompson, and Ganis 40).

[6] For extended discussions of the history of cognition studies, see Boring, Esrock, George Humphrey, Kosslyn, and "Mental Imagery"; for a parallel history of the neuroscientific development of cognitive theory, specifically focusing on the functions of the cerebral cortex, see Bennett and Hacker. For a fascinating introduction to and overview of the emergent union of cognitive neuroscience, philosophy, and psychology that includes an informative review of the philosophic tradition to the near-present, see Churchland (239–76).

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(Esrock 82; "Mental Imagery" 3.1a). And imagery continued to dominate the interests of one of Wundt's most influential protégés, Oswald Külpe, the leader of the Würtzburg school of psychology ("Mental Imagery" 3.0; see Boring 397–9). In the first decade of the twentieth century, however, Külpe's research team in Würtzburg was conducting experiments that increasingly called the very existence of mental imagery into question, suggesting eventually that Wundt's view of the mind's operation was "inherently flawed" and that most thought was "imageless" (Kosslyn 439). The scepticism of the Würtzburg school quickly took root and prevailed in the resulting "imageless thought" controversy that raged among cognitive scientists from the early 1910s through the 1920s (see George Humphrey 30–65). Mental imaging was effectively banished as a research field from experimental psychology for half a century and replaced by a purely linguistic model for the mind, based on the conviction "that thought should be understood in terms of language *per se*, and that it was a serious mistake ever to have believed that the representational power of language derives from some more fundamental form of representation such as mental imagery" ("Mental Imagery" 3.2).

Cognition studies thus increasingly abandoned research into mental imagery by the second and third decades of the twentieth century, and even the existence of the visual image per se came into dispute. Moreover, the reliance of both sides of the imageless thought controversy on the scientifically dubious method of *introspection* for their experiments—gathering data from the experimenters' observations of their own thought processes or from their subjects' similarly introspective reports—led the founder of behaviourist psychology, the American John B. Watson, to attack "the whole idea of trying to study the mind," instead of concentrating on experimentally observable forms of human behaviour (Kosslyn 439). Watson, whose influence on both psychologists and philosophers, though greatest in the United States, was to extend to Britain and the continent (George Humphrey 4), waged this attack principally between 1913—with his publication of the founding manifesto for the behaviourist movement, "Psychology as the Behaviorist Views It"—and 1930 in *Behaviorism*, "his last significant" work in the field (Gregory 3; "Mental Imagery" 3.2a). In *The Ways of Behaviorism* (1928) Watson expresses the prevailing dismissive attitude toward cognitive studies and particularly toward the entire notion of mental images in contemporary experimental psychology by simply asserting the primacy of the language model for the mind's operations: "What then becomes of images? Why, they remain

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unproven—mythological, the figment of the psychologist's terminology. [...] The behaviorist finds no proof of imagery at all in [purported images]. *We have put all these things in words long, long ago* and we constantly rehearse those scenes verbally whenever the occasion arises" (76; emphases in original). The consequences of the imageless thought movement and Watson's championing of behaviourism were widespread into the second half of the twentieth century, and especially so for psychology, where research into imagery virtually ceased (Esrock 84). But the conviction that human thought was imageless extended to psychology's parent discipline of philosophy, most notably in the work of Ludwig Wittgenstein who increasingly abandons through his later career the pictorial metaphor for thought he employed in the 1921 *Tractatus* (propositions 2.1–3.01 and passim), to privilege language over image, an emphasis that still largely prevails (e.g., in Daniel Dennett; also see "Mental Imagery" 3.3). And nearer to our present purpose, literary studies have testified to the influence of both psychologists and philosophers by either dismissing outright, or generally ignoring mental imaging through most of the twentieth and now into the twenty-first century.[7]

These theories of cognition in psychology and philosophy, through their influence on the emerging field of literary critique, have had a direct impact on James Joyce's reputation, although it is doubtful that he himself was particularly informed about them. First, the major growth of academic literary criticism and theory from the early 1930s into the 1970s, and most especially in the United States—where Joyce's critical reception was growing into an "industry" during these same years—is concurrent with and responsive to the psychologists' and philosophers' shared convictions both that human thought is imageless and, even more ingratiating to literary scholars, that human thought is grounded in language. Thus it is no surprise that there is no discussion of Joyce's interest in visual imaging through this era, nor should we be surprised that critics were ready to acclaim his progressive abandonment of "naïve" realistic representation, culminating in a work that was supposedly free from visual imagery: *Finnegans Wake*. The second clear consequence of this historical context is that it might seem to support the critics' assumption that Joyce shared

[7] See Ellen Esrock's *The Reader's Eye* (1994) for the only substantial study of mental imaging in literature, although she limits her consideration to the readers' acts of visualization; despite his book's promising title, *The Study of English in the Age of Cognitive Science* (1991), Mark Turner makes only passing references to mental imaging (see 57–8 and passim).

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their consensus on imagelessness. True, the timing of his writing of the later episodes of *Ulysses* where he begins to interrogate mental imaging, principally "Nausicaa" through "Ithaca" which he wrote between 1919 and late 1921, as well as his drafting of the greater part of the purportedly imageless *Wake* by 1931, does in fact coincide with much of the imageless thought debate. Although Joyce may have heard faint echoes of this controversy or seen some popular account of it in the media, it is most unlikely that he read anything published by experimental psychologists or contemporary philosophers. (The one writer whom he read—in the 1930s—who was peripherally connected to cognitive science, J. W. Dunne, does not question the existence of images for memory, thought, and dreams [26–34].) Nevertheless, there is a relation between the late episodes of *Ulysses* through *Finnegans Wake* and the imageless thought movement, but this relationship is *adversarial*, knowingly or otherwise, and the great irony here is that the triumph of imagelessness in literary criticism has occluded this fact. The "denigration of vision" in literary culture for most of the twentieth century (see Jay) has resulted in an almost exclusive focus on Joyce's mastery of technical and linguistic experimentation and fundamental failures to recognize both his uses of visual imagery and his concern for mental imaging throughout his career.

Admittedly the "triumph" of imageless thought, although extensive in experimental psychology, philosophy, and criticism, was far from absolute. Many thinkers were willing to acknowledge that mental images might exist as epiphenomena of language processing, but they believed even this to be beyond experimental study or proof, while others, such as Jean-Paul Sartre, continued to explore mental operations via an introspective approach.[8] In the past several decades, however, cognition studies have returned to the experimental investigation of mental imaging. In fact, the recovery of the experimental study of the image, and specifically of the visual image, has been at the centre of the so-called "*cognitive revolution*"

[8] Sartre's 1940 essay *The Psychology of Imagination* (*L'Imaginaire*) is a useful consolidation of the introspective approach to mental imaging. Although Martin Jay has described Sartre's "obsessive hostility to vision" (276), and this is certainly true of his later work, in *L'Imaginaire* he is writing specifically about imaging as distinguished from perception. Actually Sartre proves exceptional for the era of imageless thought, both by devoting an entire book to imaging and by viewing the mental image in very positive terms: "Far from denying then, as do […] many others, the specificity of the image, we give it a greater dignity, because of the fact that we do not make of it a reborn sensation but on the contrary an essential structure of consciousness, and even more than that, a mental function" (134).

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that dates from approximately the 1960s and remains vigorous today ("Mental Imagery" 4.0). Greatly assisted by the development of increasingly sophisticated brain-imaging technologies, a wide range of experiments over the past forty years has succeeded in identifying "the visual brain as the seat of imagery" (Pinker 289)[9]; "almost every study" confirms that "mental imagery activates modality-specific visual cortical areas" to establish "image generation [as] a distinct component in the cognitive architecture of the mind and brain" (Farah 263, 277). Furthermore, since many of the empirical findings in cognitive neuroscience have tended to confirm the descriptions in earlier, introspective accounts of the mental image, we should not be surprised that Joyce's handling of such visualization also anticipates recent conceptions of the nature of the image, much as his version of Bloom's process of image generation resembles Farah's synopsis of current theory.

III

The study of hypnagogic phenomena that occur in the condition of half-sleep and are thus neither the consequence of a deliberate intention to form an image, nor a sleeping-dream, has benefited from the renewed attention to mental imagery in experimental psychology and cognitive neuroscience. Given the in-between nature of these phenomena, however, research into the hypnagogic has been dwarfed respectively by investigations of waking, conscious imaging, and by the study of sleep. Thus Andreas Mavromatis's detailed examination of this semi-conscious form of imaging, *Hypnagogia*: *The Unique State of Consciousness Between Wakefulness and Sleep* (1987; 3rd ed. 2010), is the only recent book-length treatment of the subject. Mavromatis surveys the characteristic features of hypnagogic experiences, considers their relationship to other mental states and activities, and discusses the brain processes involved, drawing support throughout from an impressive number of classic and current case studies and experimental findings. As has proved to be the case with the renewed study of mental imaging in cognitive science, we find that recent research has tended to confirm the understanding of

[9] Increasingly sophisticated technology for examining brain activity ("neuroimaging"), from electroencephalography (EEG), which dates back to epilepsy research in the 1930s, to the "positron emission tomography (PET), functional magnetic resonance imaging (fMRI), or single photon emission computed tomography (SPECT)" procedures now in use, has replaced less "scientific" introspective reports of mental images with direct observations of actual brain activities associated with imaging (Kosslyn, Thompson, and Ganis 185).

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hypnagogic imaging that obtained during the introspectionist era. Also similar to the study of mental imaging in general, most of the historical and contemporary investigations have concentrated on the experience of *visual* images, although hypnagogic "phenomena occur in all sensory modalities" (Mavromatis 14). Joyce's representations of the experience of near-sleep imaging, it turns out, fully illustrate the chief characteristics and purported functional significance of visual hypnagogia intuited by the introspective tradition and since confirmed by cognitive science.[10]

It is tempting to think that Joyce could have become acquainted with the concept of hypnagogia through the writings of (Louis Ferdinand) Alfred Maury during his few months of attempted medical studies in Paris between December 1902 and early April 1903 (*JJII* 111–28). The polymath Maury (1817–92), who coined the adjective "hypnagogic" in 1848 and wrote the classic study *Le Sommeil et les rêves* (1861; with numerous subsequent editions), laced his treatises with attacks on the clergy, on popular spiritualism, and on the political influence of the Roman Catholic church, expressing opinions that would have particularly appealed to a radical-thinking young Irishman like Joyce (Dowbiggin 258–63 and passim).[11] Equally likely, Joyce could have learned about hypnagogia from other commentaries on sleep and dreaming—Freud considers Maury's work on sleep-onset imaging, for instance, near the beginning of *The Interpretation of Dreams* (30–3)—sometime between his publication of the early version of "The Sisters" in August 1904 and his final revisions of the story, now including the boy's hypnagogic vision, before 9 July 1906 (Gabler xxviii–xxix). On the other hand, the fact that all of his hypnagogues, except the boy in "The Sisters," have their visions while gazing at a bedroom wall, a common but not a necessary condition for such imaging to occur (Sartre 69), encourages the suspicion that Joyce may have had personal experience of hypnagogia in this manner, and this could also explain his particular interest in dreaming phenomena and his own dreams.[12] However and whenever he originally became aware of the

[10] The sole study of Joyce that mentions hypnagogia does so metaphorically and only in passing to describe a state of semi-attention supposedly induced by the reading of *Finnegans Wake*; see Lane 172–3.

[11] Maury derived the term "hypnagogic" from the Greek *hypnos* (sleep) + *agogeus* (conductor); see "Des hallucinations hypnagogiques" and Mavromatis 3. The entire fourth chapter of Maury's *Le Sommeil et les rêves* concerns "Hallucinations hypnagogiques."

[12] Stanislaus Joyce recalls that even before his sojourn in Paris in 1902–3 his brother "used to make notes of the dreams that impressed him most, interpreting them and investigating

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hypnagogic experience, it is clear that he remained intrigued by this form of visual imaging throughout his career. As late as 9 September 1937, for example, Joyce writes to Frank Budgen asking him to confirm a detail about Dr. Sturk's vision "in a half dream" in Le Fanu's *The House by the Churchyard*, perhaps in anticipation of composing HCE's hypnagogic imaging in the final chapter of *Finnegans Wake*, which he began writing early in 1938 (*Letters* I, 396; Van Hulle 436).

In presenting the boy's vision of Fr Flynn "when I fell asleep" on the night of the priest's death in "The Sisters," Joyce indicates the hypnagogic nature of this apparition by immediately establishing that the image actually occurs before sleep: "In the dark of my room I imagined that I saw again the heavy grey face of the paralytic. I drew the blankets over my head and tried to think of Christmas. But the grey face still followed me" (*D* 11). This vision, moreover, features several characteristic elements of hypnagogia. First, as is true of each example of the phenomenon in Joyce's work, the "imagery can be experienced with open eyes" (Mavromatis 9; also see 270 and Sartre 58 n2). Second, the appearance of a face, often disembodied and approaching the viewer, is one of the most common forms of hypnagogic imaging (Mavromatis 25 and passim). Third, although the frightening nature of the boy's vision is not typical (most reports of hypnagogia describe the experience as pleasant and even fascinating), it accords with observations that this imaging may terrify the young. Aristotle is clearly the earliest commentator on near-sleep visions to observe that "very young persons, if it is dark, though looking with wide open eyes," will "often cover up their heads in terror" just like the boy in Joyce's story, when they see "phantom figures moving before them" (*De Somniis* in *Parva Naturalia* III, 462a; also see Eugène-Bernard Leroy 33–6, and Mavromatis 44, 47–8). Fourth, the boy's image of Fr Flynn and application of his newly learned vocabulary in describing the priest demonstrate the tendency of hypnagogic visions to express "the

their causes after a method of his own. This habit he continued at Trieste. The importance he attached to them may be deduced from the fact that his last book, to which he devoted seventeen years, takes the form of an extremely long dream" ("James Joyce" 493; also see *My Brother's Keeper* 125–7.). For Joyce's explorations of "his own dreamlife" in composing the *Wake* (421), see Hayman 419–30. Ellmann mentions that the doggerel "*The ivy whines upon the wall*" which runs through Stephen's thoughts in *A Portrait* is only a slightly modified version of "a nonsense verse [that] had come into [Joyce's] head while he was falling off to sleep" on 6 April 1907, and which he told Stanislaus about the next day (355; see *P* 179, emphases in original). Also see Walcott 20–9.

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substratum of continuous but not always conscious mental activities taking place throughout life" (Mavromatis 12); typically for hypnagogia, then, the boy's imaging directly incorporates traces of his most recent daytime concerns and may reflect unconscious or preconscious forms of understanding. Readers of "The Sisters" have generally assumed that the boy's connection of Fr Flynn with simony in the end of the vision-paragraph—"I felt that I too was smiling feebly as if to absolve the simoniac of his sin" (*D* 11)—is simply a kind of "free association" rather than a recognition on the boy's part, and Joyce's covert means for indicating the priest's ultimate character flaw. This reading seems justified, yet by discounting the possibility that the boy has at some level grasped Fr Flynn's nature, it overlooks the fifth and final feature of hypnagogic imaging in this passage: There is a long history of individuals solving problems or arriving at *creative* insights as the result of their visualization, as Edison, for example, frequently did in his famous "cat-naps" (Mavromatis 186).[13] The "state of hypnagogia," Mavromatis observes, has "the character of preconsciousness: that is, of sensitivity and openness both to external and internal stimuli that may lie beyond the normal reach of consciousness. It lifts the filters imposed on the mind by the consciousness and logic of the waking state. […] Not only is the person in this condition furnished with raw elements of experience that might otherwise not have reached a conscious level of mentation, but the emerging material […] give[s] rise to novel entities, concepts, and categories" (270). The shades of the prison house of Catholic Dublin have already begun to close in upon this growing boy, preventing him from consciously recognizing that Fr Flynn is a disgusting human spectacle because he is, after all, a *priest*. The boy is merely perplexed and "annoyed" when he discovers in himself a "sensation of freedom" after the man's death (*D* 12). The environment that shapes this boy, then, prevents him from fully embracing the creative insight that his hypnagogic experience has led him to, and this is Joyce's point, but this point is invisible unless we grant that the boy's preconscious mind has identified Fr Flynn as a simoniac and that the conscious mind of this young—and typical—Dubliner has necessarily suppressed his recognition.

[13] In addition to Edison, Mavromatis cites examples of such creative inspirations arising from hypnagogic imaging among scientists—Descartes, Faraday, Poincaré, Kekulé (the benzene molecule), and Einstein—and artists, including Goethe, Dickens, Wagner, Brahms, Housman, Puccini, and Dali, but not Joyce (186–218).

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The circumstances and nature of Gabriel Conroy's experience of sleep-onset imaging at the conclusion of "The Dead" are so similar to those of Molly Bloom's culminating vision in the "Penelope" episode of *Ulysses* that we can consider them in tandem. Both Gabriel and Molly are lying in bed and drifting toward sleep next to spouses from whom they feel themselves alienated: Gabriel has been humiliated by his recent conversation with his wife Gretta, and the Blooms have lived separately together for over ten years, as their head-to-toe sleeping positions reflect (see *U* 17.2278–84, 2109–13). Both are in dimly lit rooms: a street lamp casts faint light into the interior of the Conroys' room at the Gresham Hotel, while Molly turns down the (gas) lamp next to the Blooms' bed (*U* 18.1547). Both are approaching the state of relaxation and passivity that promote hypnagogia (as well as sleep), resting on their sides, and gazing at the walls of their rooms (Mavromatis 270–1). For each, the near-sleep imaging is triggered by actual perception: Gabriel sees the shadows of snowflakes on the hotel room wall, projected cinematographically through the room's window by the lamp outside, although he conceives of these percepts as mental images of "the vast hosts of the dead. He was conscious of, but could not apprehend, their wayward and flickering existence" (*D* 223; see Rice 48–51).[14] This is followed by the common hypnagogic loosening of ego boundaries—"His own identity was fading out into a grey impalpable world" (*D* 223; see Mavromatis 67–8, 96, and passim)—before a slight noise brings Gabriel back to full consciousness, he turns over in bed to face the room's window, and then he gradually returns to the hypnagogic state in the final paragraph of the story (*D* 223–4).[15] It is an open question whether, when changing his position in the bed, Gabriel turns toward or away from his wife, adding yet another element to the noted ambiguities in the conclusion to "The Dead." The ambiguity of the conclusion of *Ulysses* operates somewhat differently. Molly's final transcendent vision of union with Bloom on Howth would seem to offer an

[14] That Gabriel is conscious of his images but incapable of "apprehending" them by the exercise of his waking intelligence, makes his hypnagogic state explicit. For a similar description of the fleeting nature of such images, see Sartre 68–71. In the borderline realm of hypnagogia, moreover, actual percepts may be taken for mental images, as in Gabriel's experience, and even more often, images taken for realities (see Mavromatis 229 and passim).

[15] Thus I would argue that the final periods of both "The Dead" and *Ulysses*—like the terminal dot of the "Ithaca" episode (*U* 17.2332)—mark the point at which Gabriel and Molly (and Bloom) enter sleep. Correspondingly, since *Finnegans Wake* has no final full stop to mark the transition to an altered state, its dreamer never fully awakens.

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affirmative resolution of her conflict with her husband, yet they are still situated in bodily opposition in their bed and in their living reality. Molly's hypnagogic imaging, like Gabriel's, begins with her fixation on the wall of her bedroom and with actual percepts, the designs of the wallpaper: "let me see if I can doze off 1 2 3 4 5 what kind of flowers are those they invented like the stars the wallpaper in Lombard street was much nicer," which leads to her intensely floral peroration (*U* 18.1544–6; see 1601–6). The second phase of Gabriel's sleep-onset imaging blends two more very common forms of hypnagogia, a vision of natural landscapes and a form of out-of-body sensation, frequently experienced together in a kind of panoramic overview of the earth (Mavromatis 20–5, 89, 145–50). Gabriel's vision of the "snow" that is "general all over Ireland"—ranging from "the dark central plain," the "treeless hills," the "Bog of Allen" and the river Shannon, to "the lonely churchyard on the hill where Michael Furey lay buried" (*D* 223)—closely matches the descriptions provided by numerous "hypnagogic subjects [who] find themselves 'drifting,' 'flying' or 'floating' away from their bodies and their surroundings and into an 'imaginary' world in which, nonetheless, they feel a strong sense of reality" (Mavromatis 22). Molly's imaging similarly travels over a richly imaged natural world: "theres nothing like nature the wild mountains then the sea and the waves rushing then the beautiful country with the fields of oats and wheat and all kinds of things and all the fine cattle going about that would do your heart good to see rivers and lakes and flowers all sorts of shapes and smells and colors springing up even out of the ditches primroses and violets nature it is" (*U* 18.1558–63). If Molly remains earthbound compared to Gabriel, especially in her relatively inarticulate expression, the conclusion of her vision does raise her to the heights of Howth and Gibraltar, for she apparently merges these two promontories and simultaneously joins her husband to Mulvey, the first man who kissed her. Molly's "fusion of apparently disparate elements belonging to entirely different matrices" is yet another fundamental feature of sleep-onset imaging: "The criterion of connectedness [for both hypnagogia and creativity] has been described variously as combinatorial activity, fusion, unexpected connections resulting from unconscious symbolic activity whose outcome is a new object, experience or image, and new configurations" (Mavromatis 189–90). And this final point is striking, because Molly's imaginative acts of fusion emulate those of her creator who imbeds the epic wanderings of Odysseus within the daily routines of Leopold Bloom, or who (to return to the register of the visual image) employs the concept of parallax—the

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superimposition of two lines of sight to create the sense of depth—as a central metaphor for the accurate (quasi-)perception of the world of his novel, and who, on a minor scale, may also have conceived of Molly's hypnagogic imaging as a way to fuse the endings of *Ulysses* and "The Dead."

Such fusion also links Molly's hypnagogic experience with those of Stephen Dedalus in *A Portrait of the Artist as a Young Man* and anticipates Joyce's decision to include HCE's hypnagogia in the last chapter of *Finnegans Wake* when his eyes—I would argue—flutter briefly open, as he approaches awakening. Stephen, in fact, seems especially prone to hypnagogic imaging (like his creator?), judging from his reactions to Fr Arnall's hellfire sermon, noted earlier, on the afternoon and evening of the retreat in Chap. 3, which feature the common inventory of such images: "*Faces*, *figures*, *animals*, *objects*" and "*Auditory phenomena*" (Mavromatis 25, 33; emphases in original). Susceptible individuals, moreover, may experience hypnagogic imaging while awake, like Stephen, who is nowhere near sleeping on both occasions of his imaging after Fr Arnall's sermon, and they also are able to sustain and prolong the experience, as Stephen does repeatedly during his most significant episode of hypnagogia on the morning of his composition of the "Villanelle of the Temptress" in the final chapter of *A Portrait* (see Mavromatis 270, 71–7).[16] Since both Stephen's and HCE's hypnogogic sequences occur during lengthy periods of slumbering, the villanelle scene running over 200 lines (*P* 217–24) and HCE's wakening images considerably longer (*FW* 602.09–614.26), our discussion of them is necessarily limited here. Yet we can begin by noting that they share other similarities beyond their length and development. While neither scene occupies the privileged structural position of opening or closing the works in which they appear, and such formal matters are always

[16] For example, one of Stephen's first impulses as he gains consciousness on the morning he composes the villanelle is to sustain his "inspiration" in his semi-sleeping state, "fearing to awake wholly" (*P* 217). Subsequently, after rousing himself sufficiently to begin "writ[ing] out the stanzas of the villanelle" on the inside of a "cigarette packet," he returns his head to his pillow, murmuring the lines of the poem to himself to deliberately re-induce the hypnagogic reverie, leading to a vision of E-C- "dancing lightly across his memory" (*P* 218–19). He repeats this process several paragraphs on, copying out two more stanzas of the villanelle and then "lay[ing] back on his bolster" to effect his return to a somnolent state (*P* 221). In order to do so successfully, however, Stephen also "turn[s] towards the wall, making a cowl of the blanket and staring at the [...] tattered wallpaper" of his bedroom because "full morning light" now enters his room (*P* 221–2).

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important for Joyce, both seem to be strategically placed in the antepenultimate position in their texts. Stephen's conversations about his aesthetics with Lynch and about his religious disbelief with Cranly bracket the villanelle sequence, and these three episodes precede the closing diary section in *A Portrait*; correspondingly, HCE's hypnagogic imaging of St Kevin and of the encounter between the Archdruid and St Patrick follows the opening of the chapter, devoted to morning stirrings, and leads into the two concluding sections, the first concerning the letter and the second providing the *finale* of the *Wake*, ALP's moving "Soft morning city" peroration (*FW* 619.20 and ff.). Another fundamental similarity in these two hypnagogic sequences is that both Stephen and HCE experience their imaging not as the sleep-onset phenomena seen in the examples from *Dubliners* and *Ulysses*, but upon awakening. (Although there is a term for such visions when emerging from sleep, "hypnopompic" imaging, most researchers consider this distinction unnecessary because there is little difference in the nature and content of the experience [Mavromatis 14; see Myers I, 124–5]). A final important similarity between Stephen's and HCE's awakening visions is that both exploit the strong correlation between hypnagogia and creativity, be it technical problem-solving or artistic inspiration, discussed in traditional studies and corroborated by recent research (Mavromatis 186–218). We have already noted the connection between Molly Bloom's sleep-onset vision and the creative act of fusion in *Ulysses*, and the persistence of this theme of visual imaging as an essential element of the artistic process from *A Portrait of the Artist as a Young Man* through *Finnegans Wake* should tell us that we have overlooked something fundamental to Joyce's conception of art by neglecting the function of the mental image in his works.

"Towards dawn" Stephen awakens to tactile and auditory sensations at the opening of the villanelle scene, but his "mind was [also] waking slowly to a tremulous morning knowledge, a morning inspiration" (*P* 217). What follows is a rapturous constellation of visual images glowing in a "rose and ardent light," leading to the "violently compressed *fusion* of myth and theology" (Scholes 486, emphasis mine) that becomes the opening lines of Stephen's poem: "*Are you not weary of ardent ways,/Lure of the fallen seraphim?/Tell no more of enchanted days*" (*P* 217). (Mavromatis notes that "hypnagogia is a most fertile period for the emergence of symbols" of similar richness and diversity [218; also see 56–63].) Stephen attributes his "instant of inspiration" to the residual effect of a dream: "In a dream or vision he had known the ecstasy of seraphic life" (*P* 217), and

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through the next several paragraphs he experiences many of the characteristic phenomena of hypnagogia that we have already observed.[17] Stephen visualizes the temptress (E-C-) "approach him," "dancing lightly across his memory," and then "dancing toward him" (*P* 219), yet since he is a young man rather than the child of "The Sisters," he finds this apparition pleasurable. Residue of his experience re-emerges in a new context when the "earth" appears like "an ellipsoidal ball"—recalling Moynihan's whispered joke about his desire for "ellipsoidal balls" during a recent physics lecture—while he seemingly floats like Gabriel above the landscape (*P* 218, 192). And Stephen's imaging introduces some new features of hypnagogia that will become even more important in HCE's vision in the *Wake*: At one point his "own image" appears to him from an out-of-body perspective, but then it suddenly mutates, as hypnagogic images often and those in the *Wake* always do, into "the image of the young priest in whose company he had seen [E-C-] last" (*P* 219, 220; see Sartre 68 and Mavromatis 28 and passim). Further anticipating HCE's hypnagogic imaging, Stephen visualizes a sequence of "*Scenes with people*" that, as Mavromatis observes, "are something like trailers of a cinema film. They can be little dramas in exotic settings or ordinary street scenes" (25, 27, emphases in original).[18] Of course, we would be remiss if we failed to note that one of Stephen's strategies to prolong his hypnagogic imaging, "fearing to awake wholly" (*P* 217), has him "turn[ing] towards the wall" of his bedroom—like Gabriel, Molly, and HCE—"making a cowl of the blanket and staring at the great overblown scarlet flowers of the tattered wallpaper. He tried to warm his perishing joy in their scarlet glow, imagining a roseway from where he lay upwards to heaven all strewn with scarlet flowers"

[17] This difference between the hypnopompic and the hypnagogic experiences is marginal; while hypnopompic imaging may, as here, continue dream matter (Myers 125), it is equally true that hypnagogic imaging may develop into a sleeping dream (Mavromatis 88–109). It is more important to notice that at this moment in the text Joyce seems to allude to Maury's conviction that dream-time may be instantaneous—based on his famous guillotine-dream (see Chap. 6 of *Le Sommeil et les rêves*)—when Stephen wonders if his "dream or vision" was "an instant of enchantment only or long hours and days and years and ages?" (*P* 217). Recent research indicates that dreaming in fact occurs in real time (e.g., see Erlacher, Schädlich, Stumbrys, and Schredl).

[18] Stephen visualizes several such scenes in succession, beginning with "his memory" of E-C- "as she had been that night at the carnival ball […] dancing toward him," which mutates into his vision of her "flirt[ing] with her priest" Father Moran, and then into various females, all "distorted reflections of her image" whom he has encountered in Dublin's streets (*P* 219–20).

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(*P* 221–2). Finally, Joyce emphasizes that the direct outcome of Stephen's hypnagogia is his first act of creation, in other words, that visual imaging represents the foundation of literary creativity, by placing the completed villanelle as the conclusion of this scene (*P* 223–4).

There may or may not be decorative wallpaper on the bedroom wall in *Finnegans Wake*, a book that seems to dispense almost completely with such external details and material realities to lodge its readers within the mind and mental imaging of the dreaming HCE. In its concluding chapter, however, HCE approaches sensory awareness as he gradually emerges from sleep—"sleeper awakening" (*FW* 597.26)—and, correspondingly, elements in his "real" environment begin to appear in the text. He turns over in bed "howpsadrowsay" and feels a cool draft, "a shaft of shivery," on his backside from an open bedroom window that is now behind him (*FW* 597.23–24). Joyce shows HCE's auditory and olfactory senses similarly approaching alertness by weaving external sounds (snatches of radio broadcasts, children's voices, and kitchen noises) and smells (the family's breakfast being prepared) into the text (see e.g., *FW* 599.23–4, 601.07, 601.31–2, 603.01–7). Outside the window, the dawn (*FW* 580.21) is growing into broad daylight (*FW* 594.06–9, 597.24–5; 599.03), and with the fitful opening of his eyes, HCE enters the zone of near-sleep hypnopompia when—like Gabriel, Stephen, and Molly before him—he transforms direct percepts into mental images. HCE is perceiving reflections of the stained-glass window of a nearby church that are projected cinematographically by the rising sun through his bedroom window, now behind him, onto his bedroom wall which appears as a "novened iconostase" (*FW* 603.35).[19] In the course of his imaging and as the sun moves, this iconostasis represents three successive scenes—the church window is a triptych—featuring St Kevin, then St Patrick and a Celtic Archdruid, and then St Lawrence O'Toole. The first two of these images evolve into successive elaborated "*Scenes with people*" (Mavromatis 25, emphasis in original), portraying St Kevin's founding of his hermitage at Glendalough—"What does Coemghen? [Irish = Kevin] Tell his hidings clearly!" (*FW* 602.09 ff.)—followed by a dialogue between "*Muta*" and "*Juva*" (*FW* 609.24–5

[19] Bishop proves to be as single-minded as St Patrick (see below) in his insistence that HCE's eyes never open, despite the fact that sleepers, dreamers, and hypnagogues may open their eyes without fully waking: "Here it would be relevant to note that all the stained-glass configurations in the last chapter of the *Wake* are ciphers for our hero's 'heliotrope ayelips' (553.2), through which, as morning dawns, real sunlight is beginning colorfully to bleed" (436 n24).

