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In the opening chapter of *Introduction to Cognitive Cultural Studies*, Lisa Zunshine outlines Raymond Williams’s early formulation for the discipline of cultural studies. Focusing on his insistence that knowledge emerging from psychological sciences should be harnessed to inform the examination of cultural artifacts, Zunshine concludes that any truly rigorous cultural critique should take as its starting point the scope of phenomena inherent to the evolved human brain; Williams’s concept of cultural studies in the broad sense was based on an exploration of the relationship between the ‘evolution of the mind [and] the particular interpretation carried by particular cultures’.¹

Since its inception more than a century ago, the study of psychology as a discrete branch of the sciences has moved from its initial preoccupation with (pseudo-) Freudian psychoanalytic approaches to being overwhelmingly concerned with empirically substantiated theories. Two major shifts have led to the current state of play in the study of human thought. The first ‘cognitive revolution’ saw a change in emphasis from the behaviourist model, which held that all human action was the result of sophisticated processes of conditioned learning, to one that focused on the mental operations that motivated these actions; these approaches were concerned with internal

¹ Williams, quoted in Lisa Zunshine. Ed. *Introduction to Cognitive Cultural Studies*. Baltimore: Johns Hopkins University Press, 2010. p. 5.

computational processes (giving rise to the metaphor of the ‘mind as machine’) and were generally not concerned with the interplay between the brain and body or between an individual’s cognitive procedures and their environment. Second-generation cognitive theorists however, drawing on areas such as evolutionary, developmental, and social psychology, as well as research into perception and affective neuroscience, see the development of the brain and body as fundamentally linked, with cognition best understood when considered in the context of an individual’s embodied history and their social environment. These theorists, some of whom are central to the arguments below, also re-assert the importance of metaphor and imagination in everyday thought. It is no coincidence that the recent cognitive turn in literary studies has come about as theories placing emphasis on the symbiotic relationship between the ‘world out there’ (objective reality) and the ‘world in here’ (the mind), as well as on the interplay between the ‘rational’ and the ‘emotional’, have become more mainstream in psychological studies. This essay takes its cue both from Williams’s comments and from the second cognitive revolution, with the motivation behind it being to establish what we can learn by applying the insights of cognitive sciences to an analysis of one of Samuel Beckett’s theatrical works.

Rather than allowing us to arrive at a scientifically objective and ultimately finite summation of what theatre *does*, a cognitive approach allows us to focus our efforts on *how* a cultural artifact, in this case Beckett’s *Not I*, can produce and communicate meaning. In this essay, I will focus on the cognitive processes invoked in spectatorship and demonstrate how Beckett’s play produces meaning primarily through its experiential effect. In doing so, I will rely on the work of several theorists who base their work on empirically-sound evidence, rather than presenting my own experimental data. This is done for two reasons: Firstly, as social neuroscientists Chiao and Blizinsky point out, limitations in technology means that gathering data concerned with the direct

responses to cultural activities and artifacts is impractical, especially so considering the immediacy of the cognitive processes involved in spectatorship; secondly, providing a suitably rigorous examination of a subject that falls outside the traditional scope of investigation for psychological sciences necessitates drawing resources from several diverse fields, something which would be constrained by a primary dataset.² With this in mind, in order to set my analysis in the context of Beckett studies in general, I will first provide an overview of a classic study of Beckett, Theodor Adorno's essay 'Trying to Understand *Endgame*'. Prefacing a cognitive approach to one play with a study concerned with the socio-historical import of another is not an attempt to undermine hermeneutical approaches, political, aesthetic or otherwise. It is done in order to make clear the fact that there is a tendency in theatre studies to take for granted (or at times, overlook altogether) the cognitive processes that occur in the minds of spectators, processes which are ultimately responsible for the theatre's role as a significant social and aesthetic construct. Ultimately, a cognitive approach to theatre studies can supplement hermeneutical practices in a manner that is mutually beneficial.