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and ff., emphases in original) who introduce a debate between, and seem to mutate into, St "Paddrock" and "Ballkelly, [the] archdruid" (i.e., Archbishop Berkeley; *FW* 611.02, 05, and ff.). As often occurs in hypnagogia, HCE apparently imagines himself into the latter scenes as a spectator, in the person of King Leary (*FW* 610.05, 09, 612.04; see Mavromatis 98, 145–9). After "the saint and sage have had their say," the image of St Lawrence O'Toole appears very briefly—"Lo, the laud of laurens now orielising benedictively"—but HCE's hypnagogic imaging ends with his momentary conscious awareness, and he "Begin[s] to forget it," before redescending into sleep for the final sections of the chapter: "Forget, remember!" (*FW* 613.15–16, 614.20, 22).[20]

Among so much else that is going on in the twelve-plus pages Joyce devotes to HCE's near-sleep imaging (*FW* 602.09–614.26), for present purposes it is sufficient to note that once again he associates hypnagogia with artistic creativity and, specifically, with his own methods. The initial St Kevin sequence and the closing debate between St Patrick and the Archdruid are linked by the churchmen's similarly ascetic views of reality: Kevin isolates himself from the world and from human contact while Patrick contends that fallen man is doomed to exist in an earthly realm of perpetual difference. In the terms of the saint and sage's debate, St Patrick maintains that men perceive individual colors that are only joined in and by heaven, in the rainbow, the "sympol in a weedwayedwold of the firethere the sun in his halo cast. Onmen" (i.e., the symbol of the union of colours in the light of heaven cast on men, or the worldwide symbol of the union of the Father, Son, and Holy Ghost, amen; *FW* 612.29–30). In contrast, the Archdruid, a Shem to St Patrick's Shaun, an artist to the philistine, has maintained that the mind's eye grasps the multiplicity of colours in the act of visually perceiving one (*FW* 611.07–24), although he illogically or "paralogically" (*FW* 612.19) reverses his argument to

[20] This "adumbrated" appearance of St Lawrence in the "hagiographic triptych" (*Letters* I, 406) was Joyce's convenient way of dealing with the fact that he wanted to insert into this chapter his two preliminary sketches concerning St Kevin and the encounter between St Patrick and the Archdruid, which he had composed as early as 1923 (Van Hulle 437–44), but he would have needed to come up with additional material if he expanded on the St Lawrence image. In another letter to Frank Budgen, probably sent a short while before the above quoted letter of 20 August 1939 and now apparently lost—Budgen was consulting with Joyce as he prepared his 1941 article on *Finnegans Wake*—Joyce describes the triptych in detail (see Budgen 361; also see Glasheen lxviii). The church and its windows were Joyce's inventions (see Epstein 256).

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maintain that one colour (green) is perceived in all, in order to win the approval of "King Leary" (*FW* 612.04) who continues as spectator on the scene (*FW* 611.27–612.15).[21] The merits and finer points of their respective arguments aside, it is clear that the Archdruid advocates the creative act of *fusion* that we recognized in Stephen's and Molly's hypnagogia, and as we have already argued, this principle of unified multiplicity is central to Joyce's artistic practice. Beckman usefully connects the Archdruid's conception of colour to Joyce's special "use of language in the *Wake*. His claim that he sees the many colors that the apparent color conceals resembles a mode of diction in which the surface of words and phrases may conceal six out of seven possible meanings" (165–6). To this I would add that Beckman's point, though valid, explicitly illustrates the tendency of Joyce's critics to ignore his concern with visual imaging and turn their attention almost exclusively toward his linguistic or technical experimentation, missing this passage's immediate concern with the distinction between perception per se via St Patrick and mental quasi-perception via the Archdruid. Joyce may intimate a concern with language, among other possible implications here, but he does so through a primary attention to the optical and mental experience of *vision*. His "Wakean" language is obviously multivalent, and while he often achieves this effect by auditory ambiguities, equally or more often the readers detect the semantic multiplicity in the visual register. (Consider a simple example: The word "manslaughter" [*FW* 062.06] also contains the sense "man's laughter," but only *visually*. Vocalizing this word will collapse its ambiguity.) The Archdruid and St Patrick's debate centres on the idea of the visual image, juxtaposing the sage's recognition of the richness and diversity—and creative inspiration—to be found in the mental image to the saint's exclusive focus on the objective and material stimuli of retinotopic perception, and by doing so, it not only constitutes what Joyce calls "the defence and indictment of the book itself" (*Letters* I, 406), but it establishes the centrality of quasi-perception to his book. The Archdruid thus becomes the defender of his art in *Finnegans Wake*; indeed, this may be why Joyce's first clear citation of the source of his book's title introduces the St Patrick

[21] The perception of colour is not only a specifically visual experience, but also a feature of quasi-perceptual mental imaging, often experienced with vividness and intensity by hypnagogues (Mavromatis 29 and passim). This is yet another feature of hypnagogia that Stephen, Molly, and HCE share, whereas the visions of the boy in "The Sisters" and Gabriel Conroy are monochrome.

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and the Archdruid sequence: "Finnegan's Wake" (*FW* 607.16). And the fact that Joyce's final spokesperson presents this defence in terms of the visual image, within an act of hypnagogic imaging, reminds us, once again, of the fundamental importance of mental imaging for his art.

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Spatialized Thought: Waiting as Cognitive State in *Dubliners*

Caroline Morillot

The theme of waiting, although it pervades the whole of Joyce's work, has hitherto been very little studied by critics. The present argument will only be limited to *Dubliners*, where waiting is diversely manifested and plays a crucial part, for these different forms of waiting are transcribed spatially. In "The Sisters," waiting takes on a hermeneutic dimension. Indeed, the boy expects the priest's death to be imminent. Dusk becomes the consecrated space of the wake, a liminal space where light and dark oppose one another. From the outset, the evocation of waiting compels the narrator to insist upon the complementary status of space and time.

This spatialization of waiting provides tangible proof that *nebeneinander* and *nacheinander*, Lessing's categories from the *Laokoon*, are always treated as indivisible by Joyce.[1] His underlying approach to cognition essentially relies on space. It corresponds to a state that is intrinsically related to the body as an operating organism, focusing on its regime and

[1] *Nebeneinander* (i.e. next to one another) concerns space and the arts of the visible, like sculpture or painting. *Nacheinander* (i.e. after one another) is related to time and characterizes the arts of the invisible, like music or poetry.

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_7

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motricity. Therefore the problem of the fragmentation of space is added to that of necessary and constant time readjustments which are due to the uncertain delimitation between past, present, and future. The question of the passage and control of time should therefore be studied through the occupation of space. Waiting is consistently evoked through rhythm, as well as through the body/mind relationship. Determining the different ways in which the space of waiting contracts or extends is to be considered according to different perspectives: saturation or vacancy. This paper focuses on the kinetic representation of waiting in "Two Gallants," only to contrast it with the fixed loitering in "Eveline." An analysis of the scenography of phantasmagorical waiting in "Araby" will also provide material to show that waiting lies at the very heart of Joycean aesthetics, insofar as it echoes the latency of the epiphanic process.

The kinetic representation of waiting in "Two Gallants" is problematic in its use of time, rhythm, as well as mind and body. Lenehan waits for his friend Corley to return: "The problem of how he could pass the hours till he met Corley again troubled him a little. He could think of no way of passing them but to keep on walking" (*D* 56). Interestingly, waiting is envisaged in philosophical terms ("the problem of how"). Lenehan displaces the true philosophical problem at heart, as cause, rather than manner, should be considered foremost. It is not the modalities of waiting that should be studied but the very necessity of waiting that should be questioned. This tendency suggests a preliminary explanation for the choice of adverbs —"he nodded *gravely*" (*D* 52), "[h]e eyed this food *earnestly*" (*D* 57), "*pensively* changing the angle of position of his hat" (*D* 56)[2]—used to describe Lenehan's or Corley's attitudes. In the latter example, Corley needs to consider the consequences of the simplest gesture he makes—for instance, taking off his hat—before proceeding to do so. In itself, the gesture is considered through words that may also carry an abstract meaning. Similarly, for Lenehan waiting means working through layers of empirical complexity as he carefully takes the time to consider the problem fully. The word "trivial" ("[h]e found trivial all that was meant to charm him," *D* 56) signifies "of little value or importance," but it is also used to evoke a problem that can be solved easily. Therefore, the idea is impressed upon the reader that Lenehan has the capacity to consider any given problem with discernment and prudence ("after glancing warily up and down the street," *D* 57).

[2] Emphasis mine.

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To palliate boredom and solve the philosophical problem that has dawned upon him earlier, Lenehan strolls through the streets of Dublin. His desire to control the length of his waiting compels him to adjust his pace to the adequate rhythm. Waiting is—beyond anything else—a form of dependence, just as the relationship between Lenehan and Corley is that of master to disciple, of knight to squire. In Lenehan's mind, waiting must rhythmically coincide with the couple's perambulations in the streets of Dublin ("timing his pace to theirs," *D* 56), a preoccupation that eventually has him turn about and retrace his steps. He must then find a new rhythm which could be adopted by his body, so that his pace, indeed his movements, echo the melody played by a street harpist: "[t]he air which the harpist had played began to control his movements. His softly padded feet played the melody while his fingers swept a scale of variations idly along the railings after each group of notes" (*D* 56). His body, open to the opportunity, becomes the receptacle of the rhythm imposed by the music. Lenehan's inactivity is such that it infiltrates the slightest corporal space, in the same way, for instance, as the adverb "idly" describes the tapping of his fingers on the railings of the Duke's Lawn. But the correspondence between the musical rhythm and waiting is only momentary. Again Lenehan seeks, mentally this time, to match his pace with his friend's progression: "He wondered if he had asked her yet or if he would leave it to the last" (*D* 59).

However, temporal landmarks become imprecise. Corley's trajectory eventually deviates from the virtual projection that Lenehan had mentally anticipated beforehand. A topography of waiting replaces the inner cartography that Lenehan had initially conceived: the external space replaces the virtual projection of Corley's trajectory. It provides the spatial landmarks Lenehan needs to punctuate the time he spends in waiting, so that an authentic space of waiting is gradually built up, which allows him to palliate boredom. A further example shows how waiting can only be apprehended spatially in Lenehan's mind. When Corley is about to depart in order to meet with the young woman, Lenehan insists on knowing not when they would meet afterwards but where: "—And after? Where will we meet? /—Half ten, answered Corley […] /—Where? /—Corner of Merrion Street" (*D* 55). Corley, however, takes the first interrogative pronoun as a "when" rather than a "where," because he finds it more natural to enquire about time first. Lenehan's insistence on the exact meeting place shows that time corresponds to the length of the distance between a point of departure and a point of arrival. He knows how long it will take

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him to reach a given destination from a specific place, which is why he needs to know this last detail.

Thus, Lenehan seems to have begun converting temporal data into spatial data by relying on a form of spatio-temporal planning that decomposes movement into time units. One half-hour corresponds to a half-stride. He imposes this segmentation to Corley by forcing him to interrupt the latter's impulse onwards, as he calls out to him, so that Corley passes one leg over the chain, answers Lenehan's call, and then passes the other leg. Afterwards, as he wanders through the streets of Dublin, Lenehan seems to set landmarks in the very space of waiting: "[h]e went into Capel Street," "[h]e turned to the left," "[h]e went as far as the clock of the College of Surgeons" (*D* 58). His desire to organize the space that separates him from Corley's return is palpable from the moment of Corley's departure. There is a vital need within him to break time into fragments. This stems from a further impulse to optimize his control over time. By contrast, his companion extends it: "—Time enough, said Corley. […] I always let her wait a bit" (*D* 53). But Lenehan's fragmentation has its own specificity because it also requires to be divided geographically. Striding along a multitude of streets seems to help Lenehan divide his trajectory topographically, and thus divide the length of waiting. Hence the recurrent association of places to hours. Lenehan leaves his friends on George's Street ("[h]e left his friends at a quarter to ten and went up George's Street," *D* 58), only to be on the west side of Saint Stephen's Green at ten o'clock: "[h]e went as far as the clock of the College of Surgeons: it was on the stroke of ten" (*D* 58–9).

Conversely, a form of mental stasis accompanies the spatialization of waiting throughout. Waiting is characterized by the clockwork-like operating mode of the body, in which the mind is utterly passive. The fact that cityscape descriptions become somewhat accidental reveals Lenehan's lack of attention. The story of his return trajectory is indeed condensed in less than two paragraphs, while his initial trajectory with Corley took several pages (five). For Lenehan, the city as yet only exists through a series of major landmarks, which he reaches in quasi-automatic mode. Physical activity (eating, smoking, walking) thus supersedes mental activity. Waiting is no longer probed in thought but through physical exercise. It is only once all movement has ceased that thought is resumed and the process of waiting interiorized again. For instance, Lenehan can only think about Corley's adventure once he has finished eating, or walking. What is at

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work here is solely the oscillation between body and mind. Yet the Joycean body is a rusty machine. The transition from bodily to spiritual life is not immediate. There is a moment of hesitancy—a gap between the cessation of physical activity and the renewal of mental activity: "[w]hen he reached the corner of Merrion Street he took his stand in the shadow of a lamp […] and kept his gaze fixed on the part from which he expected to see Corley and the young woman return./His mind became active again. He wondered… […]. He wondered…" (*D* 59). It seems that, however tired by his perambulations, Lenehan cannot find the energy to embrace waiting and so his gaze needs to focus on a site.

In fact, the young man seeks a place to harbour his mental inertia. Fixity only appears as one of the many avatars of waiting. Lenehan's mind therefore appears to hibernate, so that, as waiting converts into a passive focusing on cityscape, Lenehan is incapable of any anticipation. Trapped between physical immobility and the mental re-appropriation of expectancy, waiting is empty and has no object, as the following expressions show: "wait a bit" (*D* 53), "…he halted and waited. After waiting for a little time…" (*D* 56). In each case, the verb wait has no animated prepositional complement ("a bit," "for a little time"). It seems that time must be taken advantage of. A blank precedes the reanimation of the mental machine ("[h]is mind became active again," *D* 59). William James describes this process, which consists in reaching a sort of mental vacuum through abstract visual fixation. It is only then that a sudden manifestation of renewed energy can be observed:

> We all know this latter state, even in its extreme degree. Most people probably fall several times a day into a fit of something like this: The eyes are fixed on vacancy, the sounds of the world melt into confused unity, the attention is dispersed so that the whole body is felt, as it were, at once, and the foreground of consciousness is filled, if by anything, by a sort of solemn sense of surrender to the empty passing of time. […] Every moment we expect the spell to break, for we know no reason why it should continue. But it does continue, pulse after pulse, and we float with it, until—also without reason that we can discover—an energy is given, something—we know not what—enables us to gather ourselves together, we wink our eyes, we shake our heads, the background-ideas become effective, and the wheels of life go round again. (James 261)

Similarly, when he is idle Lenehan entirely loses the notion of time, as if time could only be apprehended exactly in his wandering through the

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city streets, as he measures his stride according to topographical landmarks. As soon as Lenehan takes position by a lamp post,[3] he is completely estranged from the notion of time, which becomes almost impalpable. At this stage, Lenehan can no longer measure time through his going up and down the streets, and only conjectures, as revealed by the use of the adverb "surely": "it was surely half-an-hour since he had seen the clock of the College of Surgeons" (*D* 59). Once he has arrived at the corner of Merrion Street, Lenehan is no longer capable of assessing the passage of time and of realizing how early he is, because from this moment onwards time has become abstract. Lenehan is mistaken in believing that temporal and spatial developments can be made to correspond. This explains why he is at a loss when confronted with a gnomonic surplus of time. Waiting provokes unease, as the adverb "nervously" implies ("[h]e lit his last cigarette and began to smoke it nervously," *D* 59), because it exceeds the limits it had been given by the character. It can no longer be compensated physically, because he has already reached their agreed destination, the corner of Merrion Street. As if it were the final demonstration of the impossible continuity between time and space, he tears his cigarette paper: "[t]he paper of his cigarette broke and he flung it into the road with a curse" (*D* 59). The language act ("with a curse") formulates and exteriorizes Lenehan's paradoxical unease at his incapacity to wait although he is inflicting this torment of waiting upon himself.

This brings me to my second point: the static representation of waiting in "Eveline." The description of idle loitering at the end of "Two Gallants" is similar to the static waiting experienced by Eveline because is it fundamentally passive. Engulfed in her memories, Eveline keeps questioning her decision to elope with Frank. It is as though Eveline persisted in waiting in spite of being weary of this passivity. She senses that there is nothing left to wait for: "[h]er time was running out but she continued to sit by the window, leaning her head against the window curtain, inhaling the odour of dusty cretonne" (*D* 39). Waiting to elope with Frank becomes oppressive. Eveline continues to turn all her memories in her mind in order to delay the time when she will need to make up her mind. For her, a loss of vitality and the alteration of the feeling of "becoming" are added to the weight of the past.

[3] The locution "take one's stand" is particularly revealing here: "[w]hen he reached the corner of Merrion Street he took his stand in the shadow of a lamp…" (*D* 59). It is as though Lenehan adopted a stance he had been given. His position, his immobility have already been programmed.

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First, waiting is stifled by the past, insofar as the latter predominates in the beginning of the story, both spatially and mnesically: "[s]he sat at the window watching the evening invade the avenue" (*D* 36). As she looks out her window, a mental transposition takes place, whereby the past insinuates itself into her mind until it reaches a point of saturation. She goes through all the places, all the objects in her environment, recalling their past purpose. This can be felt in the following passage: "[o]ne time there used to be a field there in which they used to play…" (*D* 36). Objects of everyday use are then allowed to resurrect, just as Eveline recalls the family stories to which they are associated: "[s]he looked round the room, reviewing all its familiar objects. […] Whenever he showed the photograph to a visitor her father used to pass it with a casual word: / —He is in Melbourne now" (*D* 37). It seems that this accumulation of information about the past corresponds to a strategy of avoidance that would prevent her from dwelling on the future.

Second, her immobilization by the past is reinforced by Eveline's physical inertia. She is so completely sedentary that her body eventually also accumulates dust, just as the furniture she dusts once a week: "in her nostrils was the odour of dusty cretonne" (*D* 36). The particles of dusty cretonne in the young woman's nose somehow suggest the sedimentation of memories in her mind. Not only is the body invaded mnesically, it is also invaded physically. Instead of consuming time, Eveline absorbs dust as if waiting demanded a form of spatial compensation, in addition to the mnesic compensation operated by her memories, in order to prevent temporal loss.

She then falls into an arrested state. Time seems to have stopped even if it paradoxically continues to expand. It seems to have to stretch out indefinitely since it can no longer convert the present into the future. Time becomes a form of continuum poised between past and present. Among the linguistic manifestations of this warping distension of time is the use of -ing forms: "[h]er time was running out but she continued to sit by the window, leaning her head against the window curtain, inhaling the odour of dusty cretonne" (*D* 39). The first form ("was running") still evokes the objective passing of time, hours, minutes and seconds, which are exterior to Eveline herself, while the two subsequent continuous forms, "leaning" and "inhaling," seem to indicate that time has been neutralized. The borderline between before and after is breached. The young woman's attitude is thus petrified in a past continuity as she "continue[s] to sit." Further, "to sit" describes a stasis rather than a process; insofar as

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the verb "continued" is more likely to indicate the development of a process, its addition emphasizes the durability of stasis in which Eveline sinks. There even seems to be a willing agency, as if the young woman was desperately trying to maintain her stance and remain absolutely motionless, as if willingly frozen in time.

Just as one feels that the past reaches out for the present, so it seems that the future is included in the past. As a result, any projection with Frank in the future becomes impossible for Eveline. Her argument is systematically based on the past that remains her sole reference. Eveline considers leaving because both her mother and Tizzie Dunn are dead, because her father has become cruel and the Waters have gone back to England: "[h]er father was not so bad then; and besides, her mother was alive. That was a long time ago; […]. Everything changes. Now she was going to go away like the others" (*D* 36–7). In this sentence, there is a noticeable use of two adverbs. The first ("besides") may reveal a cognitive evolution, a hidden exploratory work that derives from the scholastic tradition of *disputatio*: it indicates that an argumentation is taking place, confirming that Eveline hesitates to meet with Frank because she must again prove to herself that the previously taken decision to leave is right ("[s]he had consented to go away," *D* 37). The second adverb ("[n]ow") clearly conveys how the imminent present ("was going") is measured through the past. Furthermore, waiting does not imply a true disposition towards the future, because her mind is already saturated with romanticized clichés of exotic landscapes. Eveline fills the void that waiting engenders by making up scenarios, as shown by the use of the conditional ("…it *would* not be like that. Then she *would* be married […]. People *would* treat her with respect…" *D* 37, emphasis mine), assuming that these conditional forms actually result from her pondering. Rather than truly experiencing waiting, she tries to convince herself that leaving with Frank is a legitimate choice. She is never the subject of her waiting because it evades her: "in Buenos Ayres where he had a home waiting for her" (*D* 38). She remains passive in everything that directly concerns her existence: "[t]heir passage had been booked" (*D* 40). The polysemy of "booked" suggests that Eveline's trajectory has already been described in a book, that the fiction that is her life has already been programmed. In this pre-conceived literary fiction, Frank is something of a modern version of Magellan the explorer. In addition, the passive structure ("had been booked") conveys a sense of doom, of powerlessness. It reinforces the impression that Eveline is incapable of

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controlling the way, or the length, of her waiting, inasmuch as she is subjected to it instead of experiencing it through her entire being.

Therefore, the primary characteristic of waiting in this story is that, in addition to being static and measured by the past, it evades its own subject. Caught between kinetic waiting and static waiting, there is also phantasmagorical waiting, and this is best manifested in "Araby." Fantasy, motivated by desire, opens up a significant space of waiting, where waiting is staged, revealing the scenography of waiting at work in the story.

Waiting underlies much of the drama of "Araby." The boy expecting to see the girl again, and thus to succeed in his mission, is progressively caught in a scenography of fantasy. Waiting is spatially transcribed. The barren space echoes the void that lies within the narrator's heart: "high cold empty gloomy rooms" (*D* 33). Waiting and intense desire both stimulate his imagination. His fantasy fills the void created by waiting: "I looked over at the dark house where she lived. I may have stood there for an hour, seeing nothing but the brown-clad figure cast by my imagination…" (*D* 33). Fantasy thus stems from the encounter of spatial perception and waiting. Waiting even leads the boy to physically enact the scenario of his fantasy as he progresses in an imaginary space inspired by his reading: "I imagined that I bore my chalice safely through a throng of foes" (*D* 31).

In "Araby," desire, when it is aroused by waiting, turns into obsession and even possession, powerfully overtaking the boy's body: "[h]er name sprang to my lips at moments in strange prayers and praises which I myself did not understand" (*D* 31): the boy is possessed by the image of the girl (whose "name" is the grammatical subject of the clause) and is also denied the capacity of speech, as the words that come out of his mouth are hermetic, almost devilish ("strange prayers and praises which I myself did not understand"). As a result, he becomes something of a medium for the girl who controls him. The space of waiting corresponds to a physical and mental annexation, an alienation of the subject's territory by the power he invests in the figure of the other. Nevertheless, the alienating modalities of waiting are no more than a prelude to the moment when the adolescent can see the girl—if only furtively: the boy experiences forms of ecstasy of an erotic and religious type.

The waiting for the desired object, that which the boy must bring back as well as the figure of the girl itself as a result of metaphorical displacement, is accompanied by a silence that is strategic, maintaining as it does the profane reader at the circumference of his fantasy. The girl's name is

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never uttered, as the narrator only alludes to it by using nominal groups such as "[h]er name" (*D* 31). These nominal groups are usually periphrastic ("Mangan's sister," *D* 30). In addition, the personal pronoun "she" or "her," used either as subject or as complement, and the possessive adjective "her" are constantly repeated, almost chanted, throughout the story:

> We waited to see whether *she* would remain or go in and, if *sh*e remained […]. *She* was waiting for us, *her* figure defined by the light from the half-opened door. *Her* brother always teased *her* before he obeyed and I stood by the railings looking at *her*. *Her* dress swung as *she* moved *her* body and the soft rope of *her* hair tossed from side to side. (*D* 30, emphasis mine)

This nominal ellipsis can be found in the evocations of Mrs. Arnoux in Flaubert's *L'Éducation sentimentale*. Just as the young woman is indirectly described in "Araby" ("Mangan's sister," *D* 30) without her name ever being pronounced, Frederic uses the personal pronoun "she" excessively instead of naming Mrs. Arnoux:

> Ce fut comme une apparition : *elle* était assise, au milieu du banc, toute seule ; ou du moins il ne distingua personne dans l'éblouissement que lui envoyèrent *ses* yeux […] *elle* leva la tête […]. *Elle* avait un large chapeau de paille, avec des rubans roses qui palpitaient au vent, derrière *elle* […]. *Elle* était en train de broder quelque chose […]. Comme *elle* gardait la même attitude […]" (Flaubert 2002, 46–7, emphasis mine)[4]

Her name is unspoken, just as the features of both young women's faces are, at first, indistinct.

Yet the phantasmagorical anticipation gradually changes into despair as the story unfolds. On the Saturday of the fair, waiting is staged from the very moment of the narrator's return from school. Hours are heavily ticked off the clock, the length of waiting is saturated by the rhythm of the seconds, and the regular beat of the clock becomes an obsession for the boy. The repetition of -ing forms indicates his perspective: "sat staring," "ticking," "clenching," "talking," "rocking" (*D* 33). The very syntax of

[4] "What he saw then was like an apparition: *she* was seated in the middle of the bench all alone or, at any rate, he could see no one, dazzled as he was by this vision […] *she* raised *her* head. *She* wore a wide straw hat with pink ribbons which fluttered in the wind, behind *her* […]. *She* was in the act of embroidering something […]. As *she* remained in the same attitude…" (Flaubert 2003, 6, emphasis mine).

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one of the sentences ("Still it was early." *D* 33) reproduces his impatience, with the introductory adverb implying inner thought. As the segment "clenching my fists" (*D* 33) later indicates, waiting is accentuated, even exacerbated, by the attraction the boy feels for the girl, to the point where desire/waiting is converted into anguish. The feverish moments caused by his urgent desire demand that the gap created by waiting be filled. The boy paces up and down the rooms of the house to occupy his mind. He is so impatient that the passage of time becomes inherently embedded in him: "I began to walk up and down the room" (*D* 33). His comings and goings ("up and down") seem to echo the oscillating movement of the clock. His eyes study the surrounding objects to their last detail and are irresistibly drawn to the clock: "I sat staring at the clock for some time" (*D* 33). Later in the street he will notice "by the lighted dial of a clock that it was ten minutes to ten" (*D* 34). His gaze rests upon the superposition of the hands of the clock, as if the narrator wanted this perfect coincidence between hour and minutes to become the material representation of that immobilization of time. He seems to want to abolish the time of waiting just as he wishes he could slow down the objective running of time. Waiting is experienced all the more intensely as the obstacles to the realization of this project become more and more numerous. First the child's departure is delayed, then the train's arrival, and finally he cannot find a sixpence ticket to the fair. Instead of passing by quickly, time, functioning like one of Zeno's paradoxes, seems to keep dividing itself as delays succeed one another. From the moment the child succeeds in leaving home, it is precisely measured ("[i]n a few minutes," *D* 34). The boy breaks time into as many fragments as he can in order to slow down its course and fill up its gaps as fully as possible. This focus on single time units echoes the perceptual compression of visual space through gazing. For the boy the only way to deal with the intensity of waiting is to isolate small portions of time and space. Occupying space through gazing means filling the temporal gaps generated by delays. The spatio-temporal dimension is thus transformed, by the boy's perception of waiting, into a dramatic space: waiting is staged, and the boy's gaze compensates for the impossibility of action.

Waiting is more than a simple recurrent theme whose modalities vary throughout the stories. Its role is fundamental as it pervades Joyce's writing. It is indissociable from virtuality, potentiality, that is to say latency. Latency necessarily implies waiting. A similar form of anticipation, of potential realization can be found in the two concepts of waiting and latency. However, it should be noted that the waiting process is overt

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(except for an objectless waiting that belongs more to latency than to waiting per se), while latency is covert insofar as it evades the characters.

Latency corresponds to a physiological process. As such, it is a duration, that is to say, the duration of the interval between stimulus and the reaction to stimulus. Reaction to stimuli is potential in relation to original stimuli. This is in keeping with the Aristotelian reading adopted by both Hugh Kenner and André Topia in their attempts to elucidate the stories in *Dubliners*, as they insist on the difference between potential and actualization. In "Counterparts," the final beating of the child is Farrington's late reaction to the aggression of the opening sound. In more general terms, latency in Joyce consists in a specific time frame that can be compared with a period of incubation, during which the process develops indirectly, in an inhibited and hidden way that is nonetheless likely to manifest itself through symptoms. Epiphany is the culminating point of the passage from virtuality to actuality, from darkness to what is manifest, from the invisible to the visible. Joyce considered epiphany a vocal or physical gesture that betrays the subject. The reader may expect the characters to betray themselves because the revelation has been anticipated by the narrative. It only makes obvious what has been latent and recapitulates what has been suggested in previously scattered signs. A distinction between epiphany and revelation should be made at this stage. In *Epiphany in the Modern Novel*, Morris Beja explains that revelation is directly transmitted to a human receptacle from a divine source, whereas epiphany implies a much more subjective process, one that is specific to each individual. Epiphany does not result from logical reasoning based on proof or on intuitive reception of divine wisdom, but on a gradual process of inner and indirect realization. This is why latency adequately defines this process. It indicates a change in terms of the reader's understanding of the characters or of the characters' apprehension of themselves and their situations.

The different states of latency, the unspoken, the blanks, all correspond to a covert cognitive process of withholding and gestation. Thus a period of maturation precedes the actualizing process that can only take place outside language, as it cannot become manifest through it.

Waiting is a fundamental tenet of the Joycean text, both thematically and structurally. It can be measured with a barometer that oscillates from impatience, patience, and vacancy, to attain a form of immobility that is almost paralysing in its rigidity. This is particularly clear in "Eveline," where waiting becomes impossible because space and time are both already saturated. The mere experience of waiting is thus displaced by the young

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woman to the point where it is transformed into an attempt to rationalize her final decision to leave. Furthermore, waiting, like memory, plays an essential role in the configuration of events and is likely to remind us of the problematic status of the present in Joyce's work: first, any prospect consideration is conditioned by a past event, and second, all events are anticipated, even forced upon the characters in their incapacity to experience them. As a consequence, the present, were it to come about, causes a slowing down of the cerebral functions, as illustrated in the final part of "Eveline," where the present seems to suddenly befall the young woman. A parallel must be made at this point with Saint Augustine's distinction between the three presents: "[t]he time present of things past is memory; the time present of things present is direct experience; the time present of things future is expectation" (Augustine 354). Subsequent to our analysis of expectation and its modalities in *Dubliners*, it seems evident that the Joycean moment avoids the present of things present but seems to concentrate in two forms of presents: the present of things past and expectation. The only present possible seems to be that of an expectation devoid of any object.

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The Invention of Dublin as "Naissance de la Clinique": Cognition and Pathology in *Dubliners*

Benoît Tadié

Joyce's project in writing *Dubliners*, as he explained in letters written around the time of composition, was marked by three dominant ideas: birth, pathology, pedagogy. As we gather from these letters, giving Dublin "to the world" was tantamount, in his stated intention, "to betray[ing] the soul of that paralysis or hemiplegia which many consider a city," by holding a "nicely polished looking-glass" to the Irish people.[1] These interlocking ideas are important for our understanding not only of *Dubliners* but also of how cognition operates in *Dubliners*. They suggest that the creation of a new environment in *Dubliners* coincides with the deployment of a specific kind of knowledge that helps the reader apprehend the diseased nature of that environment. This explains my title, which nods at Michel Foucault's *Naissance de la clinique* (1963), a book in which Foucault studies the revolution in medical procedures and discourse that

[1] Quotations excerpted from Joyce's letters: to his brother Stanislaus (19 November 1904, *Letters II* 111), to C. P. Curran (July 1904, *Letters I* 55), to Grant Richards (23 June 1906, *Letters I* 64).

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_8

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occurred in Europe at the beginning of the nineteenth century. I would here like to sketch a parallel between Foucault's analysis of the clinic as a site where the relationship between man, space, pathology, observation, and language is reconfigured in a new way, and, on the other hand, Joyce's invention of the Irish capital as a site where the pathological life of his characters is presented in a comparable way. But Foucault's book may also enrich our reading of *Dubliners* because of its wider epistemological implications. Indeed, not only does *Naissance de la clinique* describe a revolution in medical knowledge and practices, it also links this revolution to the development of European rationality, which it sees as characterized by the incorporation of medical investigation into philosophical thought: "The importance of Bichat, Jackson, Freud in European culture does not prove that they were philosophers as well as doctors, but that, in this culture, medical thought, in its own right, informs the philosophical status of man" (Foucault 202).[2] I believe these wider implications are also relevant to *Dubliners*, in the sense that here, too, the medical becomes the dominant structure of rationality (or, as the case may be, of irrationality).

In order to explore these Foucaldian dimensions of *Dubliners*, I will begin by looking at the intensely pathological subtext that underlies the short stories—which are characterized by an accumulation of morbid signs clustering around the characters and inviting diagnosis—and at the way in which the narrative perspective fits in with both Foucault's idea of the *clinical eye* as a cognitive tool and of *pathological anatomy* as an interpretive discourse. I will then try to analyse how interpretation operates at the level of characters in *Dubliners*, suggesting that the stories embody a cognitive drama in which sick or decaying characters are observed by others, the former manifesting pathological signs and the latter producing readings of these same signs. But, as I will finally argue, these stories of patients and would-be doctors are highly problematic, as interpretation often bears the stigmata of morbidity, entailing a reversal of the logical into the pathological and of the gnomonic into the pathognomonic.

A Dublin Casebook

Dubliners, as its title suggests, may be seen as a casebook structured by medical discourse and presenting a general pathological situation, in which the morbidity of Dublin *is* Dublin, and the observation and interpretation

[2] All translations from this work are mine.

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of Dublin takes the form of a medical investigation. The short story collection may thus be read as a record of medical cases, through which the city is organized, dissected, and interpreted for the reader.

The casebook model is implicit, at the macrological level, in the discontinuous form (not of the short story as such, but of the short story collection as a whole) and in the fact that the characters of the various stories (who, like the noun Dubliners, both represent and embody Dublin) are unrelated to one another, as though detached from their collective or family backgrounds to be presented separately, as medical cases. It is also revealing, in this respect, that the word "case" should be used to refer at times to characters, for example in the reference to Jack Mooney as "a hard case" (*D* 62) and at other times to events, as in "A Painful Case," the subtitle of the newspaper paragraph recounting Mrs. Sinico's fatal accident in the eponymous short story. In this latter instance, the legal case fades into, and is ultimately explained by, the medical case, as the affair of Mrs. Sinico's strange death, which the article recounts from a primarily legal point of view, becomes explained, for the reader, by Mr. Duffy's psychological paralysis.

At the micrological level, the case-like nature of the stories appears in the pathological symptoms that cluster in and around the characters, thrown into sharp relief by the intensely visual prose:

> When he smiled he used to uncover his big discoloured teeth and let his tongue lie upon his lower lip—a habit which had made me feel uneasy in the beginning of our acquaintance before I knew him well. (*D* 13)

> I was surprised at this sentiment and involuntarily glanced up at his face. As I did so I met the gaze of a pair of bottle-green eyes peering at me from under a twitching forehead. (*D* 27)

> The shadow took her faded dress into shelter but fell revengefully into the little cup behind her collar-bone. (*D* 143)

What comes out here, behind the uneasy perception of the boy in the first two stories (suggesting, in the first case, that not only Father Flynn's teeth are tainted but also his relationship with the boy) or that of the impersonal narrator in "A Mother," is the experienced glance of the *clinicus*, the master who selects and detaches certain telltale details from the bodies of the patients. These morbid details, through which problematic

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characters and social relations are established for the reader, suggest that, in *Dubliners*, signs are often undistinguishable from symptoms, and cognition from diagnosis—in keeping, etymologically, with the Greek *diagignóskein*, which equates the idea of "discerning, distinguishing" with that of "knowing thoroughly." With its sharp unerring focus on signs of morbidity, the narrator's eye, though it may appear to isolate them reluctantly or involuntarily, matches Foucault's description of the modern clinical glance (*coup d'œil*), as opposed to the traditional medical gaze (*regard*):

> As for the clinical glance (*coup d'œil*), it does not hover over a field, but hits a specific point, which has the privilege of being the central or decisive point; the gaze (*regard*) is endlessly modulated; the glance goes straight: it chooses, and the straight line that it draws at once isolates what is essential; [...] it is in essence a demystifying glance. (Foucault 123)

But what brings the stories closest to medical cases, in Foucault's sense, is perhaps the fact that characters are often seen from the vantage point of their past or future death, in a retrospective consideration that turns their stories into clinical histories; death thus becomes the point from which the observation of life originates. Such is the case in "Eveline" for example, where Eveline's recollection of her mother's final moments also involves, implicitly, looking at her own life from the imagined viewpoint of a similar end:

> As she mused the pitiful vision of her mother's life laid its spell on the very quick of her being—that life of commonplace sacrifices closing in final craziness. She trembled as she heard again her mother's voice saying constantly with foolish insistence:
>
> —Derevaun Seraun! Derevaun Seraun! (*D* 40)

This retrospective observation turns the narrative into an unveiling of symptoms, revealing the *pathological life* of the characters, in a process that matches Foucault's analysis of modern medical practices, which begins with Bichat's grounding of anatomical pathology in dissection. Quoting Bichat's famous dictum "[o]pen up a few corpses: you will dissipate at once the darkness that observation alone could not dissipate," Foucault comments:

> Death is the great analyst; it displays the connections by loosening them, and unveils the wonders of genesis in the rigor of decomposition. [...] With

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> Bichat, the knowledge of life finds its origin in the destruction of life, and in its exact opposite: it is to death that life and diseases ultimately reveal the truth about themselves. (Foucault 147–8)

In *Dubliners*, the presence of death can similarly be read in the alterations of the living body, suggesting a gradual process of mortification (in the etymological sense of the word) and anatomization of the characters' lives. The case of Aunt Julia, as evoked by Gabriel in "The Dead," makes the point clear:

> Poor Aunt Julia! She, too, would soon be a shade with the shade of Patrick Morkan and his horse. He had caught that haggard look upon her face for a moment when she was singing *Arrayed for the Bridal*. (*D* 222)

And similarly, one may read in Father Flynn's uncanny smile, "letting his tongue lie upon his lower lip," a sign of the gradual death invading his body. Both these examples suggest that death here is not seen as an absolute point or fixed limit separating two worlds, but as a pervasive process distributed over time and space and already at work in organic life, in keeping with Bichat's well-known definition of life as "the sum of the functions that resist death." According to Bichat's conception, Foucault writes:

> Death becomes multiple and dispersed in time: it is no longer the absolute and privileged point where temporal sequences stop and tip over; it has, like illness itself, a swarming presence that analysis can distribute in time and space; little by little, here and there, all of the knots reach breaking point until organic life ceases, at least in its dominant forms, since long after the death of the individual, minute and partial deaths will continue to loosen the remaining islets of life. (Foucault 144–5)

A similar conception underlines much of the drama of *Dubliners*. It is especially clear in "The Sisters," a story in which death is never represented to the narrator as a single clearly identifiable climactic moment, localizable in space and time, but rather as a cloud of problematic events that precede and follow Father Flynn's decease, recounted in a polyphonic narrative that shuttles back and forth between different points of view and moments in time. And the deceased, when he finally appears under the boy's eyes, seems to resist the idea of death with his "very truculent" face (*D* 14): the adjective, deriving from the Latin *trux* (fierce, wild), stands in

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oxymoronic opposition to the idea of death as peaceful rest. Similarly, the recapitulation of Father Flynn's physical and behavioural symptoms, suggesting that "there was something gone wrong with him," indicates a gradual loosening of the ties that were binding together his biological and social being. This is also implied by the term paralysis, which means the loss of sensation or motion and comes etymologically from the Greek *para + lyein*: to unbind, to release. The paralysis of Father Flynn, in other words, by untying the knots of his social, intellectual, and biological life, helps the reader understand in reverse how that life was organized. In this respect, it is important that the privileged witness of this morbid loosening or unbinding of life in an old man should be a growing young boy. As Foucault noted, "[t]he slow and natural death of old people echoes in reverse the development of life in the child" (Foucault 145). Here, the boy's intellectual and social development can be balanced against, if not quite mirrored in, the spectacle of the old man's decomposition.

Doctors and Patients

From an epistemological perspective, pathological anatomy thus appears as the fundamental procedure through which the reader is prompted to diagnose the general condition of the Dubliners and the processes of growth and decay of which they (and the city they embody) are the site. But this dominant form of rationality, which is accessible to the reader, escapes the characters in the stories, who are locked in an endless cognitive game of sign-reading, where all forms of magisterial interpretations of morbid signs betray, or become, morbid signs raising question marks of their own.

Indeed, much of the drama of *Dubliners* takes place in the consciousness of characters who observe the morbidity of others (or, in some cases, self-diagnose their own pathologies). We can thus very roughly divide the casts of the stories into two shifting groups, the observers and the observed, or the patients and the doctors. This is the case at the opening of "The Sisters," to which I would now like to turn more specifically, since it links the case history of Father Flynn with a story about the interpretation of signs and the cognitive faculty of a child. The opening lines of the story are, in this respect, particularly revealing:

> There was no hope for him this time: it was the third stroke. Night after night I had passed the house (it was vacation time) and studied the lighted

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> square of window: and night after night I had found it lighted in the same way, faintly and evenly. If he was dead, I thought, I would see the reflection of candles on the darkened blind for I knew that two candles must be set at the head of a corpse. He had often said to me: *I am not long for this world*, and I had thought his words idle. Now I knew they were true. Every night as I gazed up at the window I said softly to myself the word *paralysis*. It had always sounded strangely in my ears, like the word *gnomon* in the Euclid and the word *simony* in the Catechism. But now it sounded to me like the name of some maleficent and sinful being. It filled me with fear, and yet I longed to be nearer to it and to look upon its deadly work. (*D* 9)

If we look at the way in which the text unfolds from a logical point of view, we may note that it opens with a resounding statement, in the form of a medical *prognosis*, before either the narrator or the sick person are identified. The medical prospect is bleak and the case appears as an open-and-shut one, as the reading of the signs (the three strokes) allows no room for uncertainty. In the following lines, after some speculation as to the possible death of the as-yet-anonymous "he," based on an anthropological ("two candles must be set at the head of a corpse") rather than a medical encyclopedia, this prognosis is followed by a *diagnosis*, or identification of the disease, which is now called by its name, *paralysis*. However, this diagnosis does not seem to be derived from any previous statements, nor is it in fact linked to anything but to the sequence of words that "sound strangely" in the narrator's ears. Paralysis may be a result of the three strokes, of course, but this is something we must extrapolate from the text, not something that it spells out, nor is the diagnosis validated elsewhere in the story, except in the boy's dream, where we are told that the priest's "grey face [...] had died of paralysis" (*D* 11), a rather unorthodox statement from a medical point of view. But, coming first in a sequence of three esoteric words, *paralysis* seems to introduce a new cognitive world dominated by the idea of specialized and secret knowledge—that strange world where *gnomon* and *simony* also operate. Thus the *prognostic* opening sentence leads to a more problematic *diagnostic* utterance, which functions as incantation rather than as observation, which in turn opens onto an even vaguer *gnostic* context, summoned up both by *simony*, the sin of Simon Magus, and, etymologically, by *gnomon*, a word meaning "originally someone or something that *knows*" (Senn 30). This sense is better preserved in certain words derived from the same root, such as the adjective *pathognomonic*, meaning "what is specifically, distinctively or decisively

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characteristic of a certain disease," like the three strokes of the beginning, that point to the inevitability of the outcome for the patient.

With this unfolding play on signifiers and signifieds, which in the scope of a few lines links the prognostic, diagnostic, and Gnostic layers of the text, we move from an interpretive act which makes a categorical and unambiguous reading of pathognomonic signs (third stroke = no hope) to an evocation, or invocation, of esoteric signifiers whose potential meanings seem multifold and unbounded. This poetic process materializes fully in the vision of the sinful, unnatural being that personifies paralysis; a personification that, on the one hand, is an almost literal translation of Joyce's essentialist vision of Dublin as "the soul of [...] hemiplegia or paralysis," but that, on the other hand, seems to evoke a Gnostic demiurge rather than any disease identified scientifically. This aspect is emphasized in particular by the reference to the "deadly work" of the "maleficent and sinful being" (*D* 9). We may wonder here if Joyce is merely recycling statements from his letters or whether he is not parodying himself, attributing to the boy an essentialist, or ontological, conception of the disease which he may have overgrown in his development as a writer and which is questioned, if not quite belied, by the textual strategies of the stories.

This passage gives a condensed image of the way scientific interpretation branches off into esoteric paths. The cognitive road travelled here makes us lose the initially clear and univocal reading of medical signs to enter a magic world of incantation. The reverie of the boy announces other initiatory and esoteric discourses in *Dubliners*, where knowledge also appears as a secret lore revealed only to the initiate. Thus, in "The Sisters," the religious mysteries evoked by Father Flynn; thus again the esoteric instruction imparted by the strange old man in "An Encounter"; thus again the magic world glimpsed in "Araby." If we take the first of these three examples, we can see a cognitive model at play, which is clearly based on the idea of esoteric initiation:

> His questions showed me how complex and mysterious were certain institutions of the Church which I had always regarded as the simplest acts. The duties of the priest towards the Eucharist and towards the secrecy of the confessional seemed so grave to me that I wondered how anybody had ever found in himself the courage to undertake them; and I was not surprised when he told me that the fathers of the Church had written books as thick as the *Post Office Directory* and as closely printed as the law notices in the newspaper, elucidating all these intricate questions. (*D* 13)

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The kind of knowledge evoked here is, in a sense, archaic and operates along lines which are radically different from the clinical ones on which the narrative perspective in the stories is based. In the clinical model, what there is to be known can be seen, pointed to and translated into language; here, on the contrary, knowledge is divided from the visible world; it is stored in thick volumes and guarded by a caste of specialized interpreters; it must be appropriated through hard work and its revelation dissipates simple ideas (like the idea that some institutions of the Church are simple). As a young apprentice, the boy is now starting on a path leading towards a summit from which Father Flynn is seen to topple, the decomposition of his life suggesting, however, the morbid nature of the esoteric knowledge on which he sits. Thus, magisterial discourses are seen, in *Dubliners*, to function on an esoteric basis which is implicitly undermined by the clinical clearness and precision—what Joyce called the "scrupulous meanness" (*Letters* II, 134)—of the narrative prose. And the same is true in all the stories where the more authoritative the intellectual posture, the more it is found to be pervaded by pathological signs. This self-perverting nature of would-be authoritative discourses is neatly summed up in *A Portrait* when Stephen asks Cranly: "[b]ut I am curious to know are you trying to make a convert of me or a pervert of yourself?" (*P* 242).

This brings me to my final point. In the first page of "The Sisters," the shift in narrative focus from the priest to the boy, and the way in which the medical interpretation of Father Flynn's case decays into a pathological enumeration of problematic signifiers, all this suggests how, in *Dubliners*, the logical is bound up with the pathological, or the gnomonic with the pathognomonic, as interpretations can themselves betray, or become, morbid signs raising question marks of their own. In a similar way, Gabriel's diagnosis of his aunt Julia's "haggard look" may sound convincing at first, but at a second reading it also appears as the dubious sign of a self-pitying pathos expressed in melodramatic language, especially as Gabriel then goes on to picture himself sitting at Julia's wake, "dressed in black, his silk hat on his knees", unsuccessfully trying to find words with which to comfort his aunt Kate (*D* 222). His seemingly clairvoyant prognosis regarding Julia's coming death may thus be taken as the symptom of a morbid streak of his own; it suggests the suspicious nature of all forms of over-assertive discourses, but more profoundly it also shows how the interpretation of pathological signs can itself become a pathological sign calling for further interpretation. In the gnomonic space of the book, illness and diagnosis are caught in an endlessly reversible interplay, where the interpretation of

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symptoms itself becomes the symptom requiring another interpretation. The pathology of the interpretive faculty in the characters thus becomes a sign of the pathology of Dublin for the reader.

In raising these issues and pointing to these paradoxes, I wish not only to stress the importance of medical discourse in Joyce's literary reinvention of Dublin, but also to show that the text in *Dubliners* goes beyond the simple cognitive model that is suggested in Joyce's letters, according to which the characters would only be the names of one underlying fixed and essential illness. By setting up an endless interplay of signs in the stories, the text confutes any such essentialist view of morbidity and, at the same time, undermines the possibility of any fixed or authoritative discourse of truth, in a process that already evidences the complex semiotic reversibility that would mark the development of Joyce's later prose.

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Cognition as Drama: Stephen Dedalus's Mental Workshop in *A Portrait of the Artist as a Young Man*

André Topia

During his discussion with Lynch on aesthetics, in order to focus Lynch's attention on his argument, Stephen Dedalus uses a phrase which could easily be applied to the novel in which he is a character: "[b]ut we are just now in a mental world" (*P* 206). This remark will be the starting point of this essay: what is it that makes *A Portrait* a "mental" novel, far different from a "psychological novel," and distinct from the various types of writings devoted to the inner workings of the characters' minds, like the so-called "stream of consciousness" or "interior monologue" novels? To what extent do we have to do with a "mental workshop," where the mind is the centre of a ceaseless activity of *cognition*, much more than simply a passive succession of thoughts, moods, feelings, states of mind, and where active thought is the primal mediation through which Stephen encounters and constructs his world? Three recurrent words emphasize this "mental" dimension in the novel: "mind," "brain", and "know"/"knowledge."

Quite often in the novel, it is not Stephen who is the subject of sentences indicating the modalities of his relation to the world but "his

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_9

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mind," as if Stephen's being were concentrated in this mental entity before being a corporeal or psychological subject. Thus at the beginning of Chap. 5, Stephen's "mind" becomes the grammatical subject of two successive sentences describing Stephen's readings at the university:

> His mind when wearied of its search for the essence of beauty amid the spectral words of Aristotle or Aquinas, turned often for its pleasure to the dainty songs of the Elizabethans. His mind, in the vesture of a doubting monk, stood often in shadow under the windows of that age, to hear the grave and mocking music of the lutenists or the frank laughter of waistcoateers… (*P* 176)

The quest for aesthetic beauty, whether it is among philosophers or among the more profane pleasures of prostitutes, remains a mental exercise.

Strangely, Stephen's mind seems almost to substitute itself for his body and to feel the direct impact of sensations, as when he feels lice crawling on his neck: "[b]ut the tickling of the skin of his neck made his mind raw and red" (234). Even when Stephen is in the torments of sin and sexuality, the locus of these disturbances is again his mind, as if the being that goes through all these temptations, conflicts, and mutations, were not the person of Stephen Dedalus but this mental entity: "a thick fog seemed to compass his mind" (*P* 111); "[t]he wind of the last day blew through his mind" (*P* 115); "[i]f she knew to what his mind had subjected her" (*P* 115).

Independently of the envelope of flesh moving in Dublin under the name of Stephen Dedalus, there seems to be something else, a *forma*, which remains permanent through the various mutations: the "mind," to which the essence of Stephen's being seems to be delegated.

Linked with this is the word "brain," which, even more than "mind," would be expected to emphasize the intellectual, analytical dimension of Stephen's mental activity, but is in fact often associated with experiences far removed from the intellect. There are twenty-two occurrences of the word in *A Portrait*, and they include, not only Stephen's intellectual activity, but his most physical, sensual, and sometimes sexual, experiences, as well as his moments of poetic creativeness.

When Stephen remembers the pressure of Emma's fingers, the memory of this sensation rises to his brain before reaching his body: "and suddenly the memory of their touch traversed his brain and body like an invisible

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warm wave" (*P* 83). During the scene with the young prostitute, the pressure of the young woman's lips is felt directly on Stephen's brain, as if they were inscribed on it: "[t]hey pressed upon his brain as upon his lips" (*P* 101). Even at moments associated with Stephen's activity of literary creation, as when he broods on the word "ivory" in order to extract all its poetic potentialities, his brain is the privileged locus of the final poetic revelation: "[t]he word now shone in his brain" (*P* 179). The brain is not only a centre of mental activity, but also the repository of potential creativeness, the place where the "brooding" can remain latent before being actualized.

Similarly the verb "to know," with its variant "knowledge," appears, like "mind" or "brain," in moments of poetic or religious revelation where one would expect a term connoting more feeling and less control. When Stephen is sinking into sin, just before the sermon on hell, his inner confusion is paradoxically called "a cold indifferent knowledge of himself" (*P* 103) and the long paragraph devoted to his "lucid" indifference in sin is haunted by the repetition of "he knew" (three times, *P* 103–4). When he feels the birth of poetic inspiration, just before beginning to write his villanelle, this revelation also appears as a "knowledge": "[h]is mind was waking slowly to a tremulous morning knowledge, a morning inspiration" (*P* 217). During his temptation of saintlihood at the beginning of Chap. 4, "knowledge" is again the word that defines for him his harmony with God: "[g]radually, as his soul was enriched with spiritual knowledge, he saw the whole world forming one vast symmetrical expression of God's power and love" (*P* 149).

But perhaps the best example of this saturation of Stephen's mental life with the question of knowledge is his interview with the director of the Jesuits in Chap. 4 and his reaction to the offer to become a priest. In a first phase, Stephen's meditation seems to be governed by an almost performative approach, founded on what could be called a gestural liturgy: the extraordinary ritualization of the least moments of his everyday life appears necessary to mediate his relation to the world, a mediation which is the only way for him to "encounter reality" and which collapses if it is not supported by "an appointed rite" (*P* 159). But in a second phase, in the next paragraph, it appears clearly that what is at stake is not so much performance as *cognition*, that is the mysterious knowledge to which the director gives him access by offering him an entry into the ecclesiastical function. The words "knowledge" and "know" punctuate insistently, almost hauntingly, Stephen's silent meditation:

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> He listened in reverent silence now to the priest's appeal and through the words he heard even more distinctly a voice […] *offering him secret knowledge* and secret power. *He would know* then what was the sin of Simon Magus and what the sin against the Holy Ghost for which there was no forgiveness. *He would know* obscure things, hidden from others, from those who were conceived and born children of wrath. *He would know* the sins, the sinful longings and sinful thoughts and sinful acts, of others, hearing them murmured into his ears in the confessional […]. *He would hold his secret knowledge* and secret power, being as sinless as the innocent… (*P* 159, emphasis added)

This insistence on knowledge as power almost makes of Stephen a Gnostic, more interested by the *gnosis* (knowledge) accessible to the initiated than by the Christian communion. Already in *Stephen Hero*, we can feel this temptation: during one of his conversations with Cranly, Stephen calls Jesus on the Cross "[s]omething between Socrates and a Gnostic Christ" (*SH* 117).

This cognitive dimension is indissociable from the process of questioning: Stephen keeps asking himself and asking the world questions, and more importantly these questions seem to be the preliminary condition to any kind of relation he may have with reality. Everything always seems to begin with a question in *A Portrait* and questioning is at the centre of the process of cognition. Whereas cognition is defined by the *OED* as "the action or faculty of knowing, as distinguished from feeling and volition," it is not so in *A Portrait*. On the contrary, feeling and volition seem always indissolubly linked with cognition, with a quest for knowledge. This questioning, which is supposed to make Stephen pass from the unknown to the known, corresponds to the etymology of *cognosc-ere*, which designates not a state but a process, with, like all Latin verbs in *-scere*, an inchoative value: originally the verb does not mean "to know" but "to become thoroughly acquainted with, investigate, get to know" (*OED*). Only in the perfect and present perfect does *cognosc-ere* realize the accomplished idea of "to know." Questioning is for Stephen the necessary step in this acquisition of knowledge, and the dictionary entry is often at the origin of the process.

Cognition is also a mental drama directed and controlled by Stephen. In *A Portrait*, thought itself often becomes a silent debate where the self splits into several *personae*, thus announcing some of Stephen's interior dialogues in the first episodes of *Ulysses*. We often see Stephen putting his own thoughts at a distance and playing with them in his mental theatre,

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becoming both the director and the actor, both the artist who creates a mental universe and the schoolmaster who judges and sanctions the success or failure of his mental exercises. An interesting symptom of this mental game is the recurrent use of the formula "he allowed" to define the kind of self-complacent control exercised by Stephen on his thoughts and moods; "[he] allowed his mind to summon back to itself the age of Dowland and Byrd and Nash" (*P* 233); "whether he had allowed silence to cover his anger or pride" (*P* 159); "[h]e allowed them to glow and fade, hue after hue" (*P* 166).

In Chap. 5, during the physics lecture, Stephen plays with his thoughts as with invisible projectiles directed at those who surround him. Hearing a question from the protestant student Macalister, whose pedantic voice exasperates him, he begins by complacently indulging in feelings of hostility towards him: "he allowed the offence to carry him towards wilful unkindness, bidding his mind think that the student's father would have done better had he sent his son to Belfast to study" (*P* 193). The verbs "allowed" and "bidding his mind think" make of Stephen the master of the mental game, but at the same time we see him dissociating himself from his own thought, which he puts at a distance, almost prompting to himself the appropriate conduct, like a prompter in a theatre. And it does not stop there, for Stephen then compares his silent thought, which he calls his "shaft of thought," with an arrow which has reached its target and comes back to its sender: "and yet the shaft came back to its bowstring: for he saw in a moment the student's wheypale face" (*P* 193). His thoughts almost appear as a flux of energy able to control and modify his immediate environment.

Thus we see Stephen weaving an elaborate scenario around the figure of the mysterious "captain" who puzzles the group of students in Chap. 5. Stephen is not content with summoning an elaborate imaginary composition of place in order to reconstitute the supposed incestuous birth of the mysterious figure. In a second phase, he distances himself from his own thoughts in order to test and assess their efficacy: "[h]e frowned angrily upon his thought [...] and brooded uneasily on his own thought again" (*P* 228). And he can only recognize that his construction is a failure and that the gap between the flimsy basis which gave birth to it ("the shrivelled mannikin who had called it forth," *P* 228) and the literary elaboration of the vision called up has not been filled. Stephen's thoughts become a remarkably ductile material for experiment, constantly oscillating between retention and manifestation, latency and actualization, a material which

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Stephen tests and reappraises, like a tool he keeps readapting and redirecting in his constant quest for "knowledge." These exercises in mental control may recall the intellectual exercises practised by Stephen during his studies with the Jesuits.

Cognition is also closely linked with memory, and like Joyce himself, who liked saying that he never invented anything but only used what his memory had stored (Ellmann 1977, 3), Stephen's least perception, whether visual or auditory, is a circulation over traces and echoes. When, in Chap. 5 of *A Portrait*, he observes the flight of the birds from the steps of the National Library, his very senses seem as if gifted with a memory of their own: the lines from Yeats echoed by the birds appear "in the ear of his memory" and a whole scene composes itself "before his remembering eyes" (*P* 226). When Stephen remembers Cranly listening to his own confessions, the memory is much more than a mental construction: it really touches Stephen like a sensation received *hic et nunc*: "he felt again in memory the gaze of its dark womanish eyes" (*P* 178). This may recall the end of "A Painful Case," when Mr. Duffy is touched as if physically by the memory of Mrs. Sinico: "he seemed to feel her voice touch his ear, her hand touch his" (*D* 117).

We can find again these remembering senses—taste, hearing, eyesight—when we see Stephen successively testing various controlling images able to support the figure of Emma, as if working over mnemonic traces accumulated in his memory to achieve a successful crystallization and embodiment: "[a]nd he tasted in the language of memory ambered wines, dying fallings of sweet airs, the proud pavan: and saw with the eyes of memory kind gentlewomen in Covent Garden" (*P* 233). Memory is then much more than mere recollection: it is a strategy of mediation allowing the past images to be re-embodied, and when successful, it becomes a performance where the body, through the senses, whether sight or hearing, plays an essential part.

But the trajectory leading from the moment when these controlling images are summoned to their final crystallization may prove problematic. Stephen's mnemonic construction of Emma appears abortive, unable to summon an efficacious image: "[t]he images he had summoned gave him no pleasure. They were secret and enflaming but her image was not entangled by them. That was not the way to think of her" (*P* 233). The "entangling," which would prove the successful articulation between these mediating images and the figure of Emma, has failed to take place, and Stephen has to realize that his thoughts are only abortive creatures, corpses

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"disinterred" like the fig seeds which he saw Cranly spit back a moment before, frozen between the mental and the incarnate: "[i]t was not thought nor vision" (*P* 233). His mental schemes are condemned to remain in inchoative limbo between their birth in the mental workshop and their final crystallization into images involving real incarnation.

Another effect of this predominantly cognitive dimension of Stephen's thought is that there often seems to be an unstable frontier between silent thought and uttered speech, as if utterance were the mere continuation of a process of thought, of a silent debate, of mental virtuality. Hence the remarkable expressiveness of the moments of silence in the Joycean text. In Stephen's exchanges with other characters the frontier between thought and utterance, between the unsaid and the spoken word, tends to be blurred. From the moment it is born, thought is already activated as virtual utterance, and utterance is often nothing but actualized thought. During Stephen's mock confession to Cranly, the latter pauses for a moment, then speaks again "as if giving utterance to the process of his own thought" (*P* 241), so that there seems to be a silent continuity between thought and speech, as if thought, already energized as "process," were naturally continued in utterance. At the other end of the chain, this continuity finds its source in careful preparation: in the same passage, we see Stephen, just before answering Cranly's praise of motherhood, "preparing the words neatly in his mind" (*P* 242).