Adorno and the absence of audience

In 'Trying to Understand *Endgame*', Theodor Adorno attempts to parse the historical context that informs the play's production in an effort to point us in the direction of a fuller appreciation of Beckett's early theatrical masterpiece. For Adorno, *Endgame* is the logical rejoinder to 'existentialist conformity, the notion that one ought to be what one is', that so informed post-War

² Joan Y. Chiao and Katherine D. Blizinsky. 'Cultural Neuroscience: Bridging Cultural and Biological Sciences'. *Social neuroscience: biological approaches to social psychology*. Ed. Eddie Harmon-Jones and Michael Inzlicht. New York: London: Routledge, 2016. p. 253.

Continental philosophical thinking.³ In the unflinching manner that it presents the ‘primitive, behaviouristic’ characters and the environment which conditioned them, the play provides a parody ‘both of philosophy...and of forms’.⁴ There is, for Adorno, not only a philosophical deficit exposed by *Endgame*; nothing from a socio-economic perspective is suitably rigorous to deal with its significance:

The irrationality of bourgeois society in its late phase rebels at letting itself be understood; those were the good old days, when a critique of the political economy of this society could be written that judged it in terms of its own ratio. For since then the society has thrown its ratio on the scrap heap and replaced it with virtually unmediated control. Hence interpretation inevitably lags behind Beckett ... One could almost say that the criterion of a philosophy whose hour has struck is that it prove equal to this challenge.⁵

This is the cornerstone of Adorno’s thesis and gives the essay its title; it is why it reads ‘*Trying to understand Endgame*,’ not ‘*Understanding Endgame*’ or some variation.

From here, Adorno details the specific aspects of the play that call the philosophical and cultural thinking of the time into question. Part of his essay focuses on how *Endgame* exposes any traditional conceptualisations of the process of meaning-making to be illegitimate; if attempting to understand the play inexorably leads to ‘concretely reconstructing the meaning of the fact that it has no meaning’, it follows that the suppositions which underpin this process begin to crumble.⁶ This is an ontological crisis in Adorno’s conception, the consequences of which are played out in *Endgame*. Historical notions of subjectivity and identity that have persisted through and beyond the Second World War, even though its events were more than enough to show that they were invalid, are among the conditions predicating *Endgame*’s existence. In the play, ‘[b]eing, which

³ Theodor Adorno. ‘Trying to Understand *Endgame*’. *Notes to Literature Vol. 1* Trans. Shierry Weber NicholSEN. New York: Columbia University Press, 1992. p. 241.

⁴ Ibid., p. 243.

⁵ Ibid., p. 244.

⁶ Ibid., p. 243.

existential philosophy trumpets as the meaning of being, becomes its antithesis'.⁷ The ability of drama itself to represent this situation brings with it its own formal problems. Adorno notes that 'applied to drama, the word 'meaning' is ambiguous'.⁸ Continuing, he writes:

Drama cannot simply take negative meaning, or the absence of meaning, as its content without everything peculiar to it being affected to the point of turning into its opposite [...] Were drama to try to survive meaning aesthetically, it would become inadequate to its substance and be degraded to a clattering machinery for the demonstration of worldviews, as if often the case with existentialist plays.⁹

Beckett's work survives the threat to which existentialist plays succumb by adopting its concern with meaninglessness and extending it outward, implicating not only theatrical performance itself but the contingencies that give the theatre its aesthetic, historical, and political import. Though Beckett tended not to agree with Adorno on the German's interpretation of his work (the latter's insistence on the significance of character names in *Endgame* causing Beckett to remark: 'This is the progress of science that professors can proceed with their errors!'), Adorno's essay has had a massive influence on Beckett scholarship since its publication and has informed, directly and indirectly, much of the political and ethical approaches to Beckett's work.¹⁰

Returns to Adorno's work in recent times have focused mainly on two related issues. In the first instance, prompted by Simon Critchley's *Very Little, Almost Nothing*, in which Critchley emphasises the 'hope against hope' and 'austere messianism' of Adorno's reading of Beckett, commentators have sought to address the ethical content of the Irishman's oeuvre.¹¹ Of particular interest in this regard has been Adorno's consideration of Beckett as a writer very much of his time, with his work emblematic of how art can confront the horror of a world that gave rise to Nazi

⁷ Ibid., p. 272.