This energizing of thought produces strange effects of silent exchange which, as it were, bypass the spoken dialogue. For if thought can insensibly change into speech, conversely it can be heard directly without the mediation of speech. During the scene with Cranly already mentioned, once Cranly has made his praise of motherhood, Stephen, "who had been listening to the unspoken speech behind the words" (*P* 242), starts speaking again, answering what has been unsaid rather than the spoken speech. Conversely, in a preceding conversation with Cranly, the only answer to Stephen's long outpourings about his inner conflicts is "his friend's listening silence" (*P* 178). The blurring of the frontier between speech and thought has reached a further stage: it is no longer the transition from silence to speech, but the immediate expressiveness of silence. Should we then conclude that thought structures speech in advance, or that speech energizes the thought it carries? The answer is rather that Stephen's spoken words are only the last stage of a "process" which started at the very moment of the birth of his thoughts, perhaps even earlier, in the model of some dictionary page or manual of scholastic disputation.

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One of the consequences of this is that the dialogues between Stephen and other characters are often characterized by a disproportion between the sentences actually uttered by Stephen and the long silent comments with which he punctuates them. In his dialogue with Cranly, at the end of Chap. 5, the reader soon realizes that Stephen's thoughts are more than comments and that he often tends to reformulate Cranly's thoughts and to substitute these reformulations for Cranly's actual speech, sometimes producing a kind of free indirect speech in which Cranly becomes only a protagonist in Stephen's inner drama, as if his voice were prompted by Stephen. This soon appears as a limit of Stephen's mode of thought, making him unable to distinguish between what reality offers to his perception and the mental fabrications he weaves around what he perceives. The danger is that, at the worst, this might result in what could be called the Mrs. Mooney strategy such as it appears in "The Boarding House": the real is allowed to exist only after it has gone through the character's preliminary mental programming.

Thus after Cranly's crucial confession about the kind of friendship he expects from Stephen, the last word, a silent word, belongs to Stephen, who sums up in one definitive formula what he sees as the hidden intention behind Cranly's speech, and substitutes it for his friend's words, thus providing both the questions and the answers:

> Had he spoken of himself, of himself as he was or wished to be? Stephen watched his face for some moments in silence. A cold sadness was there. He had spoken of himself, of his own loneliness which he feared. (*P* 247)

The symmetry between the question and the answer almost makes a mere equation of the questioning. This puts an end to the dialogue and explains Cranly's logical silence at the end: Stephen's last question ("[o]f whom are you speaking?" *P* 247) is much more an answer than a question.

The reason why Stephen's questions are so often already answers may be explained by a reference to Aristotle. Before going to one of his lectures, Stephen imagines the students in the lecture room conscientiously copying in their notebooks "the points they were bidden to note, nominal definitions, essential definitions" (*P* 177–8). The allusion refers to a passage in Aristotle's *Posterior Analytics* concerning the two types of definition, nominal definition and essential definition:

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> […] one form of definition is that which gives the meaning of a word […]. Another explains the reason why a thing is. Hence the former explains signification but proves nothing, while the latter clearly gives a kind of demonstration of the subject's essence, and differs from demonstration only in form.
>
> Thus there is a difference between saying, "Why does it thunder?" and "What is thunder?" To the former one would answer, "because fire is quenched in the clouds"; to the question, "What is thunder?" "Thunder is the noise of fire being quenched in the clouds."
>
> Thus the same thought is expressed in two different ways; the former answer containing all the parts of a demonstration, the latter being stated as a definition. (II, 10, 93–4)

The nominal definition determines all the characteristics of the object by describing effects, the essential definition goes back to causes. Thus, the nominal definition of thunder is: "Thunder is the noise of fire being quenched in the clouds," and its essential definition is: "because fire is quenched in the clouds."

These two types of definition could illustrate the constant alternation in Stephen's thought between an anatomy of phenomena (what Stephen calls in *Stephen Hero* "vivisection," *SH* 186) and an effort to go back to their origin through a kind of archaeological process. One might see a trace of this oscillation in Stephen's own definition of pity and terror in tragedy in his discussion with Lynch: both have their source in "human sufferings," but pity concerns the human effects of the tragic, "the human sufferer," terror its primary causes, "the secret cause" (*P* 204).

One example, Stephen's encounter with the dean of studies in Chap. 5, will show to what extent Stephen's mental processes bear the stamp of this Aristotelian teaching whose importance has been confirmed by testimonies of two of Joyce's fellow students at University College, Felix Hackett and Constantine Curran (Joyce 1982, 1724). The episode begins with what could be called a "nominal definition" in its simplest form, the dean of studies being "defined" by external properties, shape and colour: "A figure was crouching before the large grate and by its leanness and greyness he knew that it was the dean of studies lighting the fire" (*P* 184). The abstraction of the two terms characterizing the priest ("leanness and greyness") shows that this is more than a description and that the formula already has the generality of a definition.

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But soon we see Stephen trying to penetrate the essence of the character and to go back to the origin of what he sees by reconstituting imaginatively all the religious trajectory of this converted Protestant. Symptomatically however, as was the case with Cranly, the answers precede the questions: Stephen begins by giving a series of definitions of the priest, as if he already knew him thoroughly and intimately:

> A humble follower in the wake of clamorous conversions, a poor Englishman in Ireland, he seemed to have entered on the stage of jesuit history when that strange play of intrigue and suffering and envy and struggle and indignity had been all but given through— (*P* 189)

The sentence ends with two categorical formulae, "a late comer, a tardy spirit" (*P* 189), which sum up and condense all his preceding definitions, as if we had passed to a superior level in scholastic *clarificatio*—all this after only a few minutes of conversation.

Only then can we see Stephen dealing with the Aristotelian "essential definition," probing the person of the priest so as to go back to the origins of his personality and give us what Aristotle calls "the reason why a thing is" and "a kind of demonstration of the subject's essence":

> From what had he set out? Perhaps he had been born and bred among serious dissenters, seeing salvation in Jesus only and abhorring the vain pomps of the establishment. Had he felt the need of an implicit faith amid the welter of sectarianism and the jargon of its turbulent schisms, six principle men, peculiar people, seed and snake baptists, supralapsarian dogmatists? Had he found the true church all of a sudden in winding up to the end like a reel of cotton some finespun line of reasoning upon insufflation or the imposition of hands or the procession of the Holy Ghost? Or had Lord Christ touched him and bidden him follow, like that disciple who had sat at the receipt of custom, as he sat by the door of some zincroofed chapel, yawning and telling over his church pence? (*P* 189)

The series of interrogations might seem to contradict the apparent certainty of the preceding definitions. In fact, each question, by its range and specificity, already outlines and maps the field of Stephen's interrogation with extraordinary precision: more than questions, they are already hypotheses whose validity Stephen is, at it were, testing, ready to pass from the potential to the actual. By dividing the *quaestio* constituted by the person of the priest into a series of sub-questions and branches, these

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questions project a grid on the field to explore and seem already to saturate the *terra incognita* which Stephen is supposed to discover. For Stephen seems to be unable to encounter the world without projecting on it this grid of hypotheses, where the answer is already contained potentially in the question. Cognition is no more a discovery going from the unknown to the known, but the occupation and saturation of a field which is outlined in advance by the preliminary *quaestiones*, just as it was done in the dialectical exercises of ancient manuals.

Each of the hypotheses is like a topic which is itself subdivided into a series of points. Thus we see the figure of the dean being as it were tested—just as in "Clay" Maria gradually chooses her cake by successively eliminating wrong solutions (*D* 102)—gradually detaching itself and defining itself against several potential backgrounds constituted successively by four radical dissenting sects (the "Six-Principle Baptists," the American "Freewill Baptists," the American "Two-Seed-in-the-Spirit Baptists" and the "Hard Shell Baptists"), then by three questions of Catholic doctrine ("insufflation or the imposition of hands or the procession of the Holy Ghost"), and finally by the sudden belief of the disciple in the Gospel of Matthew ("like that disciple who had sat at the receipt of custom").

Each of the three hypotheses opens a different possible way towards faith. The first one offers the choice of an "implicit faith," that is a faith resting on authority without doubt or inquiry, as opposed to the infinite questions opened by the dissenting sects. The second one, on the contrary, imagines the dean's faith as the result of an elaborate "line of reasoning" on theological and liturgical questions. The third one offers one more different way: the sudden answer to the call of Jesus Christ. The personality of the priest is thus the result of an almost diagrammatic construction offering three possible trajectories.

Moreover, each hypothesis is built with extreme precision and pictures a *compositio loci* which sharply contrasts with the supposed vagueness of the figure of the priest confronting Stephen. Cognition becomes a way of comparing and testing the validity of the various competing hypotheses. The supposed uncertainty which is at the origin of each of the long hypotheses is soon cancelled by the precision and vividness of the scenes which are called up in the movement of the sentence, like the image of Christ's disciple sitting "by the door of some zincroofed chapel, yawning and telling over his church pence." The presence of participial clauses at the end of the interrogative sentences ("seeing salvation in Jesus only and abhorring the vain pomps of the establishment"; "yawning and telling

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over his church pence") is in contrast with the pluperfect of the introductory verbs and gives the scenes a vivid coefficient of reality, a sense of presence *hic et nunc*, which tempers and almost contradicts the contingency of the hypotheses.

Here Stephen's questions almost anticipate the catechistic pattern of question–answer to be found in the "Ithaca" episode of *Ulysses*, where the questions often contain many more elements of information than the answers and become more a verification of given data than a quest for knowledge. The only difference is that in *A Portrait* Stephen's various questions are mutually exclusive and would require an answer with "yes" or "no" and a choice from the reader, whereas in "Ithaca," we are one stage further in the cognition process and the answer is just a compartment of knowledge to be extracted from the already known data bank of *Ulysses*. But we are already on the way towards this pure verification process.

Beckett will push this strategy even further with the figure of Watt in the eponymous novel, giving it an almost ontological dimension. Like Stephen, Watt can have a connection with reality only through the always problematic mediation of what he calls a highly elaborate "hypothesis," which will condition the least of his acts implying a relation with his surrounding world:

> For Watt considered, with reason, that he was successful, in this enterprise, when he could evolve, from the meticulous phantoms that beset him, a hypothesis proper to disperse them, as often as this might be found necessary. […] And he considered that he was neither wholly successful, nor wholly unsuccessful, when the hypothesis evolved lost its virtue, after one or two applications, and had to be replaced by another, which in its turn had to be replaced by another, which in due course ceased to be of the least assistance, and so on. (Beckett 77–8)

This mediation, depending on whether it is "successful" or abortive, will condition the very existence of the outside world for Watt as well as his relation to it. This central role of hypothesis as mediation recalls Stephen's need of "an appointed rite" in order to "encounter reality" (*P* 159) during his meeting with the director of the Jesuits, and it is one of the many continuities between Joyce and Beckett.

In the episode with the dean of studies, the material used by Stephen as a starting point in his cognitive approach of the priest through these two

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types of Aristotelian definition is often the words themselves, with their contradictory potentialities.

Thus when Stephen deciphers the face of the dean of studies, he does it with two optical metaphors which encapsulates two opposite hypotheses on the person of the priest: "an unlit lamp or a reflector hung in a false focus" (*P* 187). The lamp and the reflector point here to two opposite relations to the divine light: mediation or reflection. But in both cases the process seems to have gone wrong: the "unlit lamp" shows the priest as having lost the link with the divine light; the "reflector hung in a false focus" makes of him a wrong mediation, a distorting prism, a mediator who wastes or deviates what he is supposed to transmit. These two images crystallize the great question which haunts all the *Dubliners* stories and is summed up by the two successive phases of Father Flynn's trajectory in "The Sisters": from vanished mediation to perverted mediation. The paradox is that with these two images the priest's process of cognition, which Stephen's perception is supposed to gradually gain by observing the priest's face, is already far advanced, in the sense of Frank Budgen's remark about Joyce that "The words he wrote were far advanced in his mind before they found shape on paper" (Budgen 171).

But Stephen's quest for knowledge of the priest does not stop after the statement of this discouraging alternative. Though the riddle of the priest seems to be concentrated in his face, Stephen feels impelled to go beyond this surface, passing again from "nominal definition" to "essential definition": "What lay behind it or within it?" (*P* 187–8). The shift from "behind" to "within" is here crucial. "Behind it" implies a quest going from the manifest to the hidden. Finding what is "behind" depends only on the capacity of the observer Stephen, as if the real nature of the priest were hidden behind the screen of his face. "[W]ithin it" is quite another story: what is then implied is the potentiality contained in this face, and it is not by exploring surfaces that one can discover it: it can only manifest itself through the actualization of what is latent, but still invisible. With "behind," cognition depends on a capacity of observation; with "beyond," it has to deal with potentialities to be actualized. What is here at stake is the nature of the hidden. To go "behind" is to gradually fill a blank square. It recalls the "nominal definition," which assembles the "separate parts" of the object. What is "within" would be closer to the "essential definition."

Here the opacity of the priest's face seems to be concentrated in the word "dull": "A dull torpor of the soul or the dullness of the thundercloud,

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charged with intellection and capable of the gloom of God?" (*P* 188). Again Stephen's meditation is nothing else than the display of the semantic potentialities contained in a word. Indeed the word "dull" has a double orientation, depending on whether the priest is the result or the origin of an absence of light. The first meaning is physical: "Not clear, vivid, or intense; obscure; muffled" (*OED*), corresponding to Stephen's vision of the priest's face as "an unlit lamp." The second meaning is mental: "Not quick in intelligence; obtuse, stupid" (*OED*). But these two meanings may overlap: if "dull" usually refers to inertia and intellectual torpor, it can also, as is sometimes the case in Shakespeare,[1] have the meteorological meaning of "gloomy, overcast," which brings us back to the hidden meaning of a cloud pregnant with future development, so that "the gloom of God" may also connote the obscure night of the mystics, "the gloom of Saint John of the Cross," which Joyce mentions in the 1904 "Portrait" (*PSW* 214). The latency detected by Stephen in the priest's face also appears in the words "charged" and "capable" which point to hidden potentialities. Thus the "dullness" transmitted by perception is deceptive and can become significant only through the mediation of etymological and cultural memory, whether it is "the ear of […] memory" or "the remembering eye" (*P* 226).

Similarly, during this same conversation with the dean of studies the allusion to Epictetus calls up two linked images, that of the lamp, and that of the bucket of water to which Epictetus compared the soul. The two words become the actors of a kind of ballet of sounds in Stephen's mind, "the jingle of the words, bucket and lamp and lamp and bucket" (*P* 187). But when one knows the context in which Epictetus uses the image of the bucket, this "jingle" becomes much more than just a play of sounds and involves two complementary poles:

> Such as is a dish of water, such is the soul. Such as is the ray of light which falls on the water, such are the appearances. When the water is moved, the ray also seems to be moved, yet it is not moved. And when then a man is seized with giddiness, it is not the arts and the virtues which are confounded, but the spirit (the nervous power) on which they are impressed; but if the spirit be restored to its settled state, those things also are restored. (*Discourses of Epictetus*, III, 3, 20–2)

[1] "Is not their climate foggy, raw, and dull,/On whom as in despite the sun looks pale,/ Killing their fruit with frowns?" (William Shakespeare, *Henry V* 3.5.16–18).

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The ray of light is thus what is permanent in our representations, water representing on the contrary the ceaseless modifications of our mind, a fluid, constantly mobile element. The "jingle" produced by the alternation of these two words, "bucket" and "water," enters Stephen's mind like one of these magical childish formulae based on a binary oscillation, of which there are many examples in the first chapters of *A Portrait*: the "green"/"maroon" of the brush (*P* 7, 16); the alternation "Term, vacation; tunnel, out; noise, stop" (*P* 17) when Stephen is in the refectory; the "ever, never" (*P* 133) of eternity in the sermon on Hell. Here this alternation illustrates the two poles between which the priest pathetically tries to order his life: on the one hand, the light, which he tries, without great success, to raise in the fireplace; on the other hand, the world of "buckets," of formless resistant matter, here the "wisps of paper and candle-butts" (*P* 185) and "molten tallow" (*P* 187) which prevent his ascension towards light. Their rhythmical repetition in Stephen's mind condenses the priest's incapacity to escape from this oscillation between divine light and obtuse matter.

Already in *Stephen Hero*, one could see Stephen being the prey of a kind of verbal vertigo in front of this vacillation of language between rival verbal solutions, a vertigo which he calls "his gambling instinct" (*SH* 120). While waiting for various possible translations of the "*Consummatum est*" during the service of Holy Friday, we see him mentally unfolding all the repertory of possible solutions, thus already announcing the serial enumerations of "Ithaca":

> He wagered with himself as to what word the preacher would select. "It is … accomplished" "It is … consummated" "It is … achieved." In the few seconds which intervened between the first part and the second part of the phrase Stephen's mind performed feats of divining agility "It is … finished" "It is … completed" "It is … concluded." At last with a final burst of rhetoric Father Dillon cried out that it was over and the congregation began to pour itself out into the streets. (*SH* 120)

Several times in the last chapter of *A Portrait* this oscillation between words blurs the order of language. For example, the far-reaching implications of Stephen's famous misunderstanding about "funnel" and "tundish" during his conversation with the dean of studies (*P* 188–9) arise simply from the respective etymologies of the two words. Jeri Johnson has examined the ironical implications of Stephen using a more genuinely English

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word than the priest (*A Portrait* 2000, xxxiv), but one may also compare the original meanings of the two words. The word "funnel," which comes from the Latin *fundere*, designates for the priest the receptacle used to pour oil into the lamp. Conversely, the word "tundish," chosen by Stephen, is a specific variety of funnel used, as its name indicates, for large vats (tuns). The word is often printed in two words, "tun-dish," and defined by the *OED* as "fitting into the bung-hole of a tun or cask, forming a kind of funnel used in brewing." By using the word "tundish," which is associated with the transfer of wine, to designate an instrument used to pour oil into a lamp, Stephen makes himself guilty of more than a linguistic error: even though he exclaims in his diary at the end of the novel, after having looked it up in a dictionary, that the word "tundish" is "good old blunt English" (*P* 251), it remains nevertheless that he has confused the pleasures of drinking and the aspiration to light.

One would find the same oscillation in the warnings of the mathematics professor about the possible confusion between "elliptical" and "ellipsoidal" (*P* 191). The distinction goes further than the obscene joke which it occasions on the part of Moynihan. "Elliptical" refers to a flat figure, "ellipsoidal" to a solid, the ellipsoid being "[a] solid generated by the revolution of an ellipse round one of its axes" (*OED*). The oscillation between plane and solid announces the alternate movements of Stephen's eye in the "Proteus" episode of *Ulysses* between flat vision and vision in perspective ("Flat I see, then think distance, near, far," *U* 3.418–19). More significantly, the ellipse is a cross section, whereas the ellipsoid, like every moment in Stephen's life, is only a static projection of a dynamic trajectory, or, as we are told at the beginning of the 1904 "Portrait," "a fluid succession of presents, the development of an entity of which our actual present is a phase only" (*PSW* 211). This "revolution" frozen into succession makes all the difference between linear logic and dialogical debate, or between nominal and essential definition, and would be a fine image of Stephen's mental drama.

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Joycean Text/Empathic Reader: A Modest Contribution to Literary Neuroaesthetics

Pierre-Louis Patoine

It is not necessary to invoke the obvious biographical reasons (his drifting in and out of medical school, his hanging out with medical students, his ocular health condition, his daughter's mental illness) to discuss how Joyce's writing exhibits tropism toward medicine and physiology. The body and the discourses that surround and shape its health and sickness, its pain, hunger, lust, or sleep happen on every page of Joyce's *oeuvre*. Through its playful mastery of language, it mobilizes the bodily as a site of encounter between the mental and the physical, the poetical and the pathological. Even on an explicit thematic level, Joyce's work is concerned with physiology, and this as early as *A Portrait of the Artist as a Young Man*. In this *Bildungsroman*, the young hero, Stephen Dedalus, is torn between his libidinal urges and the interiorized rules of teenage chastity. As Vike Martina Plock convincingly demonstrates in *Joyce, Medecine and Modernity* (45), medico-moral discourses such as anti-masturbation propaganda, which prevailed at the turn of the twentieth century, determine Stephen's experience of the bodily. They constrain his sensuous energies and desires and will weigh on the elaboration of his aesthetic theory

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_10

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towards the end of the novel. As we will see, the tension between desiring physiology and poetical and moral control, unique in its directness and compactness in Joyce's corpus, informs the textual event, the momentary co-construction of reader and text.

In *Physiology and the Literary Imagination*, John Gordon (156) suggests that Joyce's first novel registers cycles of excitation as Stephen Dedalus passes through physiological phases of intensification, climax, and crash. Through these cycles, the reader follows Stephen's spiritual and philosophical maturing, a maturing fuelled by a series of sensuous experiences that punctuate the narrative and solicit the reader's empathic, sensorimotor body. How does Joyce's modern *Bildungsroman* perform such solicitation? I will explore this question through the elaboration of a neuroaesthetic model of reading as an embodied, interpretive performance that relies on neural simulation to produce an in-between body, half-reader half-text, half-physiological half-fictional. This biosemiotic body is an interface allowing poetic innovation to generate new sensorimotor experiences, to reorganize the reader's semantic somatotopy, the map of his lived body.

In his own time, Joyce contemplated psychophysiological theories and "came to think of thought as an elementally somatic process" (Gordon 148) and as "inner physics—as changes discharging in certain patterns according to determined physicalist laws and discernible physical influence" (Gordon 166). It is through an examination of these "physics of the mind," our contemporary neurosciences, that I would like to discuss the reshaping of sensorimotor experience by Joyce's text. I shall consider that such reshaping is achieved through empathic reading, a notion rooted in the original sense of the term "empathy," coined in 1909 by the Anglo-American psychologist Edward Titchener as a translation of the German *Einfühlung*. As the Victorian writer and thinker Vernon Lee explains in her aesthetic treaty *Beauty and Ugliness*, the concept of *Einfühlung* comes from the German philosopher Robert Vischer's work, itself inspired by Lotze's mid-nineteenth century *Microcosmus* and decisively developed, decades later, by Theodor Lipps. The *Einfühlung*, in the formulation of these four authors, describes our imitative and projective relationship with natural, architectural or pictorial forms: Vischer, for example, suggests we perceive the volume of a vast hall through a sensation of expansion (Mallgrave 78). The concept of empathy, invented to avoid the older idea of "sympathy," prolongs that of *Einfühlung* and thus can be seen as a sensorimotor resonance with perceived shapes. I will

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argue that our experience of literary fiction is no stranger to such resonance. The empathic reader embodies the sensorimotor forms presented by the text, as the empathic spectator cringes in front of a painful movie scene and shares the pain of a character breaking her leg or burning her hand on the screen. Of course, such mirroring will not happen in any circumstances and with any text. Unsurprisingly, many factors—which we will briefly discuss below—determine the intensity of our simulative, somatosensory experience of fiction.

How are those factors played out in *A Portrait of the Artist as a Young Man*? Do they create favourable conditions for empathic reading? As I will propose in the last part of this article, in a number of key narrative moments Joyce's text reaches out to the reader's feeling body with strong sensational images. But *A Portrait* goes beyond this simple solicitation, integrating the sensational images and the bodily responses they provoke in a complex aesthetic composition that transcends their mere shock value. Understanding such integration demands a discussion of the basic conditions of possibility of empathic reading, conditions which I will explain using neuropsychological theories of sensation, cognition, and consciousness.

If reading practices have gained, in the last decades of the twentieth century, some recognition within literary studies though reader-response criticism, few scholars have considered physiology as a determining factor in literary interpretation (notable exceptions are found in Richard Gerrig and David Miall's pioneering work). For most reader-oriented critics (Iser, Jauss, Barthes, Eco, Fish), meaning is first and foremost a social, historical, linguistic, or contextual matter, and interpretation, a rational, disembodied, cognitive activity. Similarly, the fascinating work done in the emerging field of cognitive criticism during the last twenty years (Carroll, Crane, Hart, Palmer, Richardson and Steen, Schank, Spolsky, Turner, Zunshine) has largely ignored the role of the body, focusing, as David Miall acknowledges (Miall 2006, 41), on information over sensation. More generally, most literary theories developed during the twentieth century (formalism, New Criticism, structuralism, genetic criticism, deconstruction, gender and post-colonial studies…) do not consider the role of the biological stratum in meaning-making and literary reading. However, the programmatic approach of Wolfgang Iser in his now classic *The Act of Reading* has paved the way to the study of the neurophysiological underpinnings of reading. Indeed, for Iser, reading "sets in motion a whole chain of activities that depends both on the text and on the exercise of certain basic

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human faculties" (ix). My goal here is to shed light not only on Joyce's text, but also on some of these basic human faculties, by escaping the typical disinterest of literary studies for empirical science (well articulated by Brian Boyd in "Literature and Evolution") and by delving into a number of studies on embodied cognition, neural simulation, and empathy. But before taking this step, I would like to discuss the crucial epistemological issue of the relationship between the humanities and neurology.

Debating the Neurohumanities

Neuroimaging techniques have undergone a tremendous development since the 1970s, progressively making visible aspects of the intentional domain traditionally reserved to the humanities. In the long run, this broadening of the visible by neuroimaging will certainly have deep consequences, as it has been the case with the telescope, the microscope, or with photography. These technologies, by allowing us to see what was previously invisible, have caused significant epistemic revolutions, and neuroimaging will likely do the same. Among other things, it may force us to redefine the traditional separation of natural and human sciences.

Of course, by no means does such visibility imply that the neurosciences can or should replace the humanities, or that complex social and cultural behaviours can ever be reduced to a brain structure that would be prewired or, worse, unchangeable. That kind of reductionist pop-neurology, for which a simple brain scan constitutes a satisfying and conclusive answer, is certainly dangerous and has caused many humanities scholars to reject everything neurological as purely materialistic, as oversimplifying and as justifying conservative, deterministic models of an unquestioned "human nature." However, with such broad ranging and generously funded programmes as the Obama administration's 2014 BRAIN initiative (Brain Research through Advancing Innovative Neurotechnologies), it would be surprising to see a decline in the popularity of neurology. By refusing to acknowledge this scientific zeitgeist, the humanities may lose an opportunity of contributing to debates launched by the neurosciences. It is thus essential that some humanities scholars engage with neurological data and show how it can be used in rigorous, nuanced, and progressive ways.

Though they can be made to serve a variety of ideologies, the neurosciences are not, in themselves, deterministic nor are they intrinsically reductionist. The ideas of contemporary neuroscientists like Alain Berthoz,

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Jean-Pierre Changeux, Antonio Damasio, Stanislas Dehaene, Gerald Edelman, Vittorio Gallese, or V. S. Ramachandran are, in fact, surprisingly close to many postmodern theories celebrating plasticity, interaction, complexity, relativity, heterogeneity, circulation, instability, bricolage, and performativity. In the work of most neuroscientists, the brain does not appear as a stable natural given, but as a highly complex, always changing structure that is concomitant to both its physical and cultural environment.

Such affinity between the contemporary neurosciences and critical theory does not mean, however, that we can use the former as an ornament. Sokal and Bricmont's famous hoax has warned us against such careless use of scientific knowledge. Neuroimaging studies should not serve as simple illustration for pre-existing theories. On the contrary, neurological data is at its most productive when it resists our theories and models, forcing us to re-evaluate our assumptions. In that sense, working with empirical sciences is much like working with literary texts: they constantly lead you where you did not intend to go, and they invite you, sometimes quite insistently, to redefine your starting hypothesis.

If the unexpected lines of thought opened up by the neurohumanities are heuristically productive, this productivity is not neutral: it orients investigations toward the physiological body, facilitating the conceiving of meaning-making and interpretation as embodied performance. In this sense, the use of neurology does not lead to a cold, scientist view of literature. Quite the opposite: it helps us to understand our relationship to literary fiction as being not only of the order of rationality, but also of sensuous experience. Bringing neurology in the mix of literary theory thus facilitates the emergence of an "erotics of arts," which Susan Sontag (14) favoured over the hermeneutic approach and its logocentric conquest of the text.

This hermeneutic approach, and its privileged position in the academic world, poses a problem to the study of empathic reading as it promotes reading habits that tend to neutralize the involvement of the reader's body in the text. The focus on understanding which characterizes the practice of literary analysis tends to create a rationalizing distance between reader and text, a distance which mitigates fictional immersion, making it harder for the reader to let herself be affected. Hermeneutic and critical readings aim at producing coherent interpretations that integrate textual elements in an organic whole, bringing order to chaotic complexity through abstraction and formalization. On the contrary,

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empathic reading must be concrete, a discipline of singularity and ephemeral experience where the reader must not control the text but let himself be controlled by it. Hence, hermeneutics preclude empathic reading, and by doing so, tend to exclude sensational texts from the academic canon. Indeed, theories and practices privileging understanding over feeling valorize texts that are cognitively challenging, and may fail to recognize the value of works which overwhelm with sensuous power (see Linda Williams' analysis of the low cultural status of horror films, pornography, and melodrama).

Such a vicious circle reveals why empathic reading tends to fade in a traditional literary studies context, where interpretation is too often "a revenge of intellect upon art," to use Sontag's famous words again (7). For this reason, we should consider empathic reading not only as an empirical phenomenon in need of explaining, but also as a sensualist technique in need of developing. In this sense, this paper is simultaneously descriptive and prescriptive, seeking to devise ways of reading that would intensify our embodied experience of literary fiction. Such a project does not seek to disparage the promotion of critical reading (much needed amongst our students!) but to reconcile it with an embodied, sensuous approach. It invites us to redefine what we learn and teach to be expert reading, that is, an industrious reading aimed at intellectual productivity. Empathic reading is no less an expertise. It is a discipline requiring a capacity to be affected (see Deleuze's analysis of Spinoza's concept of affection, 65) that can be developed and trained, or inhibited and repressed. These are some implications of the neuroaesthetic model of empathic reading, which we will now consider directly, before turning our attention to Joyce's novel.

The Neuroaesthetic Model of Empathic Reading

Empathic reading would not be possible if sensorimotor experience depended entirely on stimulus. We tend to conceive of sensation as a direct consequence of specific stimuli: a punch in the face will result in a number of tactile, somatic sensations. However, the link between punch and sensation is not unmediated, and depending on my mental state, on habits and desires, on previous experiences, and on expectations, the resulting experience can greatly vary (a first tattoo does not feel like a tenth, the neophyte tasting wine does not share the full gustative experience of the oenologist). But not only is sensorimotor experience modulated by cognitive and

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affective parameters, it can also manifest itself in consciousness in the absence of external stimuli: in dreams, for example, or in less common phenomena like hallucinations or phantom pain. Empathic reading is also a case of sensory experience without physical stimuli; readers resonating with the somatic sensations described by a text generate some sort of phantom body.

If empathic reading and phantom sensations cannot be simply equated, research on phantom pain provides a theory of sensation that sheds light on the embodied experience of literary fiction. The work of neuropsychologist Ronald Melzack is of particular interest here. Indeed, decades of research with amputees feeling fatigue and strain from uncontrollable repetitive movements of their absent limbs has led Melzack and his colleague Joel Katz to develop a model of consciousness based on the fact that feelings like pain are experienced in the absence of inputs from the body. From this observation, they conclude that "the origins of the patterns that underlie the qualities of experience lie in neural networks in the brain; stimuli may trigger the patterns but do not produce them" (21). In other words, for Melzack and Katz, bodily experience is generated by the central nervous system. Happily for us, this experience is modulated by external inputs, allowing us to successfully navigate the physical world. These inputs, however, are not a necessary condition of sensorimotor experience, which can be produced autonomously by the brain or, in other words, neurally simulated.

Simulation is central to the neuroaesthetic model of empathic reading. Damasio's work on as-if body loops (100) and the parallel discovery of mirror neurons in the 1990s (Fadiga et al.; Decety et al.; Rizzolatti, Fogassi, and Gallese; Umiltà et al.) have acquainted us with the concept of simulation and we now know, for example, that eating, watching someone eat, visualizing yourself eating, or reading a description of someone eating will—in part—activate the same neuromotor patterns.

Saying this, however, is not saying much and it is interesting to note that such activation is modulated by learning, action habits, and motor memory: it is biographical. For example, a study by Calvo-Merino and colleagues observed that dancers' mirror neurons would show a more consistent activation in front of familiar dance movements than those of non-dancers (familiarity is also behind the sensorimotor simulation of object-use action patterns triggered by the mere visual perception of the object; see, for tools, Grafton et al.; for fruits, vegetables, and clothes, Gerlach, Law, and Paulson; for utensils, Tucker and Ellis).

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But direct perception of physical bodies is not the only ground for neural simulation. In 2006, Aziz-Zadeh, Wilson, Rizzolatti, and Iacoboni observed a similar neural activation when subjects would look at hand, mouth, or feet action and when reading sentences describing these actions ("biting the banana," "grasping the pen," "pressing the car brake"). Similar results were found in studies on language processing by Hauk, Johnsrude, and Pulvermüller, and by Boulenger, Hauk, and Pulvermüller. The groundbreaking work of psychologists such as Lawrence Barsalou, or Rolf Zwaan and Lawrence Taylor, also suggest that language comprehension and concept manipulation are embodied, simulative processes. Here again, personal history may influence the intensity of neural simulation. A study by Holt and Beilock suggests that, when reading sentences describing actions specific to hockey or football, hockey and football players would produce more neuromotor simulations than readers who do not possess a practical expertise in the sport. In a similar way, would a reader's familiarity with actual "pandybats" modulate her experience of *A Portrait*'s description of Stephen's punishment in Chap. 1? Fictional, simulated experience is informed by one's biography (and through it, by local culture and practices). Playing with this biographical determination, a literary text can be sensorimotorily conservative, exploiting actions and sensations that are familiar to the reader (realism often relies on such operations), or innovative, trying to recombine familiar sensorimotor sequences to produce new experiences (modernist techniques can produce this type of effects).

We have passed, with the example of the pandybat, from a discussion of action to one of sensation, domains which are structured by different rules. The law of simulation, however, applies to both: sensations perceived in others can also trigger neural mirroring. The empathic sharing of pain is especially well documented. For example, Tania Singer and colleagues have shown how looking at a hand in a painful situation activates the pain matrix in the observer's brain. Similar results can be found in numerous other studies (Morrison et al.; Jackson, Meltzoff, and Decety; Jackson, Rainville, and Decety; Avenanti et al.; Ogino et al.). It is worth noting that Singer and her team later demonstrated that this empathic sharing of the other's pain is modulated by perceived fairness: dis-affiliative judgements of unfairness or deceptiveness inhibit the empathic simulation of pain. A similar phenomenon has been observed concerning touch and political or ethnic affiliation (Serino, Giovagnoli, and Làdavas). Can similar socioaffective judgements influence the reader's empathic simulation of

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textual and fictional sensations? Embracing or rejecting the modern innovations of *A Portrait*, feeling sympathy or contempt for Stephen Dedalus, relating with aspects of Joyce's life and trajectory... these higher-level cognitive and affective stances, as one's sensorimotor biography, appear as parameters of empathic reading.

We could sum up these cognitive and affective stances under the (overly) general term of sympathy. But how can we distinguish empathy from sympathy, and why does it matter for us? We have touched upon this distinction earlier, as the source of Titchener's need to invent the term "empathy." In these last years, literary scholar Suzanne Keen, working on empathy and the novel, has exemplified the difference like this: in empathy, "I feel your pain," in sympathy, "I feel compassion for your pain" (5). On the one hand, we have an embodied mimicry of a perceived sensation ("I feel your pain"), on the other hand, a positive affective and cognitive positioning based on the same perception ("I feel compassion for your pain"). As philosopher Luc Faucher (204) explains, sympathy is thus characterized by cognitive and affective asymmetry, while empathy is a mirror-like relationship, symmetrical and imitative. Another way of distinguishing empathy and sympathy is proposed by literary scholar David Miall (Miall 2009, 109): sympathy is egocentric (feeling compassion for someone's pain maintains the subject in its own perspective), while empathy is allocentric (ego-consciousness is decentred and shares an extraneous point of view or, as neurologist Alain Berthoz would say, an extraneous "point of feeling").

Indeed, readerly empathy allows the adoption of a character's "point of feeling," a process which does not necessarily imply feeling sympathy for such a character. In *Why Do We Read Fiction?* Lisa Zunshine reaches this conclusion while discussing Samuel Richardson's *Clarissa*: "contrary to what we often assume, seeing the world through another's eyes does not necessarily translate [...] into feeling compassion for that person" (98). It is thus entirely possible to enter the various points of feeling organizing a narrative without taking sympathetic, affiliative stances toward its characters and its voices. In *A Portrait*, a reader can keep a critical distance with Stephen's character while still embodying, neurally simulating the sensorimotor texturing of Joyce's writing. This being said, and as Singer's and Serino's studies suggest, egocentric judgements and asymmetrical feelings can enhance or temper empathic resonance and mimicry of perceived sensations and actions.

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Biography, affiliative positioning, and sympathy are not the only factors in the empathic reproduction of perceived or imagined sensation. A fascinating study by Gu and Han showed that assessing the level of pain described by a sentence activated the reader's pain neural networks, an activation that disappeared if the reader was asked to count the characters forming the sentence instead of assessing the level of represented pain. This study shows how embodied simulation depends on the reader's attention to the sensory aspects of the text. Attention is, without a doubt, a crucial aspect of empathic reading. Indeed, a text can prevent embodied simulations by drawing the readers' attention to a spectacular style, a clever narrative structure, or some deep metaphysical meditations accompanying and overcoming the sensational power of its images. This may be the case, for example, during the sermon on eternal damnation in Chap. 3 of *A Portrait*, where the reader's attention might balance between terrible but fantastical somesthetic images and more abstract considerations on religion and Irish catholic culture. More generally, Gu and Han's study suggests that a text focusing the reader's attention on its material surface ("counting characters") will dampen the simulation of sensory content. Thus, a reader unfamiliar or destabilized by the modernist techniques prevalent in, for example, *Finnegans Wake*, will certainly allocate most cognitive resources to decoding the complex surface of the text (an operation involving empathic resonance with its textural and rhythmical levels) and refrain from consistently simulating its represented sensory content. On the contrary, simulated sensations can be intensified by a number of textual strategies. I will now discuss how *A Portrait of the Artist as a Young Man* marks some of its important narrative transitions by momentarily facilitating the empathic simulation of sensorimotor experiences and the adoption of Stephen's "point of feeling."

A Portrait of the Artist as a Young Man: A Case Study

Empathic reading plays a crucial role in our experience of Joyce's *Bildungsroman*, which is punctuated by episodes of intense sensoriality. The punctuative role of sensation within the narrative composition of the novel appears from Chap. 1, when Stephen Dedalus is still a child: the chapter climaxes with Stephen being physically punished by the prefect. This intense bodily experience brings the chapter to its close by inciting

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Stephen to complain to the rector, thus taking a decisive step toward the world of adults, responsibility, and public life. In *A Portrait*, narrative turning points are thus regularly launched by strong sensations and their solicitation of the reader's empathic, simulative body: Stephen's nightmarish daydream after the sermon in Chap. 3 (137–8), his re-experiencing of sensations linked to his old school, after the director offers him to join the Holy Orders in Chap. 4 (160–1), or his walk on the beach where he will see the "seabird-girl," also in Chap. 4 (171). These episodes, however, fail to match the sensational efficacy of the punishment scene. Why? How does it succeed in generating empathic involvement and in circumventing what Elaine Scarry identifies as the lexical insufficiencies inherent to the verbal description of pain?

As we have seen, attentional states can enhance or dampen empathic resonance (Gu and Han). A few pages before the punishment scene, *A Portrait* orients our attention toward specific forms of sensation, preparing us to share Stephen's pain by plunging us in a carefully designed tactile and sonic environment, Clongowes playground: "[a]nd from here and from there came the sounds of the cricketbats through the soft grey air. They said: pick, pack, pock, puck: little drops of water in a fountain slowly falling in the brimming bowl" (*P* 41). Here, the aspects of spatial positioning and directionality ("[a]nd from here and from there"), percussive sound ("pick, pack, pock, puck") and soft tactility ("soft grey air") combine to sensitize the reader's simulative body, readying it to associate sound and somesthetic feelings like touch and pain. Rhythm and intensity also modulate our experience through Stephen's myopic perception (his glasses are broken) of his surroundings: "[t]he air was very silent and you could hear the cricketbats but more slowly than before: pick, pock" (*P* 44). Such is the sensory landscape we are simulating as Stephen's "fellows" discuss the latest affair, which also involves feeling bodies: students having been caught "smugging" have run away or are expected to be flogged. Stephen muses upon such punishment, again activating our somatic imagination and sharpening our ability to be affected by the coming scene:

> In the silence of the soft grey air he heard the cricketbats from here and from there: pock. That was a sound to hear but if you were hit then you would feel a pain. The pandybat made a sound too but not like that. The fellows said it was made of whalebone and leather with lead inside: and he wondered what was the pain like. There were different kinds of pains for all the different kinds of sounds. A long thin cane would have a high whistling sound and he wondered what was the pain like. (*P* 45)

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Here, the text activates a number of sensorimotor representations that will come back in the punishment scene (the sound of the cricket/pandybats, the heaviness of the pandybat), priming their embodied simulation. Interestingly, in this passage as in the shorter quotes above, somatic and nociceptive (related to the perception of pain) sensibility is shaped through sound, a part of the sensorium that can be directly conveyed through text (using onomatopoeia), contrarily to bodily sensations. This strategy appears in the first sentence, which reinforces the association of silence and softness ("in the silence of the soft grey air") established earlier, before disrupting it with the onomatopoeic sound of the cricket bats ("pock"). By breaking the silence, this "pock" also disrupts its associated softness, thus gaining a tactile quality that is exploited in the next sentences. The text now explicitly leads the reader from sound to pain ("[t]hat was a sound to hear but if you were hit then you would feel a pain"), obeying a synesthetic tendency that pervades the novel. In the third sentence of this passage, the text attributes the sound-pain assemblage to the pandybat, whose sound is compared to that of the cricket bat, and then whose materiality, solidity and heaviness are described ("whalebone and leather with lead inside"), bringing back the question of pain ("he wondered what was the pain like"). Thus, after being invited to imagine the sound of the pandybat, the reader is called to conceive of its physical properties, which will help to imagine what the pain would be like. This complex motif is then repeated with another instrument of punishment, the "long thin cane" with its "high whistling sound" and its associated pain (*P* 45). To sum it up, the repetitive linkage of sound and pain in this scene gives the reader the imaginary tools to anticipate the approaching sensational event; it sensitizes the reader's body, putting him in a state of nociceptive vigilance.

This nociceptive vigilance will find its first object four pages later, when the prefect hits Stephen's schoolmate's hands with the pandybat ("[t]he pandybat came down on it with a loud smacking sound: one, two, three, four, five, six," *P* 49). The scene is quick and the pain is only shown through the schoolmate's face and posture ("Fleming knelt down squeezing his hands under his armpits, his face contorted with pain," *P* 49), the true sensational intensity being kept for later. However, the synesthetic combination of pain and sound is here again put to work: Stephen supposes Fleming might be in great pain "for the noise of the pandies was terrible" (*P* 49), a rhythmical noise which echoes the earlier "pick, pack, pock, puck" of the cricket bats. The terrible sound of the pandybat has Stephen's heart "beating and fluttering" (*P* 49), it puts him in a state of

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stress and physiological arousal, a state shared by the immersed, primed reader who has heard the "loud smacking sound" of the pandybat one, two, three, four, five, six times.

The passages mentioned above prepare the empathic reception of Stephen's own punishment, which comes a few lines later:

> Stephen closed his eyes and held out in the air his trembling hand with the palm upwards. He felt the prefect of studies touch it for a moment at the fingers to straighten it and then the swish of the sleeve of the soutane as the pandybat was lifted to strike. A hot burning stinging tingling blow like the loud crack of a broken stick made his trembling hand crumple together like a leaf in the fire: and at the sound and the pain scalding tears were driven into his eyes. His whole body was shaking with fright, his arm was shaking and his crumpled burning livid hand shook like a loose leaf in the air. A cry sprang to his lips, a prayer to be let off. But though the tears scalded his eyes and his limbs quivered with pain and fright he held back the hot tears and the cry that scalded his throat.
>
> —Other hand! shouted the prefect of studies.
>
> Stephen drew back his maimed and quivering right arm and held out his left hand. The soutane sleeve swished again as the pandybat was lifted and a loud crashing sound and a fierce maddening tingling burning pain made his hand shrink together with the palms and fingers in a livid quivering mass. (*P* 50–1)

Here again, sound and tactility are combined to facilitate the imaginative, embodied participation of the reader in the text. The swish of the soutane's sleeve, repeated twice, becomes a sign of pain, as the "loud crashing sound" of the pandybat. It is "at the sound and the pain" that Stephen's eyes fill with tears. In this synesthetic configuration, Stephen becomes a receptive subject overwhelmed by the intensity of feeling, and the reader is invited to share his state through the sonorous text. This empathic sharing of the painful experience is moreover facilitated by it being described both in its sensory specificity ("hot burning stinging tingling blow," "fierce […] tingling burning pain") and in its affective dimension ("[h]is whole body was shaking with fright," "maddening […] pain"). These two distinct dimensions (see Singer et al. for details on this distinction), fuel each other to facilitate the building of a sensational form by the reader, a form shaped by images of the effect of pain on Stephen's body: the trembling hand, crumpled like a leaf in the fire, the scalding tears driven into his eyes, and so on. These metaphoric and literal images

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of bodily vulnerability and painful heat attract the reader's attention to the pain, reconfiguring his somatic memories and affective representations into a fictional experience which is simultaneously his and Stephen's, embodied and textual. In short, this passage calls to the empathic reader, a call all the more compelling because the described sensation is familiar to many: even clapping provides a weak version of it. As we have seen with studies such as Serino et al.'s (2009), such familiarity is an important aspect of internal simulation, a simulation which can easily be experienced as vivid because its site, the hand, is so richly innervated and well represented on the cortical level (think Penfield's motor homunculus). Finally, sympathy for the unfairly punished Stephen can enhance somesthesic resonance, a point discussed earlier, notably through Singer et al.'s (2006) study on empathy for pain.

Revealingly, the opening chapter of *A Portrait* culminates with this painful, impactful scene, and ends with the resolution of the narrative tension its sensational intensity has created. As I mentioned before, sensations are often used in this way in the novel, to energize the fabula and bring the narrative into crisis. In this sense, sensory images constitute an almost autonomous force in *A Portrait*, a force capable of overcoming intellect and will, like when Stephen visits Cork's Queen's College with his dad and is possessed by his own imaginings: "[h]is recent monstrous reveries came thronging into his memory. They too had sprung up before him, suddenly and furiously, out of mere words. He had soon given in to them and allowed them to sweep across and abase his intellect…" (90). Here, the link between images and words is made explicit: the monstrous reveries have sprung out of mere words, neuronal simulations triggered by sentences. Words have the capacity to produce intense images which can "sweep across and abase" the intellect if we allow them, overcoming the inhibitions which normally cut off simulations from consciousness. If words wield such wondrous power, it must be possible to harness it and to use them to play with reveries, with images and fictional experiences, with embodied memories and somatosensory forms. This is what Stephen learns in *A Portrait*, shifting from a passive relationship to words, sounds and sensations (giving in to them at Queen's College), to an active mastery of poetry that allows him to manipulate language in its musicality and rhythm, but also in its fictional and representational aspects.

In a way, this poetic mastery is presented as a manner to equilibrate the work of art, to save the literary text from the hallucinatory shock of sensational images, and to integrate empathic reading in a complex aesthetic

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experience. The tension between the hallucinatory quality of our experience of fiction and the pleasure of playing with the materiality of language defines the role of empathic reading in *A Portrait*. This tension is clearly articulated when Stephen leaves religion behind him, refusing to become a priest, and reclaims poetic experimentation:

> —A day of dappled seaborne clouds.
>
> The phrase and the day and the scene harmonized in a chord. Words. Was it their colours? He allowed them to glow and fade, hue after hue: sunrise gold, the russet and green of apple orchards, azure of waves, the grey-fringed fleece of clouds. No, it was not their colours: it was the poise and balance of the period itself. Did he then love the rhythmic rise and fall of words better than their associations of legend and colour? (*P* 166)

In this passage, the young poet recognizes his love for rhythm and syntax, for the organized poise and balance of the period. Opposed to this dimension, but obviously complementary—at least it is given as much space in the text—is the "associations of legend and colour," the language and its marvellous referentiality. One of the strengths of the novel resides in the constant interaction between these two dimensions: sounds and sensational images, syntax and semantics. From the first pages, poeticality and bodily sensations are linked when Stephen compares the warm pleasure of seeing lights in the castle at night with reading sentences from Doctor Cornwell's Spelling Book (*P* 10), juxtaposing the poetic form of the sentences with an appealing sensory state. This kind of juxtaposition, between sensation and verbal form (between pain and the onomatopoetic "pick, pack, pock, puck" for example, as we have seen), is common in the novel, and the constant oscillation between the pleasure of sound and that of sensation will eventually mature into an aesthetic theory which Stephen explains to his friend Lynch toward the end of the novel. His theory defines the aesthetic emotion as static, as a sensation purified from the push and pull of desire and loathing. Indeed, for Stephen:

> The feelings excited by improper art are kinetic, desire or loathing. Desire urges us to possess, to go to something; loathing urges us to abandon, to go from something. These are kinetic emotions. The arts which excite them, pornographical or didactic, are therefore improper arts. The esthetic emotion (I use the general term) is therefore static. The mind is arrested and raised above desire and loathing. (*P* 205)

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According to this ideal model, the warmth of the fire at night, the colours of the world ("sunrise gold," "russet and green") or the pain of the pandybat punishment—sensations which are intrinsically motivational—should be used in a complex artistic composition which is able to suspend their power to move us. Such composition, notably through tone, linguistic rhythm and musicality, can modulate the reader's state of consciousness, orient her attention, relax or activate her physiological and internally articulating body, and can thus create a mood, a state of consciousness that is favourable (or not) to specific contents of consciousness, to embodied simulations and empathic reading. Poetic language can create a tension between an empathic, sensational content of consciousness ("legend and colour") that would be kinetic or motivational in nature, and a kind of static, non-representational feeling that would be aesthetic, and could be defined as a state of consciousness (influenced by the "rise and fall of words"). We find such tension instantiated in the famous villanelle passage, which is, according to Gordon:

> Joyce's way of demonstrating both how the body and embodied mind are coextensive with outside elements and how they are subject to the same combinatorial principles that govern language—atomistic letters combining into molecular words, and so on—and the mutations of the world that language describes. (Gordon 2003, 185)

Indeed, at the end of the novel, Stephen has acquired a certain poetic mastership, and seems able to create an aesthetic feeling, nourished by bodily sensations and "mutations of the world" but not purely sensational in its effect because it is stabilized, rendered "static," by the syntactical, combinatorial principles of poetical rhythms.

In the villanelle passage, our young hero wakes up, filled both with vital energy (after a wet dream ejaculation) and poetic inspiration, and succeeds in combining the musicality of language with the vividness of sensation: "[t]he verses passed from his mind to his lips and, murmuring them over, he felt the rhythmic movement of a villanelle pass through them. The roselike glow sent forth its rays of rhyme; ways, days, blaze, praise, raise" (*P* 217–18). Constrained by Victorian morals (and its anti-masturbation propaganda), Stephen's sensuous desires are canalized through poetic form, and, in accordance with his aesthetic theory, it is this form which provokes the reader's empathic response. Here, literary composition, using alliterative musicality to envelop semantic and figurative content, keeps the empathic reader suspended between an attractive sensuous

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experience and attention to form, to the composition itself. The rays of the rising sun and those of poetic inspiration and appreciation are united in a verbal form, a rhythmic enumeration. Sound and legend work together, calling mind and body to undergo a poetic re-configuration of thought and sensation. Even though this passage can be interpreted as a failure of the adolescent poet to evolve, with its lack of sonic development and its repetitive structure (Plock 2010, 65), it seems to me that its stability allows the realization of both an empathic, simulative reading and a more cognitive, aesthetic appraisal.

It is thus that, from the visual to the articulatory, from the rhythmic to the affective, and from the somatic to the spiritual, the poetic maturing of Stephen Dedalus invites us to walk the roads leading from mind to body and from body to mind. In *A Portrait of the Artist as a Young Man*, the reader's empathic, physiological body is involved in the interpretive performance by the constant entangling of the sensational with the verbal and by the use of synesthetic strategies that successfully convey the somatic through the sonorous. The accumulation, repetition, and variation of specific sensations along the novel's narrative sensitizes the reader, producing a hybrid body, half-reader half-text, half somatic memories half Joycean style, a simulated body which is able to explore new sensorimotor configurations. This is how poetic language redefines the reader's semantic somatotopy, the map of his lived body, a process which, I hoped to have shown, can be partly understood through a neuroaesthetic approach to empathic reading.

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Configuring Cognitive Architecture: Mind-Reading and Meta-Representations in *Ulysses*

Lizzy Welby

> *… atheists […] go howling for the priest and they dying and why why because theyre afraid of hell […] I know them well who was the first person in the universe […] they dont know neither do I so there you are… (U 18.1566–71)*

So says Molly Bloom in her eight-sentence soliloquy in the closing chapter of James Joyce's *Ulysses*—a text that leaves a trail of confused readers and eager scholars in its densely-written, pun-strewn, Homeric myth-referenced wake. Contemporary critics seemed divided as to exactly what type of book it was.[1] Hugh Kenner notes that readers found *Ulysses* to be "not a mirror of Homer, not a story at all, but something as featureless as

[1] T. S. Eliot saw the fusion of the classical with the modern as Joyce's way of "controlling, of ordering, of giving a shape and a significance to the immense panorama of futility and anarchy" of the modern condition (Eliot 177–8). Ezra Pound thought the Homeric echoes as merely an *affaire de cuisine* (Kenner 2).

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_11

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a telephone directory" (Kenner 2). Perhaps those early readers were flagging up the perceived "difficulty" of Joyce's novel, in that it isn't a novel at all, or at least not a novel that we can recognize as such. Hugh Kenner argues that if we "expect novels to keep narrative, dialogue, comment and reverie rhetorically and typographically" then *Ulysses* becomes nigh on unfathomable (Kenner 3). To read it, to really find our bearings in Joyce's literary landscape, we have to throw out almost all of our critical compasses and ignore traditional signposts of narrative technique, structure, and style. Molly's unpunctuated monologue that concludes the book encourages readers to re-write the narrative map, as it were. To look again at the quotation that opened this study one is tasked with deciphering meaning within this ragged fragment of syntax, which becomes more problematic with the absence of punctuation. If, however, we discard the punctuational guides and concentrate on the linguistic construction of the stream-of-consciousness narrative, which falls within the framework of a Chomskean notion of generative grammar,[2] we are able to find a path through Joyce's labyrinthine text. We are able to understand who "knows" the inner workings of atheists' minds at the point of death and we can do this with relative ease. With so much ease, in fact, that we hardly register it in the never-ending influx of cross-referenced data that zips through the computational architecture of our sophisticated hominid minds.[3] Stripping away the kaleidoscopic referential data with which the author has stuffed the text, we are able to bypass the structural complexity of this monolithic edifice of modernism. Leo Bersani argues that Joyce "wastes no time in encouraging us to find the novel more complicated, more devious, than it actually is" (Bersani 151). Analysing *Ulysses* within the framework of cognitive neuroscience, we can deftly sidestep the elaborate staccato discontinuities

[2] Noam Chomsky argued that the formation of grammatically well-constructed sentences in one's native language is reliant on a set of internalized represented rules that are not memory-based. This, Chomsky argues, is a particular feature of human communication and is not found in any other species. For a more detailed explanation, see Chomsky.

[3] The notion of the mind's computational architecture supposes that the brain works as a sort of virtual connectionist computer which analyses the influx of data in the three-dimensional world and analyses the validity of that incoming data against what we know or think we know about the world from our experience of moving within it and interacting with others. Computational connectionism is recognized to reside in the domain of higher cognitive functioning, particularly abstract reasoning and language. For a more detailed explanation see Churchland and Sejnowski.

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of stylistic intrusion that characterize a literary reading of the text.[4] This paper will explore the notions of Theory of Mind and Meta-Representation to successfully disentangle Joyce's jumble of perspectival shifts in the novel in order to make sense of and interpret (or metarepresent) individual consciousness. Sheldon Brivic notes that making sense of the conflicting, protean voices that give shape to the novel is a feat of mental gymnastics in itself. He writes: "all of the figures in the book whose thoughts we are given shift the contents of their thoughts on every page" and "Molly shifts to another place or idea every few lines […]. It is often difficult to tell if she is thinking of one man or another, one time or another, one place or another." (Brivic 1990, 749)

Our evolved mammalian brain has developed the ability to imagine the thoughts that spiral through the mind of another, known in cognitive psychology circles as "mind-reading" or "Theory of Mind."[5] Characteristic of this adaptation is the ability to use somatic "cues" to interpret an assumed interior emotional state. Cosmides and Tooby argue that there is:

> considerable evidence that the human cognitive architecture contains computational machinery that is designed to infer the mental states of other people—their beliefs, desires, emotions, and intentions—and to use these to predict and explain their behavior. (Cosmides and Tooby 74)

And it seems our brains make no distinction between the real and literary worlds. Thus the same lights buzz in the cognitive architecture whether we are emotionally engaging with real people or fictive characters. What is good for the three-dimensional goose, seems to be equally good for the artistically imagined gander. Mind-reading is one of a number of evolved cognitive adaptations that exist in a constellation of what psychologist Leda Cosmides and anthropologist John Tooby term as "inferential specializations." These are ontogenetic adaptations in our cognitive niche

[4] Jennifer Levine points out that Joyce's poetic language in *Ulysses*, the modifications of his mother-tongue, its cadences and grammatical structures ("Mrkrgnao" cries Bloom's cat) assume a poetic model, which renders subsequent readings of the text "radically suspicious for they assume that things are not as they seem and that the *truth* lies under the surface" (Levine 130, emphasis mine).

[5] Theory of Mind (often abbreviated to ToM) is the brain's ability to attribute states of mind—beliefs, desires, pretence, intentions—to oneself and others and to recognize that others can hold beliefs and ideas that are different to one's own. For further information on how children display a Theory of Mind see Wimmer 103–28.

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within the animal kingdom. Cosmides and Tooby argue that the human cognitive architecture has evolved specific "design innovations" to process both the scope and accuracy of incoming information, including "scope syntax, metarepresentational adaptations, and decoupling systems." Cosmides and Tooby cite examples such as "scope-tags, time and place tags, reference-tags, creedal values." For the purpose of this chapter, I am interested in their notions of "truth tags" and "source-tags (self vs. other; vision vs. memory etc.)" (Cosmides and Tooby 59). In other words, who said what to whom and what impact does a given statement have on the notion of the formulation of "truths" in the semantic and episodic memory as well as how such "truths" become embedded within the cognitive architecture of the human mind. Alongside this adaptation, we are able to monitor sources of representation (as in Molly's thoughts, to keep track of who *knows* that the terror of hell and the origin of the universe is *known* or *unknown* in the mind of another), that is, to *metarepresent* them. This nifty cognitive design feature enables us to assign "tags" to sources of information through a computational perspective, that are then stored in our semantic or episodic memory.

Let me begin this study by offering the following oft-cited quotation from *Ulysses* to put Leopold Bloom's entry into the novel under the magnifying lens of our critical microscopes once again:

> Mr Leopold Bloom ate with relish the inner organs of beasts and fowls. He liked thick giblet soup, nutty gizzards, a stuffed roast heart, liverslices fried with crustcrumbs, fried hencods' roes. Most of all he liked grilled mutton kidneys which gave to his palate a fine tang of faintly scented urine.
>
> Kidneys were in his mind as he moved about the kitchen softly, righting her breakfast things on the humpy tray. Gelid light and air were in the kitchen but out of doors gentle summer morning everywhere. Made him feel a bit peckish. (*U* 4.1–9)

Even if internal organs responsible for excreting nitrogenous waste that retain a faint odour of urine, hollow muscular valves that pump blood around the body or the thick-walled stomach linings of fowls are not to our own particular taste, we possess the ability to imagine that for Leopold Bloom they represent a culinary delight to be eaten with "relish." We can use our mind-reading adaptation to conceptualize Bloom's love of viscera. It is this mechanism that enables us to recognize that our particular worldview is not a universal "truth" as others can hold perceptions about them-

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selves and their relationship to the physical world that are incommensurable with our own. The human mind can be understood, Cyril Courtin argues, as a "generator of representations" (Courtin 266). As defined by David Premack and Guy Woodruff (515–26), it enables a person to explain and predict human behaviour in the tense of potentiality. We are in effect minds animated by bodies. Anthropologist Dan Sperber argues that "[h]umans are all spontaneous psychologists" (Sperber 4) and Lisa Zunshine elaborates that reading (or indeed mis-reading) a character's behavioural responses allows the narrative to "engage, train, tease, and titillate our metarepresentational ability" (Zunshine 208). Thus when we learn that Bloom casts his "backward eye" (*U* 4.256) surreptitiously at Molly's attempt to hide a letter from the impresario "Blazes" Boylan between her bed sheets, we can imagine that Bloom understands the two have more on their minds than Molly's upcoming concert in Belfast. And our critical radar will be attuned to further clues to Bloom's behaviour as a consequence of his awareness of his wife's impending tryst as the novel progresses. In the semantic landscape of the text, we know that there is more to Molly and Bloom's relationship than a naïve interpretation of a man fixing breakfast for his wife.[6]

But what enables our cognitive architecture to make sense of and respond to an entity composed of syntax? All literary characters exist only as black marks on a white page but as readers we become emotionally connected to these ink-and-paper individuals. Paul Hernadi argues that "there is no clear division between literary and non-literary signification […] Literary experience is not triggered in a vacuum: modern readers, listeners and spectators mentally process the virtual comings and goings of imagined characters as if they were analogous to remembered actual events" (Hernadi 60, 62). Thus we can accept Stephen's cerebral insularity and sense of shame at bodily waste matter at the same time as we note Bloom's joyously embodied corporeality and his ability to shift perspective. In the Darwinian anarchy of evolutionary history, occupying this cognitive niche enabled humans to be the dominant species in each ecosystem they colonized.