⁸ Ibid., p. 242.

⁹ Ibid., p. 242.

¹⁰ James Knowlson. *Damned to Fame: The Life of Samuel Beckett*. London: Bloomsbury, 1996. p. 479.

¹¹ Simon Critchley. *Very Little...Almost Nothing*. London: Routledge, 1997. p. 183.

death camps. In response to this, Shane Weller has argued that Beckett's formal strategies establish him as a distinctively 'anethical' writer, whose work stands outside the ethical tradition in which many theorists have sought to include him. For Weller, Beckett offers 'neither an ethics nor an alternative to ethics, but rather a failure either to establish or negate the difference between the ethical and the unethical'.¹² Similarly, Katz examines Adorno's idea of Beckett's writing as historically relevant, one whose work represents the 'image ban' that was one of the defining features of mid-century fascism. In discussing how Adorno negotiates the complexities of Beckett's work indirectly bearing witness to WWII atrocities, Katz also touches on the second area of inquiry prompted by recent re-readings of Adorno; that is, what can any philosophy bring to the analysis of an artwork (*Endgame* or any other) that so comprehensively repudiates the claims of philosophy, and the 'discredited frameworks of humanist heritage which Auschwitz has thrown into crisis', to be any sort of arbiter of knowledge.¹³

On this topic, Cunningham draws attention to the precise problems facing attempts like Adorno's to engage philosophically with works of art:

[H]ow should one, or on what basis is it possible to, 'try' to read Beckett's work, philosophically? [...] To ask such a question is to ask how one responds, philosophically, to the way in which these works 'work'; how philosophy might engage with what is 'at work' in them.¹⁴

From this perspective, it could be argued that Adorno proposes a philosophical reading of Beckett's theatre that does not engage in any explicit analysis of what is 'at work' in it. For Adorno, Beckett's writing, *Endgame* in particular, is successful insofar as it has internalized the absence of

¹² Shane Weller. *Beckett, Literature and the Ethics of Alterity*. Basingstoke: Palgrave, 2006. p. 194.

¹³ Daniel Katz. 'What Remains of Beckett: Evasion and History'. *Beckett and Phenomenology*. Ed. Ulrika Maude and Matthew Feldman. London: Continuum, 2009. p. 144.

¹⁴ David Cunningham. 'Trying (Not) to Understand: Adorno and the work of Beckett'. *Beckett and Philosophy*. Ed. Richard Land. Basingstoke: Palgrave, 2002. p. 125.

meaning (or what masquerades as meaning) and represented it unadulterated. As we have already noted, however, in Adorno's conception of the theatre, the 'word "meaning" is ambiguous'.¹⁵ What follows below is essentially an attempt to bridge the ambiguous gap that separates theatre from objective reality, with cognitively-responsible methodologies and theories attempting to 'prove equal to the challenge' identified by Adorno. In doing this, the intention is to demonstrate that knowledge from cognitive disciplines offers us, in the short term, the soundest basis from which to address the processes involved in witnessing theatre, and in the long term provides us with an increasingly solid foundation for the examination of the links between human cognition and the 'chimerical aim' of a philosophical understanding of Beckett's aesthetics.¹⁶ The point to reinforce here is that the essential ingredients of theatre are living, sensible bodies performing in front of similarly living, sensible bodies. It is this fundamental interplay to which a cognitive analysis of spectatorship lends itself.