[6] Cosmides and Tooby argue that naïve realism in a scientific sense encompasses the notion that mental representations of the world are taken for the world as it actually is. The cognitive ability of the human species (Theory of Mind and Meta-Representation) sits in branches further along the evolutionary tree of mammalian lineages as we are capable of understanding our perception of the world according to the shifting lights of different perspectives (Cosmides and Tooby 59).

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During the retreating Ice Age at the end of the Pleistocene era (some 1.8 million to 10,000 years ago), many mammalian lineages began to develop capacities for social learning, perhaps as a means of adapting to unstable climactic conditions, but alone amongst mammals, humans went on to evolve what Peter Richerson argues is, "the capacity to acquire complex cultural traditions by imitative social learning" (Richerson 76). In the "Oxen of the Sun" episode, Joyce offers us conflicting views of certain aspects of fertility, pregnancy, and birth. Each view is embedded in a different narrative style that contains a built-in ideology of these female biological functions. Thus, within the revelries of the medical students and their friends, the economic, political, clinical, and social implications of pregnancy are accentuated and Bloom is alone in his empathetic view of the private, corporeal aspects of Mina Purefoy's imminent accouchement. He finds intolerable those who "create themselves wits at the cost of feminine delicacy," particularly as Mina Purefoy has "been in such pain through no fault of hers" (*U* 14.865–6, 884). Bloom can imagine Mrs. Purefoy's state of mind because he is able to (almost effortlessly) navigate his way through Dublin's social environment, with all its complex social and political interactions that intersect commensurably or otherwise with his own worldview.

As he wanders Dublin's urban landscape, Bloom displays an ability to "see" the world through the eyes and minds of others. He wonders about the senses of cats, imagines the plight of seagulls, and more visibly is drawn to what it means to be a woman in turn-of-the-century Ireland. Joyce radically allows us to view Dublin from a very unique perspective—that of Bloom's private thoughts—textually realized in his use of interior monologue. Language is the medium through which we interpret our existence on this earth. We communicate and measure the validity of judgements and beliefs we hold about the world against other minds. Language, it seems, is a prerequisite for successfully navigating complex social environments. Rarely, however, in our linguistic engagements with others are we party to their inner thoughts. They might "say what they think" but this is modified by and filtered through various cultural constraints. The class, social standing, or education of the person standing in front of us matters, and their conflicting beliefs and ideologies add to and modify our own socio-economic and intellectual narratives. In the "Cyclops" episode, it is unlikely that Bloom's assertion to the Citizen that love is the opposite of hate would have been met with ridicule—"A new apostle to the gentiles, says the citizen. Universal love" (*U* 12.1489)—had he been discussing such notions with the erudite Stephen Dedalus.

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On his morning walk to O'Rourke's, the butcher's, Bloom follows a housemaid, enjoying the spectacle of her "moving hams" (*U* 4.172) but beyond his obvious "masculine" appreciation of the female form is an impulse to mimic her movements, "How did she walk with her sausages? Like that something" (*U* 5.47–8). From his attention to his wife in bringing her breakfast, tenderly brushing crumbs from her bed, finding her book and on throughout the day, Bloom is concerned with what it means to be a woman existing in a particular socio-historic community. His actions, together with his interior monologue would tend to delimit our range of potentially incorrect interpretations of his interaction with and thoughts about women. Bloom's heuristic approach to understanding women is augmented by the myriad of notes and references that are littered throughout the novel; thus Joyce alerts us to and steers us toward a specific interpretation of Bloom's mental state, which might or might not run the risk of misinterpretation once we bring our own narratives, biases, and ideologies to bear on the text.

In the "Nausicaa" episode, Bloom's ruminations on Gerty MacDowell's rather sad flirtatious behaviour work as textual "clues" to a broader narrative of how female subjectivity is imaged within a phallogocentric economy. Both in its mawkish, clichéd pastiche and, for the first time, in a female consciousness that drifts in and out of focus, Joyce draws attention to the way women are "viewed" and interpreted through the eyes of male spectators. Bloom's sexual moments in this episode are voyeuristic and Gerty's actions are seen through the lens of an *already existing* cultural representation of women. For example, she waves her white wadding handkerchief to Bloom but he seems oblivious at this obvious attempt at flirtation and instead toys with the idea of a woman's experience in and of itself, pondering whether the wadding is a sign that Gerty is "[n]ear her monthlies" (*U* 13.777–8). We have seen earlier that Bloom is thought to suffer phantom menstrual cramps "once a month with headache like a totty with her courses" (*U* 12.1659–60). He can, not only imagine the psychosomatic weight of a period that gives women a "[d]ark devilish appearance," but also identify it with his own mental state: "[f]eel it myself too" (*U* 13.822–3, 824). Such physical and physiological similarities connect him to Gerty: "When you feel like that you often meet what you feel" (*U* 13.828–9). Bloom is describing, in neuroscientific terms, what it is to be part of a multi-faceted community, the viable functioning of which depends upon being able to mind-read and interpret a continuous influx of data, as well as gauging the potential causal effects of such an

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interpretation. Signification from the physical world to the brain is mediated through language. In this sense, as Sam Harris has noted, the "power of language [...] allows mere words to substitute for direct experience and mere thoughts to simulate possible states about the world" (Harris 115).

Some half-a-million years ago, interpreting your fellow *Homo sapiens*'s grimace to mean "there's a Sabre-toothed cat wandering just over the way," would have given rise to a subsequent action such as running for cover or freezing with terror. In Joyce's fictional world, the non-verbal communication that Gerty conveys by raising her skirt signifies a sexual invitation, and Bloom's atypical phallocentric response is masturbation. Similarly, our reaction to Bloom's lonely sexual act can vary according to the historical, ideological, or biographical spotlight with which we illuminate our interpretation of the text. As psychologist and linguist Steven Pinker has shown, our cognitive ability to frame multi-faceted events and thoughts and order them in parallaxes according to the personalized focal point of a given reader not only points to the richness of human intellectual life (Pinker 4) but, I would argue, is also the source of our enjoyment in the polychromatic narrative of *Ulysses*. To our earliest ancestors living in highly complex social groups, successful mind-reading dictated not only one's place in social hierarchies, but also one's very survival in the quotidian chaos of the Pleistocene era. And works of fiction, as Lisa Zunshine notes, "provide grist for the mills of our mind-reading adaptations" (Zunshine 16).

The second concept of this paper is Meta-Representation.[7] It was a term first introduced into cognitive neuroscience in the 1980s. Dan Sperber argues that there are four types of Meta-Representation: mental representations of mental representations (for example, Leopold Bloom's thoughts about his cat. He *believes* his cat to be stupid); mental representations of public representations (the *thought* that Bloom says "I never saw such a stupid pussens as the pussens," *U* 4.31); public representations of mental representations (the *utterance*: "Bloom thinks his cat is stupid"); and public representations of public representations (the *utterance*, "Bloom said

[7] Meta-Representation is defined as the brain's ability to keep track of various levels of intentionality when the information is relayed orally; who is saying what about who to whom, in effect. For example, we can understand the following sentence that contains four levels of intentionality: Jane told Peter that David said he overheard Susan telling Bill that she understood James Joyce's *Ulysses*. Interestingly, our brain reaches a limit of understanding at around four levels of intentionality. Some individuals can keep track of five or even six levels but any more than that and our brains are scrambled into confusion.

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that his cat is stupid") (Sperber 3). Sperber argues that examining meta-representation within the parameters of cognitive neuroscience is relatively new and, unlike literary antecedents, gives precedence to mental representations of mental representations. Attempting to interpret the thoughts of others lends itself well to a critical analysis not only of Joyce's use of interior monologue, but also of the marked absence of an omnipotent narrator that characterizes the novel.

Our Meta-Representational ability enables us to weigh up the "validity" of each member of Joyce's fictional Dublin community by assessing the "truth" value of the source of representation. The author's sleight of writer's hand influences our feelings toward particular characters according to the varying internal and external (or mental and public) representations of them. Keeping track of the sources of representation becomes more problematic for the reader who has to contend with the complexities of a text such as *Ulysses*. But as Lisa Zunshine has noted, we are able to attribute mental states to fictional characters because our ability to do so is "crucially mediated by the workings of our Meta-Representational ability" (Zunshine 5). Meta-Representations are constructions of representations that are used to represent other representations. And if you can follow that line of thought you are finding it easier than I did to formulate the sentence.

Put a little less cryptically, Meta-Representations are the brain's way of keeping track of who said what about whom to whom. They are typically broken into two parts. Let's go back to the observation that Molly makes about atheists re-affirming their faith at the moment their mortality becomes terrifyingly palpable. The first part of the metapresentation specifies a source, in this case Molly, signified by her "I know"—there may be any number of people who share Molly's point of view in this novel, "whitesmocked" (*U* 6.590) Catholic priests who "snorted Latin" (*U* 3.117) with a "fluent croak" (*U* 6.594), scoffers in the local pub, mourners at a graveside or indeed any other character that lives under the ubiquitous Leviathan of Irish Catholicism, but their words or thoughts are not represented in this instance (but just to complicate matters further, we may feel that Joyce, as the initiator and creator of his characters' thoughts and feelings—the ultimate agent of Meta-Representation—may want us to formulate an opinion of contemporary Dublin's Catholic priests or indeed consider the pragmatism of Molly herself and uses her words to do just that). The second part of the Meta-Representation consists of the content of the representation: atheists go howling for the priest on their deathbed.

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We understand that Molly believes atheists in their death-throes would go howling for the clergy by the use of the phrase "I know them well." In a novel that is an endless shadow dance of linguistic deferral, marked by its significant absence of punctuated speech, knowing who says what about whom to whom becomes crucial. Deciphering who is thinking or speaking at all in *Ulysses* is an intellectual challenge in itself. But knowing whose sentiment is being expressed is paramount to our understanding of the thought processes of certain characters and to the narrative trajectory of the novel itself. Our brains have evolved in such a way as to be able to keep track of at least three or four sources of information. The ability to meta-represent representations strides side by reasoned side with the capacity to mind-read through the cognitive landscape of our brain.

We form Meta-Representations so quickly and automatically we hardly register it. However, if we look at a section from the novel as if our meta-representational ability were impaired, we can see more clearly our rare capacity to monitor sources of information, measure it against the data stored in our episodic and semantic memory, and thus come to various conclusions about the validity of that information. In the "Proteus" episode, Stephen is wandering alone on Sandymount Strand contemplating his life, conjuring a kaleidoscopic array of ideas and images in the process. In an episode that consists almost entirely of Stephen's private thoughts—there is only one line of voiced dialogue—we might imagine that to meta-represent Stephen should be an intellectual cinch. But as ever, one-dimensionality and James Joyce rarely meet in critical analyses. As we follow Stephen's train of thought (to metarepresent his representations), Joyce compels us to make sense of Stephen's own Meta-Representations of, amongst other things, physics, literature, theology, past and contemporary attitudes to youth and age. Having done that we must then gauge what effect all of these intellectual concerns have on Stephen's psychic malaise, what bearing this has on the realization of his "minor" and "super objectives,"[8] as well as what effect they have on our interpretation of the

[8] Constantin Stanislavski argues that understanding a character's desires and emotions in terms of "minor objectives" (localized action within a scene or chapter) and "super objectives" (the ultimate goal or desire of a character) helps us to understand his/her emotional trajectory within the work (Stanislavski 78). "Minor objectives" might propel Stephen from moment to moment, or into another episode. For example, he wanders on Sandymount Strand lost in his thoughts but this action must make sense in terms of his "super-objective." The "minor objective" of wandering begins his larger wandering "super objective" of solidifying a spiritual and intellectual identity.

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novel. The following is one such grisly thought that Stephen formulates as he contemplates a drowned man:

> Bag of corpsegas sopping in foul brine. A quiver of minnows, fat of a spongy titbit, flash through the slits of his buttoned trouserfly. […] Dead breaths I living breathe, tread dead dust, devour a urinous offal from all dead. […]
>
> A seachange this, brown eyes saltblue. Seadeath, mildest of all deaths known to man. Old Father Ocean. (*U* 3.476–83)

We understand from Stephen's choice of language that he believes a drowned body to be a gruesome sight, "bag of corpsegas," "fat of a spongy bit" devoured by darting minnows. On reception of this information our brains do not simply store it in a vacuum in one part of the brain or another, rather it is integrated in conjunction with the laws that govern our understanding of the physical world and stored in our semantic memory, that is to say, bodies are organic matter that decompose once death has occurred and the nature of a decomposition in water has particular characteristics that differ from a decomposition in soil. From a neuroscientific point of view, the information about the ruinous state of a drowned body is treated by our cognitive architecture, Cosmides and Tooby argue, as "architectural truth" and as such is "allowed to migrate […] in an unrestricted fashion throughout an architecture, interacting with any other data in the system with which it is capable of interacting" (Cosmides and Tooby 60–1). Stephen's thoughts are assimilated with information we already possess thus far. As it corresponds to our understanding of the world, the truth-value of his subsequent description of the corpse should henceforth be given more weight.

Next Stephen says that he is living but drawing "dead breaths" and strolling over a beach composed entirely of "dead dust." Our brains will again assimilate this information and weigh it with information stored in our architectural data-bases, including, crucially, what we now know or think we know about Stephen. And if our Meta-Representational ability is still unable to function we might think one of the following things: Stephen is suffering from some kind of fatal disease that manifests itself in "dead breaths," or perhaps the air around Sandymount Strand is toxic due to some ecological or industrial accident that has occurred in the time that Stephen has been strolling along the beach, both of which Joyce has omitted from the text. He goes on to say that he "devour[s] a urinous offal from all dead," which might make us wonder why Stephen's cannibalistic

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tendencies have been hidden from us thus far. He goes on to say that a "[s]eadeath [is the] mildest of all deaths known to man," which seems to jar on our cognitive ear as it contradicts what was said previously as to the grisly aftermath of a seadeath.

Now if we restore our Meta-Representational functioning to its default setting and re-examine this section in the light of it, weighing his subsequent thoughts with the data in our cognitive architecture, a more balanced (we might say more accurate or "truthful") interpretation begins to emerge. The first sentence remains unchanged. A bloated, blue, festering cadaver in water is a gruesome sight, which leads us to believe that Stephen's internal monologue has a certain "validity," and as the day progresses our episodic memory will retain the "truth-value" of his internal and external dialogue. The following death imagery, however, is radically different with our metapresentational functioning restored. First, a poetic voice emerges from the narrative, albeit a young and inexperienced one, judging by the hyperbolic metaphors of death, "[d]ead breaths I living breathe, tread dead dust." We understand (almost without having to formulate the thought) that Joyce, through Stephen, is performing an act of association and our brains pick up on this nifty little trick. Corporeal disintegration is linked to the monumental spiritual or metaphoric death found in literary works. Stephen, the scholarly academic with writing aspirations, will be familiar with such metaphors. By invoking literary predecessors, he metarepresents their thoughts and desires. Incidentally, to our postmodern eye, he is also foreshadowing the concerns of that pate-preoccupied wanderer Prufrock, which will resonate retrospectively and add another layer of meaning to Joyce's text. Thus Stephen's thoughts can be re-interpreted ex post facto as the novel progresses. Our cognitive architecture has the ability to re-evaluate contingent information in order to retain or discard other information. This particular neuronal hardwiring of our brain enables us, Cosmides and Tooby argue, to "carry out inferential operations on sets of inferences that incorporate suppositions or propositions of conditionally unevaluated truth value, while keeping their computational products isolated from other knowledge stores until the truth of or utility of the suppositions is decided" (Cosmides and Tooby 59).

One such example of inferential operations is Stephen's use of the word "offal," which will, when we read the following episode, cause our critical radars to retroactively beep. In "Calypso," Joyce introduces us to Leopold Bloom, his vision of man in modernity and surrogate paternal caregiver to Stephen. In his dealings with various characters together with his private

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thoughts about them, one could argue that, from a neuroscientific perspective, not only is he able to metarepresent a good portion of Dublin's community, each with their own commensurable and incommensurable worldview, but he also appears to be a skilled practitioner of Theory of Mind. The author makes much of Bloom's delight in ingesting "offal," retrospectively linking him to Stephen, although in the text's chronology the fourth episode occurs three hours before "Proteus." Bloom is again foreshadowed in the penultimate image in Stephen's speech, which is rendered in the language of an advertisement: a "seadeath is the mildest of all deaths," he says. The trope of parentage is introduced by the phrase "Old Father Ocean." These four very economical sentences prefigure Bloom and Stephen's interstitial relationship to the variegated forms of loss: loss of parentage, loss of lineage (mother/father/son), loss of artistic endeavour and loss of demonstrative love. The introduction of an offal-eating adman and later his vibrant, sensual, and pragmatic wife, ensures that the suffering that lies at the heart of Stephen's existential preoccupations will at some point be addressed, even if it is not alleviated.

Novels such as *Ulysses*, Virginia Woolf's *Mrs. Dalloway*, or William Faulkner's *The Sound and the Fury*, with their sprawling, oftentimes confusing but always meticulously fashioned narratives, stimulate, to borrow a phrase from Cosmides and Tooby, the "computational machinery" that hums and whirrs constantly in the architecture of our evolved hominid minds. Keeping track of the layers of representations in a novel that eschews an omniscient narrator in favour of a babble of voices and stream-of-consciousness technique strenuously exercises our cognitive adaptations. As to the form of the novel, Joyce has this to say:

> My head is full of pebbles and rubbish and broken matches and bits of glass picked up "most everywhere". The task I set myself technically in writing a book from *eighteen different points of view* and *in as many styles*, all apparently unknown or undiscovered by my fellow tradesmen, that and the nature of the legend chosen would be enough to upset anyone's mental balance. (*Letters I* 167, emphasis added)

And Bloom, possessed of a "touch of the artist" (*U* 10.582), facilitates our navigation of Joyce's fictionalized social world, just as our metarepresentational and mind-reading capacity enables us to negotiate his multilayered vertiginous textual tapestry, however torturous an endeavour that, at times, seems to be. Every Joycean scholar (and many a lay critic besides)

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knows the following, now almost clichéd, quotation in reference to *Ulysses*: "I've put in so many enigmas and puzzles" says the author "that it will keep the professors busy for centuries arguing over what I meant, and that's the only way of insuring one's immortality" (*JJII* 521). In this respect, a focused reading of *Ulysses*, which is crucial to our understanding of the text, lies deeply embedded in the cognitive niche that our species has claimed for its own. Our cognitive architecture has developed clusters of neuronal adaptations not only to exploit information that is contingent on our local environment and social community, but also to infer states of mind and thus predict subsequent systemic behaviour.

Processing complex inferences as to the intentionality of characters, representing (or quite often misrepresenting) minds and minds represented by other minds is the bread-and-butter of quotidian life in our hominid communities. It just so happens that *Ulysses* and the more confusing still *Finnegans Wake*, following hot on its experimental heels, engage our Theory of Mind more vigorously than do other texts. Whatever one's feelings are toward the complexities of Joyce's labyrinthine text, the novel is a study in Theory of Mind and Meta-Representation par excellence. Our ability to metarepresent and mind-read the myriad of characters that wander through his latter-day *Odyssey* enables us to decode and decipher the symbolic tints and textual clues within the layers of narrative and discover that *Ulysses* is, as Eliot argues, Joyce's way of "controlling, of ordering, of giving a shape and a significance to the immense panorama of futility and anarchy which is contemporary history" (Eliot 178). By taking our minds for a healthy run through Joyce's fictional turn-of-the-century Dublin, we are, in effect, training for the main sprint in the social arena of the three-dimensional world, hoping desperately that we run the right way, psyche out our fellow runners and, above all, stay on the right track.

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Hallucination and the Text: "Circe" Between Narrative, Epistemology, and Neurosciences

Teresa Prudente

Any inquiry into the complex nature of "Circe" is bound to take into account all the possible lines deriving from that famous concept of *hallucination*, which in the Gilbert schema defines the technique of the episode.[1] The bursting nature of the chapter ("*visione animata fino allo scoppio*"—"vision animated to bursting point," Ellmann 1972, 188) highlights the multiple implications embedded in both terms: not only the perceptual, philosophical, psychological (or psychopathological) and cinematic elements implied in "hallucination," but also the uncountable ramifications (voice, point of view, and the concept of representation itself) encapsulated in the idea of "technique." In the last decades, a few readings have emphasized how the evasive and ever-open nature of "Circe" is directly connected with the potential meanings and functioning of hallucination in the episode (Ferrer 1984; Hampson). The discussions recently arisen on the nature of hallucination in the philosophy of mind and cognitive sciences appear to reinforce this perspective, and to enrich it by unveiling further elements contributing to the complex

[1] For the schema which Joyce produced for Gilbert, see Gilbert (1930).

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_12

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narrative achieved by the episode. Nonetheless, cognitive sciences will be employed in this paper less as keys capable of offering definitive explanations of the literary text than as sources allowing that continuous crossing of interdisciplinary boundaries which is so central to the episode. In this sense, "Circe" appears to stimulate that dialogue and confrontation among theorizations pertaining to different fields of knowledge (in this case, perceptual theory, film theory, and psychology) which rarely find the opportunity to take place: an ever-open text like "Circe" offers the ideal and even "physical" space over which such theorizations can—and perhaps are required to—come into dialogue. A recent article by the philosopher Fabian Dorsch has pointed out how the inquiries carried out on hallucination respectively by the philosophy of mind and by psychology tend to part along methodological lines: while, in the first field, studies are functional and subsidiary to broader investigations on the nature of the subject's perception of the "external world," in the second the phenomenon is empirically studied in itself.[2] In Dorsch's view, these differences should point less to the acceptance of this separation than to the necessity of overcoming it by means of integration. [3] According to the recent "cognitive turn" in the Humanities, the literary text has the potentiality of fostering this interdisciplinary exchange by virtue of the features characterizing the functioning of the creative mind: as Hernadi phrases it, "while many aspects of workaday mentation are primarily tied to *either* cognition *or* emotion *or* volition, the integrative experience exemplified by literary transaction overcomes the disadvantages of this type of mental specialization" (Hernadi 39).

By following this line of enquiry, my analysis of "Circe" will be aimed at those perceptual and narrative issues which appear to require interchange between the different aforementioned fields so as simultaneously to disentangle and enrich the innumerable implications in the episode's

[2] See also the dialogue between the scientific and the philosophical approaches to the study of the functioning of the mind proposed by Changeux and Ricœur.

[3] In his article, Dorsch proposes a theory that not only requires the cooperation of philosophy and cognitive sciences, but also aims at providing a philosophical view applicable to both perceptual (i.e. subjectively indistinguishable from perceptions) and non-perceptual hallucinations (Dorsch 2010). See also Dorsch's article in Fiona Macpherson and Dimitris Platchias eds. (2013), a collection of essays which represents a first attempt at analysing hallucination from the point of view of both philosophy and cognitive sciences. The volume adopts the perspective of Disjunctivism (see n. 10 below) and features several scholars that I will come to quote in this essay (Bentall, Fernyhough, Macpherson).

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multi-faceted contents and mechanism. In particular, as anticipated, the definition and functioning of hallucination will play a key role in my study: the analyses of this phenomenon by philosophy and cognitive sciences open the way to several essential issues that may unveil the complex exploration in “Circe” of the subject’s relation with experience and touch upon the notion of representation itself. This essay will attempt to single out more precisely the effects of Joyce’s technique, while bearing in mind the several levels implied in the role played by hallucination in the episode, which range from the elements pertaining to the characters’ perceptual experience to those operating at the level of the episode’s form. The philosophical and cognitive theories which cooperate in my analysis show the potentiality of reconciling these two levels as, in examining the hallucinatory phenomenon, they question the subject’s relation with reality, both in its perceptual and aesthetic implications.

The first step will consist in focusing on the relation between the cinematic nature and the form of the “Circe” episode, since the philosophical, cognitive, and aesthetic theories involving the concept of hallucination have recently come to interact in the analysis and redefinition of the cinematic medium. In order to single out the connection between the filmic and the hallucinatory in “Circe,” I will first look at a so-far unexplored cinematic source of the episode, which reveals the episode’s radical rediscussion of the act of seeing itself, and question such paramount issues as those of illusion and representation. In recent criticism, the cinematic nature of “Circe” has been widely analysed, but the connections between the episode and the specific features of the pre-cinematic device of phantasmagoria seem to have been overlooked.[4] Explanations to this may be connected to the fact that phantasmagoric projections took place within magic lantern shows, and thus the technique has been often assimilated to these shows, despite the very specific features of the phantasmagoric device.[5] A further reason may be that the term itself has shifted in usage, from referring to pre-cinematic technique to its current wider metaphorical

[4] The focus has been mainly on the relation between “Circe” and early cinema: see especially Keith Williams (2003), Carla Marengo Vaglio (2007), Maria DiBattista (2010), and Philip Sicker (2010). I have already proposed an analysis of the features which link “Circe” to phantasmagoria in Prudente (2015).

[5] For instance, Briggs’s seminal study in the field mentions this device when stating that “cinema—child of the Phantasmagoria and the Magick Lantern […]—is even more suggestive than is pantomime of the technique of ‘Circe,’ Hallucination, and the art of ‘Circe,’ Magic” (Briggs 149).

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employment.[6] If we go back to its origin, we find that the term was first coined in French form as "*fantasmagorie*" by the German performer Paul de Philipsthal (also known by his stage name Paul Philidor) when he opened his phantasmagoria show in Paris in 1792 (Mannoni and Brewster 1996, 393).[7] The term subsequently entered the English vocabulary when Philidor employed it to present his show in London in 1801. The description provided by Sir David Brewster in his 1831 *Letters on Natural Magic* vividly renders the specific features that set phantasmagoria apart from the other coeval pre-cinematic devices:

> A thin transparent screen had, unknown to the spectators, been let down after the disappearance of the light, and upon it the flashes of lightning and all the subsequent appearances were represented. This screen being half-way between the spectators and the cave which was first shown, and being itself invisible, prevented the observers from having any idea of the real distance of the figures, and gave them the entire character of aerial pictures. The thunder and lightning were followed by the figures of ghosts, skeletons, and known individuals, whose eyes and mouth were made to move by the shifting of combined sliders. […] After the first figure had been exhibited for a short time, it began to grow less and less, as if removed to a great distance, and at last vanished in a small cloud of light. Out of this same cloud the germ of another figure began to appear, and gradually grew larger and larger, and approached the spectators till it attained its perfect development. In this manner, the head of Dr. Franklin was transformed into a skull; figures which retired with the freshness of life came back in the form of skeletons, and the retiring skeletons returned in the drapery of flesh and blood. (Brewster 158–9)

As revealed here, the perceptual implications involved in phantasmagoria prove particularly revealing to understand the complex relationship between "genuine" and "hallucinatory" perceptions which is central to "Circe," and which also serves as a core concept in the most recent cognitive and philosophical theorizations on hallucination. Perennial transformation, illusory and continuous changes in the perception of distance, the

[6] One very recent example is Catherine Flynn's examination of the surrealist elements in "Circe," where the phantasmagoria is employed in the way Benjamin used the term to describe urban experience (see Benjamin 2002).

[7] The Belgian Etienne Gaspard-Robert claimed to be the inventor of the phantasmagoria, but, as Mannoni demonstrates, he drew for his shows on devices already employed by others, mainly by Philidor (Mannoni and Brewster 1996, 390–3).

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mingling of different figures (mainly skeletons, phantoms, skulls) and their stemming one "from the germ of another" dominated the deceptive, vortex-like phantasmagoric shows. Several elements in "Circe" point to a very similar technique, both in content and form, suggesting that this device deserves examination as one of the potential sources for the episode. The very beginning of "Circe" appears to comply with the ghostly setting typical of phantasmagoria by presenting "skeleton tracks, red and green will-o'-the-wisps and danger signals" (*U* 15.2–3) marking the entrance of "nighttown" (*U* 15.1). When Bloom enters the scene, these resemblances appear to shift from the setting of the action to the visual (and narrative) technique:

> *On the farther side under the railway bridge Bloom appears, flushed, panting, cramming bread and chocolate into a sidepocket. From Gillen's hairdresser's window a composite portrait shows him gallant Nelson's image. A concave mirror at the side presents to him loverlorn longlost lugubru Booloohoom. Grave Gladstone sees him level, Bloom for Bloom. He passes, struck by the stare of truculent Wellington, but in the convex mirror grin unstruck the bonham eyes and fatchuck cheekchops of jollypoldy the rixdix doldy.*
> *At Antonio Rabaiotti's door Bloom halts, sweated under the bright arclamp. He disappears. In a moment he reappears and hurries on.*)
>
> BLOOM
>
> Fish and taters. N. g. Ah!
>
> (*He disappears into Olhousen's, the porkbutcher's, under the downcoming rollshutter. A few moments later he emerges from under the shutter, puffing Poldy, blowing Bloohoom.* [...]) (*U* 15.141–57)

Emphasized by the stage directions, and coherent with the prismatic self-fragmentation prompted by his refraction in a shop window, Bloom's movements proceed by that dynamics between appearance and disappearance which pertains to the phantasmagoric technique of presenting images ("*He disappears. In a moment he reappears and hurries on [...] He disappears into Olhousen's [...] A few moments later he emerges from under the shutter*"). This preludes the emerging of the "*sinister figure* [...] *injected with dark mercury*" (*U* 15.211–12) provided with "*evil eye*" (*U* 15.213) that marks the rapid evolution of the episode towards a form of representation in which ghostly and genuine perceptions overlap. As I will presently show, this represents the most interesting point

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of contact between the technique of the episode and that of phantasmagoria. As Max Milner explains, much of the innovative nature of this pre-cinematic device lies precisely in its ability to focus on the thin line between dream and reality, truth and illusion, thus offering an alternative to both the mimetic and the fantastic imaginations (Milner, 22–3). More recently, Tom Gunning has singled out the features which set phantasmagoria apart from other pre-cinematic devices by underlining how, while in magic lantern shows, "the mechanism itself had usually played a visible role in the entertainment," the "Phantasmagoria (like the movie projection system that ultimately derived from it) created its illusions primarily by concealing its means," i.e. by hiding the lantern behind the screen and the screen itself "first by curtains that covered them when the room was illuminated, then by the darkness of the room and finally by the lampblack that surrounded the figures on the glass slides, and thus eliminated a visible background which could have anchored them in space" (Gunning, 4). In Gunning's view, the very sophisticated perceptual implications arising from this technique succeeded in positioning phantasmagoria viewers at the intercross between Enlightenment and superstition, insofar as their minds became divided between reason (their awareness of the illusion and their disbelief in ghosts) and senses (their thrill), and they were thus led to experience a "simultaneity of belief and disbelief, an experience in which the senses contradicted what was known to be true, by means of experiences we cannot simply deny" (Gunning, 6).

In this sense, phantasmagoria touches upon the very "suspension of disbelief" which is central to the reflection over the subject's modalities of artistic fruition. In the field of film studies, starting with David Bordwell's (1989) cognitive analysis of how the audience interprets filmic narration and Noël Carroll's (1988) rejection of the cinema as based on "illusion," the idea of "suspension of disbelief" (Walton 1990; Currie 1995a) has been challenged in favour of the view that "what is distinctive of the experience of cinematic and other fictions is not belief but what I shall call imagining. In general, what is presented as fictional is what we are intended to imagine, and we engage in the appropriate way with the fiction when what is fictional and what we imagine coincide" (Currie 1995a, 13). By following both cognitive sciences and analytic philosophy, these new views have come to redefine the cinematic medium in the light precisely of the opposition (or differentiation) between "genuine" and "hallucinatory" perceptions, thus coming to a powerful intercross with the

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theories brought forward by the philosophy of perception and of mind, where the same perceptual issue had long been debated.[8] In particular, Richard Allen has proposed a definition of cinema as "projective illusion"[9] in which "while we know that what we are seeing is only a film, we nevertheless experience that film as a fully realized world" (Allen 1995, 4); consequently, the spectator is not seen as passively subjected to this form of illusion, but rather as actively cooperating to it. Allen's conception is based on his confutation of the equivalence between genuine seeing and hallucination brought forward by the causal theory of perception.[10] This leads to the definition of the cinema as an illusion in which spectators are aware of the deception to which they are subjected (while, Allen argues, in hallucination the subject is unaware of the unreality of what is seen).[11]

[8] "The Argument from Illusion" and "The Argument from Hallucination" are the founding elements of the opposition between the perceptual theories of direct or "naïve" realism and those of indirect or "representational" realism. While the first argues that in perception the subject establishes a relation with "real," mind-independent objects, the latter maintains that what we experience is an internal representation or replica of the world. The two mentioned arguments—which emerged in the eighteenth century (BonJour 2013)—were brought forward by representationalists so as to prove the existence of sense-data testifying to the mediate quality of our perception. Representational realism argues that since hallucination is subjectively indistinguishable from veridical perception, these two experiences share common qualities which render them equally real to the subject, thus undermining direct realism's belief into the subject's perception of the object itself, "real" and mind-independent. For an overview of the issue, see Lowe 102–58.

[9] As opposed to previous interpretations of the cinematic medium as based on "transparency" (Cavell), "illusion" (of Derridian matrix), "imagination" and "recognition" (deriving from cognitive analysis). Allen (1999) associates the four theories with the causal theory of perception (see n. 9 below).

[10] In the history of philosophy, causal theories of perception (CTP) have been attributed to thinkers like Descartes, Locke, Kant, and Russell, although obviously not in the form of unified theories, but rather as inscribed in their different theorizations. In the twentieth century, Grice has revived the argument by proposing what has been defined as a "stronger" version of the founding principles of this theory. In general terms, the CTP maintains that the condition to perception is not that the perceiver establishes a relation with the percept, but rather that the percept *causes* the sense-datum which the subject perceives. In this sense, the CTP is directly connected to representational realism, and objections to this theory stem mainly from philosophers belonging to naïve realism (see especially Hyman). As for the implications in film studies, Allen's confutation is directed towards the CTP intended as comprising all the filmic theories implying the act of seeing as *caused* by the seen object.

[11] Hallucination's indistinguishability from veridical experience is another central concern of the debate between naïve and representational realisms. The most recent outcome of this discussion has been the founding of Disjunctivism, a specific current of direct realism that maintains the non-equivalence between genuine and hallucinatory perceptions on which

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The analysis of "subjective" shots and of the modalities of their experience by the viewer plays a key role within these recent theories: the debate over whether the viewer completely identifies with the character's point of view, or on the contrary maintains awareness of the fictional nature of what is seen, implies opposite views on the functioning of the cinematic medium itself. In particular, Kendall Walton has contrasted the views of subjective shots as key proofs of the "transparency" of motion pictures (Cavell) by insisting on how the latter, like any other pictorial forms of representation, put the viewer in contact less with reality itself than with "a human being's conception of reality" (Walton 1990). The film critic Elena Dagrada (1998) has added an essential element to this debate by elucidating how the meaning and function now attached to subjective shots are profoundly different from those they had when first employed.[12] By referring to short films shot around the 1900s (*Grandma's Reading Glass*, *As Seen Through a Telescope*), Dagrada underlines how the primitive employment of subjective shots aimed at displaying less the character's or the director's point of view than the *spectator*'s.

In this sense, the cinematic nature of "Circe" has broad perceptual implications which stem from both its filmic and narrative qualities, or rather from the overlapping and mingling of the two techniques. As Gregory Currie (1995) has remarked, despite their distinct qualities, filmic and narrative representations share fundamental common traits related to the process of interpretation carried out by spectator and reader alike. The narrative mechanism operated by "Circe" not only triggers responses which are not dissimilar from those mentioned in relation to subjective shots, but it also opens the way to refined forms of mixing between narrative and filmic points of view, which stem precisely from the "unreliability" provided by the hallucinatory technique. Criticism on the episode has focused on whether the reader experiences the episode's hallucinations as conveyed through the characters' points of view, as pertaining to the narrator's point of view (although the narrator is here one who "enjoys

Allen's film theory is grounded. Disjunctivism has argued this principle from two different perspectives, one related to an epistemic and the other to a metaphysical conception of hallucination. The first holds that veridical and hallucinatory experiences do not share common qualities, as the only quality that can be attributed to hallucination is precisely its being indistinguishable from veridical perceptions (Martin 2004, 72). For an overview of Disjunctivism see Macpherson and Haddock (2008).

[12] On the nature of subjective shots in early cinema, see also Gaudreault.

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invisibility”[13] [Riquelme 1983, 132]—not dissimilarly from the way the magic lantern is concealed in phantasmagoria), as his own (the spectator’s) point of view (like in Hugh Kenner’s interpretation of the episode as a hallucination by the reader), or, finally, through those “oscillating perspectives” pointed out by Riquelme, which do not appear far from the mingling of subjectivity/objectivity and reality/hallucination I have underlined in phantasmagoria.[14] As opposed to other coeval cinematic devices, the overtly deceptive nature of phantasmagoria stimulates rediscussion of the very issue of the act of seeing and the relation between subject and object of perception, thus anticipating that interplay between subjective and objective elements which, as we have seen, remains a dominant trait of the debate over the cinematic experience. A similar blurring of boundaries and mixing of effects appears to apply to “Circe,” where subjectivity and objectivity coexist and interact, as “in a hallucination, the ‘regressive’ perceptions are not confined to another, separate, plan; they are projected directly into reality, where they mingle with ordinary perception” (Ferrer 1984, 141).[15] The repeated hints at subjective perspectives present in the “objective” stage directions, also pointed out by Katie Wales, offer interesting examples of such continuous overlapping, and they appear particularly revealing when they refer to the figure of Bloom. In the quoted instance where the first ghostly figure makes his appearance, the adjectives employed in the description point at a gaze which may be considered shared by both the reader and Bloom, wherein the general characterization of the attribute “sinister” becomes further specified by that “unknown” that seems to refer to Bloom’s point of view (unknown to him, or should we consider the sinister figure also unknown to the reader, as a character not yet introduced, or even perhaps as a kind of character—an apparition—until that point unknown to the reader?). Another meaningful

[13] Gregory Currie (1995b) has analysed how unreliability works in cinema and narrative by focusing especially on the figure of the implied author which, in his view, is always present in narrative, but absent in cinema (for a more recent elaboration of his theory of point of view in narration, see also Currie 2009). Also in relation to this issue, the unique form of “Circe” proves a significant case study, where the boundaries between the two media are blurred and give rise to a representational technique escaping categories.

[14] See also Ferrer’s emphasis on how “the theatricality makes real the hallucination, and, reciprocally, hallucinates reality” (Ferrer 1984, 141).

[15] For a study of the narrative consequences of inserting a hallucinatory point of view in narration, see also Ferrer’s analysis of the episode of the “solitary traveller” in Woolf’s *Mrs. Dalloway* (Ferrer 1990, 130–9).

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example occurs when "*a cake of new clean lemon soap arises,*" and, immediately after, "*the freckled face of Sweny, the druggist, appears in the disc of the soapsun*":

> (*He points to the south, then to the east. A cake of new clean lemon soap arises, diffusing light and perfume.*)
>
> THE SOAP
>
> We're a capital couple are Bloom and I
> He brightens the earth, I polish the sky.
> (*The freckled face of Sweny, the druggist, appears in the disc of the soapsun.*)
>
> SWENY
>
> Three and a penny, please. (*U* 15.335–42)

As several critics have noted, the humanization of inanimate objects can indubitably refer to early films like those by Méliès.[16] However, the sudden appearance of the animate within the inanimate also holds similarities with the modalities through which objects and figures interchanged and stemmed one from the other in phantasmagoria, especially when faces of demons and skulls suddenly appeared to the audience as inscribed in the sun or into clouds (see above, Brewster 159).[17] Narratively, this marks an interesting mingling of subjective and objective perceptions, insofar as the soap mysteriously arising and speaking may be interpreted as originating from the character's hallucinatory perception, but the lines it speaks do not enter into dialogue with Bloom (as does Sweny's face) but rather with the reader (or, cinematically, with the audience). This mingling of private and shared hallucinations corresponds to the revolution brought about in the nineteenth century by the device of the phantasmagoria, which allowed the chiefly subjective experience of hallucination to be shared, i.e. experienced by several people at the same moment.

The subjective nature of hallucinations is also underlined by psychology studies in the field, which consider this feature a founding element for

[16] See especially Briggs (1989), Williams (2003), Hanaway (2010), DiBattista (2010), Sicker (2010).

[17] See, for instance, "The Sun Woman," a phantasmagoria slide held at the "Cabinet of Physics," Helsinki University Museum.

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defining the hallucinatory experience.[18] This subjective quality also represents a major problem for the classification of hallucinations, as studies and experiments, although currently relying also on brain images, still mainly derive from the analysis of reports by the subjects who have experienced them.[19] As it happens with the role held by hallucination in the aforementioned theories of perception, this private quality appears to exceed the specific features of the examined phenomenon, and to open the way to wider reflections involving not only the issue of unreliability but also, more broadly, the essential linguistic question of how and to what extent "private" experience (or better, if we agree with representational realism, experience *tout court*[20]) can be verbally conveyed.[21]

Interestingly, very recent studies have proposed to overcome the traditional view of hallucination seen as an exclusively subjective experience and to look at it as a phenomenon in which subjective and objective aspects come to coexist. The psychologist Charles Fernyhough has recently addressed the functioning and nature of auditory verbal hallucinations, and especially how they are experienced by the subject as voices which are "alien yet self" (Fernyhough and McCarthy-Jones 2013, 93)—perceptions, internal to the subject, of voices other than his own. In Fernyhough's view, the key to understanding this phenomenon of simultaneous adherence to and distancing from the self is the re-examination of Lev Vygotsky's conception of inner speech as inherently dialogic. In Vygotsky's theory (1962), inner speech is seen as the endpoint of a developmental process in which external discourse gradually becomes internalized to form verbal thought. In Fernyhough's view, in expanded inner dialogue (one of the two forms of dialogic inner speech, where the flow of verbal mentation retains the give-and-take quality of external dialogue) human thought

[18] "Hallucinatory and related perceptual experiences are essentially private and subjective. That is, at the instant in time at which the experience occurs, no other person shares the same experience" (Slade and Bentall 16).

[19] It is useful to remember how psychological studies on hallucination have only recently come to investigate this phenomenon in itself and not as pertaining exclusively to psychopathology: see Slade and Bentall (1988), Aleman (1998) and Aleman and Laroi (2008).

[20] Although his position as a naïve realist continues to be debated, Wittgenstein is considered a landmark opponent of representational realism. In addition, Allen's film theory proclaims its debt to Wittgenstein's argument against the causal theory of perception (see Allen 1999, 2001). For an overview of Wittgenstein's theory of perception see Good (2006).

[21] In earlier works, I have specifically investigated the relation between hallucination, seen as both a theme and a narrative technique, and ineffability in the modernist text (Prudente 2005, 2010).

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incorporates a multiplicity of internalized voices, and they come to form what he calls "the raw material of auditory verbal hallucinations" (95). Both Vygotsky's theory[22] and Fernyhough's reproposal of it suggest meaningful implications for the analysis of how inner speech is represented in narrative while, conversely, narrative texts offer interesting ground for our understanding of this intercross between language and thought.[23] A text like "Circe" shows further levels of complexities within this reflection: the aforementioned "internal" re-appropriation of "external" speech may be seen as relating to how "Circe" re-employs—or "recycles" (Kumar 1991; Gibson 1994; Bénéjam 2004), or represents through "regression" (Ferrer 1984, 141)—the preceding material of the book (a procedure not dissimilar to how Vygotsky portrays inner speech as a recycled and reworked form of external speech), and it is also related to the mingling of voices and crossing of boundaries between self and others, reality and hallucination, which characterize the episode.

To add further implications to this crossing of boundaries, hallucination—seen both as a narrative technique and as a perceptual "subjective" experience—does not operate in the episode in the form of a homogeneous mechanism, but rather it branches into different manifestations in relation to the characters of Leopold Bloom and Stephen Dedalus. Elsewhere I have argued that in "Ithaca" the differentiation between the two characters reaches a climax in relation to their conception—and even physical exploration—of the void and of impersonality (Prudente 2014). My stress on the differences between the two characters is less intended to imply negative division than, in line with Deleuze's epistemological model based on interstitiality, to focus on the meaning arising from the empty spaces of passage between different states:

> What makes a material increasingly rich is the same as what holds heterogeneities together without their ceasing to be heterogeneous. What holds

[22] Vygotsky's theories have long been debated, with both praise and criticism of the relevance given to social interaction in his developmental approach. Recent rediscussion has proposed to reformulate Vygotsky's "segregational" theory (language seen as a self-contained and stable system) in the form of a more "integrational" view (Jones 2009). As for narrative theory, Vygotsky's conception of inner speech has been related to Bakhtin's dialogism (Emerson 1983).

[23] Significantly, in his *Language and Thought*, Vygotsky largely employs examples from Russian authors (Tolstoy and Dostoevsky) to show the interplay between internal and external speech.

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> them together in this way are intercalary oscillators, synthesizers with at least two heads; these are interval analyzers, rhythm synchronizers (the word "synchronizer is ambiguous because molecular synchronizers do not proceed by homogenizing and equalizing measurements, but operate from within, between two rhythms). (Deleuze 363)

The differences emerging between Stephen's abstract and Bloom's experiential attitudes—the first one "as a conscious rational animal proceeding syllogistically" (*U* 17.1012–13), whilst the second "had proceeded energetically" (*U* 17.1019)—underlie the two divergent processes of apprehension and re-elaboration of experience which determine their opposing directions in the pattern connecting "the known" and "the unknown," Stephen's progressing "from the known to the unknown" (*U* 17.1013) and Leopold taking the opposite path, "from the unknown to the known" (*U* 17.1019–20). These two opposing directions depend on the crucial distinction between the two different images of the void presented in the aforementioned passage: Stephen perceives an emptiness upon which ("upon the incertitude of the void") "a micro and a macrocosm" are constructed (*U* 17.1014–15), whilst Bloom experiences the void as an empty yet dense space to be traversed ("through the incertitude of the void," *U* 17.1020). Stephen's pattern from the known to the unknown proceeds syllogistically through a deductive model excluding the subject's involvement with—or immersion in—experience and, significantly, the void upon which he feels that "a micro and macrocosm" are constructed is the same on which earlier in the novel ("like the world, macro and microcosm, upon the void. Upon incertitude, upon unlikelihood," *U* 9.841–2) he perceives that the church is "founded and founded irremovably because founded" (*U* 9.841). The axiomatic ground on which Stephen's system of knowledge seems to be constructed—further emphasized by the adverb "ineluctably" (*U* 17.1014)—becomes mirrored also in his position as a "reagent" (*U* 17.1014) rather than as an "agent," insofar as his "conscious rational" attitude seems to entail separation from—rather than appropriation of—experience, thus making concepts like the "void," the "unknown," and "incertitude" appear abstractly reconstructed by his mind.

The proposed examination of the perceptual experience of hallucination opens the way for further implications of this epistemological differentiation between the two characters. The void to which Stephen appears resistant may in fact be read also as including reference to a void of reality,

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a space emptied of objective referentiality, and occupied by a kind of perception which exceeds not only objective apprehension but also ordinary language. Unlike Bloom, who allows himself to become fragmented by phantasmagoric refraction and overwhelmed by the emergence of a self-sufficient autonomous and uncontrollable world (chief examples of which are the objects addressing him),[24] Stephen's exit from ordinary and proportioned perception appears tied to self-reflective cognitive processes, as in his self-transformation into a cardinal (rooted in his deeply contradictory internalization of religious dogmatic knowledge), or in his (again religious-grounded) fantasy about the coming of the Anti-Christ. The psychological distinction between hallucination and imagination lies in the fact that the latter differs from the previous by the subject's intentionality and clear awareness of the separation between imagined scenes and genuine perception (Slade and Bentall 1988).[25] This distinction adds further substance to the interpretation of Stephen's consciousness as inclined more to processes of imagination than hallucination, since he proves refractory to the temporary self-oblivion required to abandon himself to the manifestations of the most inexplicable levels of perception. This appears due also to his incapacity of loosening the bond connecting him to a highly sophisticated and self-conscious employment of language, which seems to interpose an artificial screen between his processes of perception and re-elaboration.

[24] "The effect is the most extreme version of discontinuity in the novel between an apparently empirical world, existing in real space and time (created by infinitesimally painstaking mimesis) and a self-contained 'elsewhere' with its own physical rules, just like the screen" (Williams 100).

[25] In Slade and Bentall's "working definition," hallucination is "[a]ny percept-like experience which (a) occurs in the absence of an appropriate stimulus, (b) has the full force or impact of the corresponding actual (real) perception, and (c) is not amenable to direct and voluntary control by the experiencer" (Slade and Bentall 23). Interestingly, as Liester, drawing on McNichol's work for a history of the concept, underlines, "the Ancient Greek originally employed a single word, phantasia, to describe both hallucinations and delusions. Later, this was divided into two terms, one involving misperception of an object (illusion), the other describing the hearing or seeing of things that others do not (hallucination)" (Liester 308). This coinciding was still present when the term was first employed in English in 1572 "deriving from the Latin *allucinatio* (wondering of the mind, idle talk) […] at this time no distinction was made between 'hallucinations' and the phenomenon now subsumed by the word 'illusion' (derived from Latin *illusio* meaning mocking, jeering, or bantering)" (Slade and Bentall 7).

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In this sense, the previously mentioned issue of inner thought in psychology—particularly the idea of a dialogic "external" source of inner verbalization—and the complex optical experience of phantasmagoria, in which—differently from magic lantern shows or later cinema—the body of the spectator is involved in the show,[26] add essential elements to the exploration of how is reconfigured in "Circe" the relationship between self and external reality (or the illusion of reality).[27] In particular, Vygotsky's view of thought and language as two intersecting circles (wherein "there is a larger range of thinking that has no direct relationship to verbal thinking," Vygotsky 1987, 115) implies that the experience of hallucination involves levels of consciousness which can be considered as both preceding and exceeding language. This is of course a key issue when examining the techniques of representation of consciousness which, as Ann Banfield has underlined, inevitably reveal their essential fictionality (the "approximation of words to thoughts, even our own," Banfield 260), and it is further emphasized by Dorrit Cohn when she remarks how Joyce "was fully aware of the difference between interior discourse and the language of unconscious," and abandoned "the realistic monologue technique in favour of a distinctive surrealistic dramatic phantasmagoria when he ventured into the arena of the unconscious in 'Circe'" (Cohn 88).

Following this line, if we consider how everything in "Circe" appears projected beyond language, Bloom's last vision—that of his vanishing

[26] Not only, as underlined, did phantasmagoria work by concealing its projectors, but also the settings of the screenings ("into the most lugubrious of rooms," Robertson quoted in Castle 34), the darkness, and, above all, the aerial pictures approaching the viewers represented an innovatively involving experience for spectators, which did not entail separation between themselves and the screen (which was concealed): "The Phantascope could move towards or away from the screen on wheels that rolled smoothly along polished brass rails. Combined with new controls that made adjustments in focus easier, such movement caused the projected image on the screen either to enlarge or decrease in size. Since these movements and adjustments could be done both rapidly and invisibly, and since the spectator was placed in darkness without any visible spatial reference, the rapidly enlarging image appeared to be charging out at the audience (or, if the lantern were rolled backwards, withdrawing)" (Gunning 2004).

[27] As underlined by Mannoni, the very etymology of the word "phantasmagoria" entails exchange between the ghostly figures and the spectator: "From the Greek phantasma, phantom—deriving from phantazo, I produce an illusion; and agoreuo, I speak—as the etymology suggests, a dialogue may take place between the audience and the spectre resurrected by the magic lantern" (Mannoni and Brewster 1996, 390).

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son who, again phantasmagorically, "appears slowly"—may be read as the culmination of the aforementioned process of accepting reality as self-sufficient and extra-linguistic.

> (*Silent, thoughtful, alert he stands on guard, his fingers at his lips in the attitude of secret master. Against the dark wall a figure appears slowly, a fairy boy of eleven, a changeling, kidnapped, dressed in an Eton suit with glass shoes and a little bronze helmet, holding a book in his hand. He reads from right to left inaudibly, smiling, kissing the page.*)
>
> BLOOM
>
> (*wonderstruck, calls inaudibly*) Rudy!
>
> RUDY
>
> (*gazes, unseeing, into Bloom's eyes and goes on reading, kissing, smiling. He has a delicate mauve face. On his suit he has diamond and ruby buttons. In his free left hand he holds a slim ivory cane with a violet bowknot. A white lambkin peeps out of his waistcoat pocket.*) (*U* 15.4955–67)

Rudy's profound ("*into Bloom's eyes*") but "*unseeing*" gaze—a gaze deprived of any interaction with the reality he is gazing at—and above all his silence and the reciprocal inaudibility he shares with his father, place this apparition apart from the preceding ones: the reader is thus allowed to briefly glance into what may be considered as the beyond of what is beyond language (or the unspeakable of the unspeakable), the core of that mysterious interchange between senses and thought—which "Circe" attempts less to solve than to render with the paradoxical objectivity of a perennially changing narrative machine, and through the presence in absence of an equally silent and (apparently) self-oblivious narrator.

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"[The] Buzz in His Braintree, the Tic of His Conscience": Consciousness, Language and the Brain in *Finnegans Wake*

Annalisa Volpone

The brain is wider than the sky.
(Emily Dickinson 598)

Lulled in the countless chambers of the brain,
Our thoughts are linked by many a hidden chain.
Awake but one, and lo, what myriads rise!
(Samuel Rogers 9)

Introduction: Speech and Stuttering: A Historical and Scientific Background

The second half of the nineteenth century and the first half of the twentieth are marked by an increasing interest in the potentialities and functions of the brain, in terms of both physical and psychological events. Accordingly, the emphasis is primarily laid on the brain, not only as the recipient and elaborator of sensory stimuli, but also as the seat of mental

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8_13

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processes. This distinct conception has paved the way for the establishment of the discipline of cognitive neuroscience (Bennett and Hacker 4–43). Among the various issues that cognitive neuroscience investigates, the relationship between thought and speech is certainly one of the most prominent. This is mainly due to the fact that at the basis of the interplay between thought and speech there are complex dynamics that involve the emotional as well as physical spheres. When such dynamics are for some reason impaired, different language disorders can occur. Thus it was precisely the analysis of patients with speech problems that gave early researchers the first clues as to how the brain is involved with language.

In the early 1870s, Paul Broca (1824–80) and Carl Wernicke (1848–1905) discovered and studied the roles and functions of the left and right hemispheres, with reference to language and speech (lateralization). In particular what is now called Broca's area (or convolution of Broca) lies in the third frontal convolution, just anterior to the face area of the motor cortex and just above the Sylvian fissure. In the *Bulletin de la Société d'Anthropologie*, Broca theorized that the left hemisphere is distinct or dominant for language, because it matures faster than the right. He reasoned that the two hemispheres, which look so much alike, are probably not very different in innate capacity, although one clearly takes the lead in the case of speech, and then dominates the other (cerebral dominance). In 1874, Wernicke hypothesized that another part than Broca's area of the brain could be linked with language disorders, in particular those related to language comprehension. This area (now called "Wernicke's area") was further back and lower in the brain as compared to Broca's. Connected by a bundle of nerve fibres called the arcuate fasciculus, the two areas are now considered responsible for different kinds of aphasia and language deficit.

Drawing on Broca's and Wernicke's research on language comprehension and production, Samuel T. Orton (1879–1948) and Lee Edward Travis (1896–1987) developed the theory of "cerebral lateralization," also known as "handedness," because it was first associated with the phenomenon of left- or right-handedness. Orton and Travis postulated that stuttering is the result of a conflict between the left and right cerebral hemispheres. Moreover, they concentrated on the consequences of incomplete lateralization of language.[1] In their opinion, stuttering, in particular, was the

[1] The theory of lateralization focuses on brain asymmetry—the way the two hemispheres differ functionally and structurally—, and how they participate in the cortical and subcortical circuitry underlying complex cognition (Hugdahl and Davidson 8).

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result of an absence of normal cerebral dominance, which caused an incoordination of cortical areas essential for speech production and perception (Dorman and Porter, Jr. 181). Stuttering, they argued, stemmed from various medical conditions such as neurological diseases, brain injuries, or even psychological traumas.

Although Freud showed no particular interest in stuttering, he expressed his thinking in several case presentations and theoretical writings, beginning in 1888 (Packman and Attanasio 48). A few years after Broca's and Wernicke's studies, in the late 1880s, he treated a forty-year-old widow, Frau Emmy von N., who had a tendency to stutter. Freud held that the aetiology of stuttering was mostly psychological.[2] Later, he stated that "stammering could be caused by displacement upward of conflicts over excremental functions" (Glauber 330): Freud felt the adult stutterer's speech mechanism depended on conflict between the wish to defecate symbolically on his parents and authority figures by using hostile words and a concurrent fear of retaliation. Hence, because stuttering is ultimately the result of such contradictory and antithetical drives, it can only manifest through repetition (verbal fixity of hostile utterances) and hesitation (fear of retaliation).

This essay intends to focus on the influence that contemporary medico-cultural discourse might have exerted on Joyce's *imaginaire*,[3] and in particular on his treatment of stuttering in *Finnegans Wake*. Indeed, stuttering is not only a peculiarity of HCE and his projections, but also the symptom of a new poetic form, the highest achievement of Joyce's linguistic experimentation. As David Spurr has explained:

> Stuttering and related forms of defective speech constitute a phenomenon that we witness throughout Joyce's work, and especially in *Finnegans Wake*. These phonetic anomalies have the effect of staging precisely the material production of the utterance which is so important to Joyce's language. [...]

[2] Current research distinguishes various forms of stuttering. That referred to by Freud is "psychogenic stuttering." For a comprehensive account of the psychological implications of stuttering see Boberg.

[3] Important scientific discoveries in the history of neuroscience were made during this period, resulting in at least three Nobel prizes. In 1906 Camillo Golgi and Santiago Ramón y Cajal were awarded the prize for their work on the structure of the nervous system, and in 1932 Edgar Douglas Adrian and Sir Charles Sherrington were recognized for their discoveries regarding the functions of neurones. Finally, in 1936 Sir Henry Hallett Dale and Otto Loewi were awarded the prize for their discoveries in the field of chemical transmissions and nerve impulses.

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> By means of stuttering and other phonetic imperfections, Joyce prepares the ground for a new literary language that finds its final form in *Finnegans Wake*. (121–2)[4]

In the *Wake*, Joyce modifies the patho-logical deferral of meaning and sense produced by stuttering into an epistemo-logical quest for a new order of speech. Such a new order of speech paves the way for what I would call the poetics of the "[y]ou're not there yet" (*FW* 205.14), the asymptotic relationship between signifier and signified, which is a stylistic hallmark of the *Wake*. The overt disclosure of the (once) hieratic arbitrariness of the signifier proves that even the *signum* can be profaned, disrupted, and mutilated by means of an endless "continuarration" (*FW* 205.14) in which the language of dream becomes the language of reality.

From a cognitive perspective, such a disjointed language invites a reflection on the mechanisms of its production and its pragmatic effects. In this regard, HCE and his projections, in particular his two sons Shem and Shaun, enact and embody the paradoxes and limits of literary and non-literary communication. On closer examination, it could be argued that Shem and Shaun are something more than their father's projection: provocatively, we could think of them as the left and right hemispheres of HCE's brain. Revealingly, in the "Nightlessons" episode, Shaun and Shem make marginal remarks to the text of the lesson, Shaun on the right hand margin and Shem on the left. Indeed, their struggle for dominance, as well as their different functional specializations—especially in terms of written and oral language—seem to be modelled according to the hemisphere lateralization suggested by contemporary neuroscience. In consequence, each of the brothers' abilities are meticulously categorized and listed throughout the *Wake*: while Shaun is associated with oral language, Shem is associated with the written word; indeed his oral communication proves to be inadequate and ineffective, because he has his father's stutter.

In the first part of this essay, I will focus on HCE, whose *ur*-stuttering serves as a model for all the other characters' stuttering and for Joyce's *modus narrandi*. I will then concentrate on Shem and Shaun and on their relationship with HCE, which I intend to investigate in terms of

[4] David Spurr's essay on "Stuttering Joyce" was published in *Errears and Erroriboose* as I was completing research for my own article in May 2011. I wish to thank him for his evocative and compelling reading of stuttering in Joyce's writing, and in particular in *Finnegans Wake*, which confirmed some important aspects of my own investigations in the field of cognitive sciences.

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cognition, emotion, and memory. Finally, by examining the three of them holistically, i.e. as functional patterns of the same neural network (which ultimately is the *Wake* itself), I will try to open new reading perspectives and semantic possibilities.