Trying to understand spectators

There is undoubtedly a shift over the course Beckett's theatrical work from an aesthetic based on a more traditional structure, to one that puts greater emphasis on ritual and repetition. Addressing the trajectory of Beckett's theatrical practice is not something this essay will concern itself with explicitly.¹⁷ *Not I* is chosen as the focus here due specifically to the extreme nature of its staging

¹⁵ Adorno, p. 242.

¹⁶ Ibid., p. 243.

¹⁷ For more on the attempts to account for this shift in Beckett's theatre, see Ruby Cohn. *Just Play: Beckett's Theatre*. Guildford: Princeton University Press, 1980 (on Beckett's later plays as a thematic concentration of his early work), Enoch Brater. *Beyond Minimalism: Beckett's Late Style in the Theatre*. Oxford: Oxford University Press, 1987 (as an expression of the playwright's concern with minimalism), Anna McMullan. *Theatre on Trial: Samuel Beckett's Later Drama*. London: Routledge, 1993 (on the later plays through the prism of post-structuralism), and Laura Salisbury. *Samuel Beckett: Laughing matters, comic timing*. Edinburgh: Edinburgh University Press, 2012 (on the ethical questions posed by Beckettian humour).

requirements in contrast to a work like *Endgame*. Barring the reference to Croker's Acres, *Not I* is shorn of any of the social signifiers, the excoriation of which gives rise to Adorno's championing of *Endgame*. Yet anyone who has experienced a production of *Not I* will not fail to admit that it is a compelling live spectacle. A cognitive approach examining how it is experienced by spectators allows us to begin to understand just why this is.

In a much-quoted telegraph from Beckett to Jessica Tandy, the actor in line to perform the part of Mouth in the first production of *Not I*, Beckett insisted that he was 'not unduly concerned with intelligibility', preferring that the piece 'work on the nerves of the audience, not the intellect'.¹⁸ It is clear that the audience's perception of the piece played some role, however small, in Beckett's view of how it was to be produced. His assertion that it 'work on the nerves' has persisted to the present day. In a piece for the *Irish Times*, the actor Lisa Dwan, who in 2015 completed a run in London's West End of *Not I* and *Rockaby*, wrote about her first encounter with Beckett's script: 'I saw a transcript of how the mind works. Not a linear stream of thought, but layers of interjections, interruptions, insurrections'.¹⁹ Beckett's comments seem to have been interpreted by theatre practitioners and academics as endorsing a quasi-Cartesian attitude toward individuality, one where the mind (intellect) and body (nerves) are considered discretely. However, it is worth noting here that Beckett himself did not necessarily endorse this approach to the interpretation of his work; Adorno, for example, characterised Beckett's attitude to Cartesianism 'parodic', according to Weller.²⁰ As we will see, Beckett's characters, Mouth in particular, are testament to the playwright's appreciation for the complexities of the mind/body relationship and

¹⁸ Beckett, quoted in Brater, p. 23.

¹⁹ Lisa Dwan. 'Navigating through Beckett's landscape'. *Irish Times* 15 September 2015.

²⁰ Shane Weller. 'Adorno's Notes on The Unnamable'. *Journal of Beckett Studies* 19.2 (2010): p. 184. Beckett's obvious interest with Descartes is apparent in his early writing, in particular his poem 'Whoroscope', where Descartes is the speaker (see Knowlson, p. 111).

his work as a whole can be seen to belie the certainties of essentialist philosophies such as Descartes'. A fuller appreciation of Beckett's theatre comes from an understanding of the intricate and contingent relationship between brain, body, and environment.