"Bygmester Finnegan, of the Stuttering Hand" (*FW* 4.18) and the Extended Consciousness of HCE

It is with a stutter that the *Wake* begins, or re-begins. A stutter is the sound of Finnegan's fall that is rendered morphologically by a long compound, which in its turn is made of a sequence of broken lexemes designating the word "thunder" in different languages: "bababadalgharaghtakamminarronnkonnbronntonnerronntuonnthunntrovarrhounawnskawntoohoohoordenenthurnuk!" (*FW* 3.15–17). Thunder is also the voice that Vico assigned to God, as the first meaningful sound ever uttered. However, the verbal hesitation expressed by the repetition of the monosyllable "ba" suggests that the voice of thunder, the voice of God, is in fact a stuttering voice. Furthermore, the tautological nature of the Wakean word for thunder is in itself a kind of stutter: the voice of God is nothing but the infinite chain of signifiers standing for the same inaccessible signified. Ironically, in the quotation, rather than God's voice, the sound of the fall better corresponds to that of a child in his first awkward attempt to speak ("bababa"). In this regard, God's stutter prefigures and announces the limits of verbal communication by evoking the biblical Tower of Babel in the initial "bababa," which is followed with a confusion of barely intelligible languages. It should be noticed, moreover, that again "bababa" refers to stuttering via the Latin word *balbus* (stutterer), which Joyce widely employs throughout the *Wake*.[5] Such a combination of scattered languages and stuttering signifiers will later converge in the evocative image of the "Tower of Balbus" (*FW* 467.16) which is associated with Shem.

Echoing the biblical Tower of Babel, as presented in Genesis, the wakean "Tower of Balbus" posits stuttering both at the "beginning" (genesis?) of the story and of the language employed to recount it.[6] In this regard, the dialogue between Mutt and Jute is particularly revealing,

[5] See for example "balbulous" (*FW* 4.30), "balbly" (*FW* 37.16), "Balbaccio, balbuccio!" (*FW* 45.34) or "tribalbalbutience" (*FW* 309.2).

[6] For further reading on stuttering and the Tower of Babel, see Atherton 174.

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because it invites the reader to reflect on the very nature of stuttering in the novel:

> Jute.—But you are not jeffmute?
> Mutt.—Noho. Only an utterer.
> Jute.—Whoa? Whoat is the mutter with you?
> Mutt.—I became a stun a stummer.
> Jute.—What a hauhauhauhaudibble thing, to be cause! How, Mutt? (*FW* 16.14–19)

Representing respectively hearing and speaking, Jute and Mutt never really communicate, since they are both impaired: Jute cannot properly hear while Mutt cannot properly speak. Their awkward conversation seems to be deeply affected by stuttering at the level of both the signifier and the signified. When Jute asks Mutt: "Whoa? Whoat is the mutter with you?" (i.e. "What is the matter with you?"), he does it, not only in the sense of "What is wrong with you?", but also, and more interestingly, in the sense of "What is the matter with your utterance?". Here the term "matter," which is implicit in "mutter," recalls the Latin *materia,* i.e. the substance from which something is made; significantly, to Jute's question Mute's answer is stutter: "I became a stun a stummer." Stutter is the semantic substance (signified) of Mutt's speech and a stutter is what Jute can hear and reproduce phonetically as a signifier: "What a hauhauhauhaudibble thing, to be cause!"

Matter in the sense of *materia* indicates also the phenomenal world, which is perceived as something different from or outside consciousness. However, the neuroscientist Ramachandran has observed that "the barrier between mind and matter is only apparent and arises as a result of language" (quoted in Lodge 9). Hence stutter, as a pathological manifestation of language, becomes an epiphenomenon of the limits and imperfections of such an artificial barrier, of the apparent separation between the subject and outer reality. Along these lines, the expression "mutter" is particularly evocative. Seamlessly embodying the subject ("Mutt"), his language ("utter") and the matter, "mutter" epitomizes the overcoming of the difference between what is inside and what is outside subjectivity. In this perspective, Jute's insistence on the who ("Whoa") and what ("whoat") involved in Mutt's utterance can be associated with the philosophical notion of *qualia*, the plural of *quale*, which is the Latin for "what sort," or "what kind." *Qualia* are used to refer to subjective

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experience, to define experiential properties of sensations, feelings, perceptions and, more controversially, thoughts and desires as well.[7] Therefore, Jute's question alludes also to the complexity of Mutt's experience, that of an individual human being "moving through space and time" (Lodge 10).

It is not by chance, then, that further on in their dialogue Mutt and Jute discuss their perception of the reality around them and what has happened inside the mound that comes to sight as the morning mist gradually fades away. The kind of reality that they are describing, as well as their comments about it, is ambiguously presented: we never fully understand whether it is part of the "outer world" or whether it belongs to the characters' inner dimension. At some point in their conversation, Mutt says to Jute: "you skull see" (*FW* 17.18). Here, not only does the skull refer to the past, to a pre-historical time that is paradoxically presented as a future possibility ("you *shall* see"), in a vertiginous subversion of linear time, but also as the bony framework which encloses the brain. "You skull see" implies a kind of vision that is first and foremost mental. Accordingly, if we return to Jute's early question ("Whoa? Whoat is the mutter with you?"), the "mutter" alluded to might refer to the brain matter that was first described by the ancient Egyptians in the *Book of the Dead*—a major reference in the *Wake*—and more particularly in the so called *Edwin Smith Surgical Papyrus*, the earliest written account of the anatomy of the brain.[8]

God's initial stutter, evoked by the multi-lingual thunder, conflates into Tim Finnegan's scream as he falls down. Finnegan is the first stuttering character in the narration, and notably he is presented as the "Bygmester Finnegan, of the Stuttering Hand" (*FW* 4.18). Much has been said about the image of Finnegan's stuttering hand, which symptomatically occurs in the opening pages of the *Wake*, and the act of stuttering associated with the hand has been regarded as a paradigm of how stuttering works in the writing of the text itself.[9]

However, the reference to Finnegan's hand also echoes the notion of handedness. As I have already mentioned, contemporary theory of lateralization considered stuttering as the result of either an absence of cerebral

[7] For a more detailed description of *qualia* see Stubenberg 21.

[8] For an account of the influence of *The Book of The Dead* on the *Wake* see Atherton 191–200 and Bishop 86–125.

[9] See for example Atherton 172–3 and Spurr 126.

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dominance or of its abnormal manifestation, usually in connection to left-handedness.[10] The lateralization of the hemispheres had become quite popular since the late Victorian age, not only because it explained human behaviour, emotions, and consciousness scientifically, but also because it inevitably called for a new representation of the psychophysiology of the individual. For instance, it challenged the notion of stable and unitary human identity:

> By suggesting that certain parts of the brain controlled specific emotions and behaviours, localizationists contradicted the popular belief in a unified soul or mind governing human action, thus narrowing possibilities for human agency. (Stiles 10)

Lateralization acknowledged a concept of identity based on duality and potential multiplicity. In this regard, the character of Tim Finnegan, with his many projections, epitomizes such a disruption of identity. The effects are visible in the writing itself. The synecdochic image of his stuttering hand indicating writing *tout court* deconstructs the monolithic views of writing as a self-contained and self-sufficient process. Its "stuttering quality," moreover, emphasizes how writing, like speaking, is ultimately the result of hesitancy, and of multiple negotiations among different, and often opposite, drives.

From the opening pages of the *Wake*, it is clear in fact that, in his role of storyteller, the writer is no longer capable of offering a monolithic perspective of the world. His hesitating voice and writing tools are the evidence that language is the result of complex psychological and physical dynamics, in which many different components are called into question. In this view, then, the well-known search for the writer's identity through the Rorschach image of the "teatimestained terminal" gathers new meanings:

> The teatimestained terminal […] is a cosy little brown study all to oneself and […] its importance in establishing the identities in the writer complexus (for if the hand was one, the minds of active and agitated were more than so) will be best appreciated… (*FW* 114.29–35)

[10] Notably, Lewis Carroll, who is an inescapable reference point in the *Wake*, had a stutter and was left-handed. Carroll's physical peculiarities were clearly a model for the character of HCE and his projections, in particular for Shem.

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The recurring synecdochic relation between the writer and his hand is contrastively presented here: the hand is one, while the minds are multiple. The writer's identity becomes a "complexus," in which complexity is combined with the idea of an intricate, composite structure ("plexus"), like a neural nexus could be. Indeed, writing becomes the result of a collaboration of "active and agitated" minds. Notably, the lateralization of the brain was popularly referred to as "split-brains" to indicate the different roles performed by the two hemispheres; elsewhere Joyce employs "Scatterbrains" (*FW* 99.34), which seems to evoke the same concept.

HCE is the major stuttering character of the *Wake*. As we know, he stutters whenever he deals with his supposed guilt. In this case, stuttering is a sign of his presence throughout the novel, a mark of his legacy when it is manifested in other characters, especially in his twin sons Shem and Shaun.

In I.ii, precisely after his assumed infraction, HCE encounters the cad who asks him the time. The pub owner reacts nervously to the apparently innocent question, as if it were a statement of his guilt. He tries to stay calm and to answer appropriately, however all he can say is almost incomprehensible, because of his stuttering:

> Shsh shake, co-comeraid! Me only, them five ones, he is equal combat. I have won straight. Hence my nonation wide hotel and creamery establishments which for the honours of our mewmew mutual daughters, credit me, I am woowoo willing to take my stand, sir, upon the monument, that sign of our ruru redemption. (*FW* 36.20–5)

Evidently, the stuttered words reveal HCE's guilt. For instance, the basic word "comrade" (which has a military connotation) becomes "co-comeraid," a compound expression that contains the verb "to come"—here obviously in a highly marked sexual connotation—and "raid," i.e. a surprise attack, a totally unexpected ambush, as is for HCE the meeting with the cad.[11] "Nonation" refers both to the biblical character "Onan," and therefore to "onanism"—again to be related to HCE's sexual infraction—, and to the fate of Ireland, of which HCE is representative, as a sort of Irish Albion.[12] "Nonation" can be also read as "no nation," as if

[11] It should be noted that cad, apart from being the short form of "cadet," also means "a man who does not behave in gentlemanly manner towards others" (*OED*).

[12] Cf. Frye 45–6.

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Ireland's stuttering hero were losing his identity both as an individual and as a citizen. Further, the possibly incestuous nature of HCE's crime is revealed by the expressions "mew mew," which echoes the crying sound of a cat, in this case of "pussycats" (incidentally "mew" indicates also a place to hide away), and "woo," which means "to court, to make love" or, remarkably, "to invite with importunity, to solicit in love" (*OED*).

The above passage exemplifies how HCE's stuttering is pre-eminently represented from an emotional point of view. Consequently, HCE's sensations, betrayed by such a language disorder, disclose important aspects of his personality and add essential information to the character. In this perspective, his stuttering has a crucial cognitive function for the reader.

Stuttering is disseminated throughout the *Wake* like a virus affecting the characters who deal with HCE. For instance, when the cad recounts his encounter with him, he does it by employing a "secondmouth language as many of the bigtimer's verbaten words which he could balbly call to memory" (*FW* 37.16). The expression "secondmouth" indicates, in fact, that he is reporting something said by another. Here HCE's speech disorder is somehow inherited by the cad as a "babble" (which is a bit different from stuttering—a meaningless confusion of words or sounds) although, as I have shown earlier, "balbly" might also refer to the Latin "balbus," which means "stutter."

As David Hayman has remarked, HCE is permitted direct expression in the *Wake* only twice: in his address to the pub clients of II.iii and in the concluding long monologue of III.iii, the so called "Amtsadam, sir" monologue. Here, during a kind of séance, or perhaps a psychoanalytic session, since the four judges have now become "bright young chaps of the brandnew braintrust" (*FW* 529.5), the "expansive voice" of HCE emerges from the depth of the ground,[13] or maybe from the midden, to which it seems he contributed with his own excrements.[14]

The expression "braintrust" referring to the four judges not only echoes the well-known group of advisors to Franklin Roosevelt during his presidential administration, but also, and more interestingly, the cerebral, empathic, connection that HCE gradually, and ironically, establishes with the four judges, similar to the kind of relationship of trust and confidence that is at the basis of psychotherapy.

[13] Hayman speaks of a voice "buried in the nightmare of history" (Hayman 193).

[14] Notice that the midden is the same "place" in which the letter (mamafesta) had previously been recovered by the hen.

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In a passage from his speech, HCE tries to praise his wife to (unsuccessfully) hide his sexual drive towards his daughter:

> On my verawife I never was nor can afford to be guilty of crim crig con of malfeasance trespass against parson with the person of a youthful gigirl frifrif friend chirped Apples. (*FW* 532.18–21)

Here, Joyce's treatment of stuttering is almost entirely psychological, and Freudian to be more precise, with the many references to excrements, for example when he declares "I popo possess the ripest littlums wifukie around the globelettes globes" (*FW* 532.30–1): "popò" in Italian, as well as in English ("poo" and "poop"), means "shit" (faeces), and in German means "bottom". Although HCE tries to avoid the four judges' probing questions, and to deny everything before he is actually accused of anything, his distinctive stuttering is evidence once again of his sense of guilt and embarrassment about his supposedly inappropriate behaviour towards a young girl ("against parson with the person of a youthful gigirl frifrif friend"); further, the above sentence alludes to strong terms of guilt such as "fuck" ("wifukie"). The emergence of such an uncontrollable drive as well as the exhaustion of his last masks, used to hide his shame, could be compared with what Antonio Damasio would call "extended consciousness" or "autobiographical self." According to the Portuguese neurologist, the extended consciousness:

> is a complex kind of consciousness, of which there are many levels and grades, it provides the organism with an elaborate sense of self and identity, because it places the person at a point in individual historical time, richly aware of the lived past and of the anticipated future, and keenly cognizant of the world beside it. (Damasio 1999, 16)

To the notion of extended consciousness Damasio opposes that of "core consciousness," which:

> provides the organism with a sense of self about one moment (now) and about one place (here). The scope of core consciousness is the here and now. For core consciousness there is no elsewhere, there is no before, there is no after. (Damasio 1999, 16)

In this regard, the "Amtsadam sir" monologue represents the moment of HCE's self-revelation, of the emergence of his autobiographical self.

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Until then, what we have been allowed to know about him is only his "core consciousness," that is to say, HCE as he is in different times and spaces, as well as in different and even contradictory versions. Therefore, HCE, as the Great Master Builder of the City (Amsterdam), presents himself as a complex archetypal figure of gigantic proportions (a kind of new Adam Kadmon or Irish Albion). At the same time, HCE's controversial autobiographical self is sublimated into his role of builder and bringer of the psycho-archeological history of mankind.

Marked by an "elaborate sense of self and identity" (Damasio 1999, 14), as well as by an awareness of our life in time, Damasio's extended consciousness perfectly fits the context of HCE's stuttering declarations in his final monologue. For instance, although he is still trying to conceal his sins and deny his urges, his sense of self and identity emerges from the very beginning of his speech, when he declares:

> I am bubub brought up under a camel act of dynasties long out of print, the first of Shitric Shilkanbeard (or is it Owllaugh MacAuscullpth the Thord?), but, in pontofacts massimust, I am known throughout the world. (*FW* 532.7–10)

Even though mostly concocted, the allusions to his complex lineage ("the first of Shitric Shilkanbeard (or is it Owllaugh MacAuscullpth the Thord?"), to his ancestors and origins strongly reveal HCE's need to reconcile himself with his-story and his conscience. Therefore, it is quite remarkable that HCE's consciousness arises when he tries to explain and to give voice to his conscience, for the first time. His stuttering signals such an effort. Rather than being a mere symptom of HCE's guilt, it indicates that his conscience is coming to the surface through language. Thus, the interruptions and hesitancy in his discourse are evidence of intense psychological activity.

Only at this point of narration, when HCE is apparently ready to deal with the paradoxes of his conscience, his consciousness can finally overcome subjectivity to be part of the wider flux of existence. Further, sentences like "one of my life's ambitions of my youngend from an early peepee period while still to hedjeskool, intended for broadchurch" (*FW* 533.25–7) and "Here we are again" (*FW* 532.6) confirm his newly gained sense of life in time, in particular in the past and in the present.

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Conversely, there is no immediate future, because now HCE needs to give way to his sons Shem and Shaun, or better, to transform and transfigure himself into them. In this regard, the quotation chosen for the title of this essay is particularly appropriate: "[t]he buzz in his braintree, the tic of his conscience" (*FW* 180.22) is a reference to Shem, but could be associated with Shaun and HCE as a unique subjectivity too. On closer examination, in fact, "the buzz in his braintree" could be attributed to Shaun as the paradigm of a "disordered rationality." Moreover, Shem's braintree evokes the arboreal representation of the nervous system, whose harmonic balance is threatened by an unidentifiable sound ("buzz") of unknown origin, like the sound of an untuned radio. It should be remembered that HCE's head is variously employed in terms of acoustical and broadcast technology: thus, according to the moment of narration, it can function as radar, radio, sonar, telegraph, or television.[15] The "tic of his conscience" echoes HCE's stuttering both as a psychosomatic response to his sense of guilt and, as I have argued, as the passage from a core consciousness to an expanded one.

The Haunted Inkbattle House: Consciousness and Cerebral Dominance

The final section of this essay will concentrate on how consciousness is presented in the episode known as the "Inkbattle house" (*FW* 169.1–186.18), and on the motif of the struggle between brothers in connection with the lateralization of cerebral hemispheres and cerebral dominance. From the very beginning of the episode we realize that Shem's house is a pathway through his own consciousness. Indeed, apart from the obvious association of Shem with writing, the reference to the "inkbattle" recalls the experiments of the Swiss Freudian psychoanalyst Hermann Rorschach (1884–1922) who, before moving to Russia, studied and worked in Zürich. He used the perception of inkblots as an approach to theoretical problems in psychology (Lanyon and Goodstein 13).

In the *Wake*, the reader seems to be invited to explore and interpret the blurred and irregular depths of Shem's consciousness as if it were a Rorschach test. A consciousness that primarily manifests itself through the writing of the tea-stained letter mamafesta, whose alphabet could again be interpreted not only in terms of signs but also in terms of images; like the

[15] See Theall on the technological transformations of HCE.

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logographic elements of the Egyptian hieroglyphs ("The proteiform graph itself is a polyhedron of scripture," *FW* 107.9).

In one of the crucial passages of the episode, Shaun defines Shem as "son of Thunder, self exiled in upon his ego" (*FW* 184.6–7). The thunder Shem is associated to is, of course, the stuttering thunder of the opening pages, which recalls Finnegan's fall and, through him, HCE. However, there is a distance between Shem and the thunder: Shem has sunk into the abyss of his self-exiled consciousness, he is a "soulcontracted son of the secret cell" (*FW* 182.34–5), "writing the mystery of himsel in furniture" (*FW* 184.9–10).

Hence, delving into Shem's psychological recesses, layer after layer, allows us to arrive at the mental area in which the writing process occurs, or first begins. As if we were scanning and mapping Shem's brain, it is possible to identify his "chora," which according to Kristeva is the prelingual stage in development dominated by a confused combination of opposite drives:

> The *chora* is a modality of significance in which the linguistic sign is not yet articulated as the absence of an object and as the distinction between real and symbolic. We emphasize the regulated aspect of the *chora*: its vocal and gestural organization is subject to what we shall call an objective *ordering* [*ordonnancement*], which is dictated by natural or socio-historical constraints such as the biological difference between sexes or family structure. We may therefore posit that social organization, always already symbolic, imprints its constraint in a meditated form which organizes the *chora* not according to a *law* (a term we reserve for the symbolic) but through an ordering. (Kristeva 26–7)

Shem's hideaway is the locus of the undifferentiated, where written and oral languages conflate into the language of the self, where Shem's symbolic and real spaces seamlessly overlap. According to Shaw Sailer:

> Kristeva declares that only a few avant-garde poetic texts explore the full range of the signifying process to reach the chora, one of which is the *Wake*. As the place where the unity of the speaking subject "succumbs before the process of charges and states that produce him", the chora is the force behind such phenomena as HCE's stuttering as the sign of his sexual guilt, the incoherent sensual babbling of Issy's letters as the sign of her awakening adolescent sexuality, and the fury of Shaun/Jaun's tirade to Issy in III.2 as the sign of his attraction to her. (Shaw Sailer 17–18)

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Therefore, the chora is the psychological drive that remains at the basis of Shem's verbal instability, whose most overt symptom is, in fact, his stuttering. In its chaotic mix of perceptions, feelings, and needs, the chora is materially represented by the infinite catalogue of objects that can be found in Shem's house such as: "broken wafers" (*FW* 183.34), "unloosed shoe latchets" (*FW* 183.34), "burst loveletters" (*FW* 183.11), "tries at speech unasyllabled" (*FW* 183.14–15), "best intentions" (*FW* 183.19), "crocodile tears" (*FW* 183.24) and "alphybettyformed verbage" (*FW* 183.13).

In such a peculiar archive we can also find an extremely evocative object: the "amygdaloyd almonds" (*FW* 183.12). Since "amygdaloid" is the ancient Greek word for almond, the Wakese expression might be translated as "almond-shaped almonds." This reference, however, is not just a redundant definition for an object that is almond-shaped, as amygdale is also the French word for "tonsil." Before Broca's and Wernicke's studies, it was held that stuttering was caused by congenital physical abnormalities, such as enlarged tonsils. Indeed, tonsils were the first tissue to be removed in an attempt to treat stuttering. In this regard, the reference to tonsils, to a physical part of Shem's body, as a possible cause for his verbal impediments (which become verbal creations) is in line with Joyce's view of artistic creation. The body is part of such a creation, strongly influences it, and even becomes one with it, as when Shem writes on his bodily parchment. Indeed, the whole episode might be read as a long reflection on the physical, corporeal side of creative writing, which cannot be separated from its mental counterpart. In fact the term amygdala has this double meaning, i.e. it recalls a specific part of the body, but also another one, closely connected to the mind.

In the years in which Joyce was writing the *Wake*, neurologists such as Paul Bucy and Heinrich Klüver studied the areas of the brain associated with memory. The amygdala, in particular, is an almond-shaped subcortical structure in the temporal lobe. Discovered in the nineteenth century, it is considered responsible for storing painful and emotion-related memories, as well as initiating memory storage in other brain regions. In the 1930s, scientists found that damage to the temporal lobe caused a variety of changes in people's behaviour. The most prominent changes were related to fear reactions, feeding, and sexual behaviour. Further investigations have proved that damage to the amygdala leads to specific changes in emotional processing.

Shem's behaviour, as Shaun portrays it (given that the Inkbattle house is described from Shaun's point of view), seems to present "anomalies"

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precisely in the functions attributed to the amygdalae. Take, for example, the way fear is manifested in Shem: Shaun describes his brother as fearful and timid, always trying to avoid battles, as he "was cowardly gun and camera shy" (*FW* 171.33–4); or how he is associated with food, as Shem has "unusual tastes." Shaun remarks that he prefers canned and filthy food to fresh food, and a urinous white wine ("he preferred Gibsen's teatime salmon tinned, as inexpensive as pleasing, to the plumpest roeheavy lax or the friskiest parr," *FW* 170.26–8). As for his sexual behaviour (which is synthesized as "immoral," "nonproductive" and "degenerate"), Shaun emphatically reports that Shem swims "in the pool of Sodom" (*FW* 188.23–4).

The reference to the amygdala, moreover, strongly emphasizes the importance of memory, both as an archive in which experience is stored, and as a creative dimension halfway between imagination and experience itself. Shem's inkbattle house epitomizes such a peculiar form of memory, which echoes Coleridge when, in *Biographia Literaria*, he operates a crucial aesthetic distinction between fancy and imagination, whereby imagination is the only power of the mind that makes memory come into act. Therefore, imagination:

> dissolves, diffuses, dissipates, in order to recreate; or where this process is rendered impossible, yet still at all events it struggles to idealise and unify. It is essentially vital, even as all objects (as objects) are essentially fixed and dead. (Coleridge, vol. I, 202)

Shem's house is a place of artistic recreation, of secular resurrection from death and fixity, a place in which consciousness, with its fund of active memory, gives life to the work of art.

Throughout the novel Shaun and Shem perform various roles and functions. However, rather than being autonomous characters (with an individual existence), they are usually presented as psychological and/or physical elements of the two ur-types HCE and ALP. Accordingly, they can be considered the upper and lower parts of HCE's body (Shaun would be the brain and Shem the genitals), the left and right banks of the river Liffey, or even ALP's thighs.

It can be suggested that, when related to HCE, Shem and Shaun play a much more sophisticated function, as they respectively represent his left and right cerebral hemispheres. Indeed, in many crucial passages of the *Wake*, the connection between the two brothers seems closer than that

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between a father and his sons. Precisely because none of the characters is a Dickensian individual, but a general type, his/her ambiguous presence in the text can perform multiple tasks (Epstein 4). For instance, in III.iii, HCE resurrects within the depths of Shaun/Yawn ("Arise, sir ghostus! As long as you've lived there'll be no other," *FW* 532.4–5), subverting and disrupting a father's biological link to his son. On closer examination, then, the twins are a kind of organic, physical component of their father's body. The kind of symmetrical (twin) relation that links one to the other, as well as their being two halves of the same whole, can be compared to the two cerebral hemispheres that constitute the largest part of the brain. Even the brothers' antagonism, which Hayman considers a major nodal system of the *Wake*, can be read in terms of struggle for cerebral dominance.

The competences and functions that Joyce attributes to the twins throughout the novel correspond to those which, in his time, were generally attributed to the cerebral hemispheres. Shem is usually associated with the left side of the human body, while Shaun is associated with the right. For example, Shaun's use of language is literal and analytical, while Shem's is poetic and creative. According to studies of the lateralization of the functions in cerebral hemispheres conducted by Broca, and some years later by Wernicke, the left hemisphere is connected to a sophisticated use of language, and controls general cognitive functions.[16] Some researchers have recently gone so far as to ascribe consciousness to the left hemisphere. The right hemisphere is credited with pragmatic and contextual language, and the processing of non-verbal emotional stimuli and musical abilities.[17]

In the *Wake*, Shem is the artist, the creative part of the body, while Shaun is the rationalist, the cold mathematician, who cannot bear the anarchy of creativity. Above all, Shaun is emotionally and artistically limited; as Epstein remarks, when he needs language to insult Shem, he must ask Shem for the appropriate words:

[16] In this regard something should be said about the question of left-handedness as it was studied in Joyce's time. According to Broca, left-handedness would imply a hemispheric switch. Therefore, the dominant hand was considered a reflection of cerebral dominance.

[17] It must be said that broad generalizations are often made in popular psychology about certain functions (e.g. logic, creativity) being lateralized, which is to say, located in the right or left side of the brain. These ideas need to be treated with care, as certain specific functions are often distributed across both hemispheres. In this essay, reference is only made to what was believed about lateralization in Joyce's time.

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> you (will you for the laugh of Scheekspair just help mine with the epithet?) semisemitic serendipitist, you (thanks, I think that describes you) Europasianised Afferyank! (*FW* 191.1–4)

In III.ii, Mamalujo's donkey suggests that Shaun has as great gift for language, like his celebrated brother Shem. Shaun obviously denies Shem's abilities. He then violently vituperates against him, which shows Shaun's constant unease about what his own bottom half is up to:

> —Kind Shaun, we all requested, much as we hate to say it, but since you rose to the use of money have you not, without suggesting for an instant, millions of moods used up slanguage tun times as words as the penmarks used out in sinscript with such hesitancy by your cerebrated brother—excuse me not mentioningahem?
>
> —CelebrAted! Shaun replied under the sheltar of his broguish, vigorously rubbing his magic lantern to a glow of fullconsciousness. HeCitEncy! Your words grates on my ares. (*FW* 421.15–23)

Despite Shaun's attempts to outwit Shem, to cerebrally dominate him, the latter is defined as the "cerebrated" brother. He thinks that his mother is far too kind to the disreputable Shem, and he totally rejects the suggestion that Shem is any relative of his. The pun "cerebrated" is particularly revealing. For the first time it associates Shem with two elements that until that very moment were considered Shaun's prerogative: fame and intelligence, suggesting perhaps that Shem's is the dominant side. Indeed "cerebrated" is composed of the words "celebrated" (repeated by Shaun in his answer) and "cerebral", i.e. pertaining to the brain, conveying the sense of being endowed with mental faculties, intelligence. Moreover, Shem is here associated with his father HCE via the expression "Hesitency," a recurrent motif in the *Wake*.[18]

Shaun's aggressive reaction is telling. Notice in particular that in this epiphanic moment the logical and rational Shaun needs to rub a magic lantern in order to regain his "fullconsciousness": after all, awareness and wakefulness cannot be exhausted or wholly explained by considering the world only in mathematical terms. Consciousness is here seen in terms of light ("glow of"). Damasio employs the idea of "stepping into the light" as a metaphor for consciousness, the birth of the knowing mind, the sense

[18] In his essay "Hesitancy in Joyce's and Beckett's Manuscripts," Dirk Van Hulle uses the expression "hesitancy" in reference to the Parnell scandal and the forged letters.

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of self becoming known in the mental world. This is the critical transition from innocence and ignorance to real knowingness and selfness: such a movement describes an interaction between the organism (that within which consciousness occurs) and the object (that which the organism encounters), an interaction in which a mediating consciousness constructs knowledge about that interaction, and the changes that the object brings about in the organism. Remarkably, Shaun's call for "fullconsciousness" is uttered (performed) in the chapter in which he almost becomes dawn: in fact he is later described as "Thy now paling light lucerne" (*FW* 472.22–3).

Conclusions

These examples outline the rich hermeneutic possibilities of a cognitive reading of *Finnegans Wake*. It is a challenging approach that invites reconsideration of the characters' functions and of their mutual relations. In considering neuroscience related to speech and speech disorders, it is remarkable how these are always elements of creativity and inspiration in the novel, even when they reveal a psychological uneasiness or a complex emotional response. In this regard, Joyce's pun about the "Tower of Babel," which becomes the "Tower of Babble," is certainly paradigmatic: all speech that deviates from conventional expressive patterns becomes creative and inspiring. It is from this perspective that we should consider stuttering in the *Wake*: not as an impairment, but as a challenge to language itself. Stuttering, as with other forms of linguistic transformation, constitutes what Spurr has defined as "a new poetics of narrative fiction" (121), perhaps the *Wake*'s greatest achievement.

I would like to conclude this essay with a quotation from Gilles Deleuze about poetic/creative language as a stuttered language. In an essay entitled "He Stuttered" he writes that:

> a great writer is always like a foreigner in the language in which he expresses himself, even if this is his native tongue. At the limit, he draws his strength from a mute and unknown minority that belongs only to him. He is a foreigner in his own language: he does not mix another language with his own language, he carves out a nonpreexistent foreign language within his own language. He makes the language itself scream, stutter, stammer, or murmur. (Deleuze 109–10)

Stuttering is the only possible response to the congenital foreignness of the language, which ultimately is a foreignness between the self and the

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phenomenal world. As consciousness expands beyond the limits of individuality, language becomes a "stuttering language." Stuttering, then, no longer occurs "at the level of *parole*, of individual discourse, but at the level of *langue*, of collective system" (Lecercle 19–20). In its carnivalesque *mise en scène* of communication, the *Wake* discloses the mechanisms of language production, and the (im)possible reconciliation between the mind and the verbal translation of its thoughts, as well as between subjectivity and the phenomenal world, or as Shaun says, speaking about HCE, between "His thoughts that wouldbe words" and "his livings that havebeen deeds" (*FW* 531.31).

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*,
Cognitive Studies in Literature and Performance,
https://doi.org/10.1007/978-3-319-71994-8

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S. Belluc, V. Bénéjam (eds.), *Cognitive Joyce*, Cognitive Studies in Literature and Performance, https://doi.org/10.1007/978-3-319-71994-8

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