Second-generation cognitive disciplines have challenged notions of Cartesian duality, showing that the mind is fundamentally embodied. The body's perceptual systems, such as the audio-visual and sensory-motor systems, ensure that information from the physical world – sounds, sights, smells, weights, textures etc. – is reconciled with the subjective experience of it in order that a body can function more effectively within its environment. This lifelong process is central to the development and functioning of the mind; human beings' cognitive capacities rely on the body's interaction with the material environment and are shaped by it. The implications of this interdependence are examined by George Lakoff and Mark Johnson in *Metaphors We Live By* (1980), and more specifically for this essay in *Philosophy in the Flesh* (1999). The latter is a foundational text for the cognitive turn in literary studies. Though it deals with the development of cognitive sciences and their relevance to philosophy, many of these modes of thought are fundamental to how we address literature, particularity in academic environments, and must be rethought. In *Philosophy in the Flesh*, Lakoff and Johnson set out the various developments that have radically altered how the brain is understood and demonstrate how these developments represent a 'challenge to Western thought':

Classical philosophical conceptions of the person have stirred our imagination and have taught us a great deal. But once we understand the importance of the cognitive unconscious, the embodiment of mind, and metaphorical thought, we can never go back to a priori philosophizing about mind or language or to philosophical ideas of what a person is that are inconsistent with what we are learning about the mind.²¹

²¹ George Lakoff and Mark Johnson. *Philosophy in the flesh: The embodied mind and its challenge to Western thought*. New York: Basic Books, 1999. p. 7.

Lakoff and Johnson contend that the majority of abstract thought and reasoning is carried out in the cognitive unconscious, ‘the realm of thought that is completely and irrevocably inaccessible to direct conscious introspection’, and that metaphor and metonymy play a significant role in conceptual thinking.²² The authors base their claims on an ‘integrated theory’ of various studies in developmental psychology.²³ In short, they put forward that patterns of thought are established in early infancy, as information received from the body’s perceptual systems is conflated with the subjective experience of it. To give one example, an infant feeling an increase in temperature on being embraced leads to the common description of a person as having a ‘warm’ personality. These percepts (mental representations of material sensations) interact over time to form more developed and more complex systems of thought. Humans’ ability to give external situations a subjective counterpart is dependent on the development of metaphorical thought; this capability is a keystone in the authors’ exposition of ‘embodied realism’.²⁴

Given the essential role played by perceptual systems in the development of abstract capabilities, what is of significance here is Lakoff and Johnson’s claim, that the areas in the brain responsible for perception itself may also be responsible for the development of rational thought. They state: ‘In an embodied mind, it is conceivable that the same neural system engaged in perception (or in bodily movement) plays a central role in conception. That is, the very mechanisms responsible for perception ... could be responsible for conceptualisation and

²² Ibid., p. 12.

²³ Ibid., pp. 46-56.

²⁴ Of course, the authors deal with the operation of a typical evolved human brain. For an examination of the use of art for play in atypical experience or ‘neurodivergent aesthetics’, see Nicola Shaughnessy ‘Imagining Otherwise: Autism, Neuroaesthetics and Contemporary Performance’. *Interdisciplinary Science Reviews* 38.4 (2013): pp. 321–34 and Simon Baron-Cohen, Alan M. Leslie, and Uta Frith. ‘Does the autistic child have a “theory of mind”?’ *Cognition* 21.1 (1985): pp. 37–46.

reasoning'.²⁵ Though there is no definitive evidence for this at the author's disposal, they note:

Over the course of evolution, newer parts of the brain have built on, taken input from, and used older parts of the brain. Is it really plausible that, if the sensorimotor system can be put to work in the service of reason, the brain would build a whole new system to duplicate what it could do already?²⁶

It follows from this then that the act of spectating must play a more central function in the formation and attribution of meaning to the theatre than is conventionally conceived. From this perspective, the ability to rethink and ascribe significance to events is owed to the ability to bring to consciousness from memory events which have been witnessed in the past; in effect, to 're-live' them by re-engaging the perceptual systems.

The implications that empirically substantiated theories have on our view of spectatorship, and what the 'use' of theatre is in general, are so significant that there is not space here to address them in nearly as much detail as they warrant. Turning attention back to *Not I*, below I will chart how Beckett exploits the basic cognitive operations used in spectatorship to undermine the conventional relationship spectators form with a piece of theatre. This examination is divided into two parts: the first focuses on questions of character and identity, and will be considered in light of the more immediate processes of perception and intersubjectivity; the second, shorter section, considers the importance of narrative and formal structure, and will be concerned with implicit memory and cognitive schemas.

Blending actors, characters, and concepts

Distinguishing between an actor and the character they play is a key aspect of drama's privileged position, bracketed off from the wider world. Yet the ability to recognise an onstage personage as

²⁵ Lakoff and Johnson. *Philosophy in the Flesh*. pp. 37–38.

²⁶ *Ibid.*, p. 43.

both character and actor leads us to the questions of how we do it and in what way it is prompted by a piece of theatre. In order to address these questions in the context of cognitive studies it is necessary to take a step back and consider the debate on the neural basis for intersubjectivity. I will pay particular attention below to the topic of mirror neurons and the role played by these brain cells in interpersonal engagement. This will lead into a discussion of conceptual blending theory, followed by an examination of the relevance of these cognitive operations to the spectatorship of *Not I*.

Mirror neurons were first discovered by a team of researchers examining neural responses to observed actions made by macaque monkeys.²⁷ Rizzolatti et al. discovered that a cluster of premotor neurons responsible for various forms of grasping actions also fired when observing a human performing the activity:

When the monkey observes a motor action that belongs (or resembles) its movement repertoire, this action is automatically retrieved. The retrieved action is not necessarily executed. It is only represented in the motor system. We speculated that this observation/execution mechanism plays a role in understanding the meaning of motor events.²⁸

Subsequent research identified similar neural responses in homologous regions in human brains.²⁹ Rizzolatti et al. have said that their original research on mirror neurons is evidence of a general resonance system involved in human interaction: ‘This “resonance” does not necessarily produce a movement or an action. It is an internal motor representation of the observed event which, subsequently, may be used for different functions, among which is imitation’.³⁰ The discovery of

²⁷ Giacomo Rizzolatti, Luciano Fadiga, Vittorio Gallese, and Leonardo Fogassi. ‘Premotor cortex and the recognition of motor actions’. *Cognitive Brain Research* 3.2 (1996): pp. 131–141.

²⁸ Ibid., p. 132.

²⁹ See Marco Iacoboni, Roger P. Woods, Marcel Brass, Harold Bekkering, John C. Mazziotta, Giacomo Rizzolatti. ‘Cortical mechanisms of human imitation’. *Science* 286.5449 (1999): pp. 2526–2528 and Marc Heiser, Marco Iacoboni, Fumiko Maeda, Jake Marcus, and John C. Mazziotta. ‘The essential role of Broca’s area in imitation’. *European Journal of Neuroscience* 17.5 (2003): pp. 1123–1128.

³⁰ Giacomo Rizzolatti, Luciano Fadiga, Leonardo Fogassi, and Vittorio Gallese. ‘From mirror neurons to imitation:

these responses was taken as the first indication of a physically-instantiated system for human intersubjectivity and, by extension, for empathy. Since then, various studies have identified motor neuron mirroring in a number of activities, including: witnessing another's experience of pain³¹; observing instances of touching³²; hearing the sound of an action rather than seeing it³³; and observing the movement of another person's lips and speech acts³⁴ (for obvious reasons, this study would seem to have a direct relevance on the spectatorship of *Not I*, especially with respect to the authors' assertion that '[b]esides speech-related lip reading, recognition of lip forms is important also for social communication').³⁵ In addition, more refined studies have shown that the strength of mirror neuron response varies according to the degree to which a person's observation of an action is contextualised. For instance, research carried out by Iacobani has found that mirror neurons do not blindly mimic the performed actions of others; instead, they 'can provide a nuanced coding of the actions of others, using prior information to differentiate the meaning of partially occluded actions that are visually identical'.³⁶

Recent debate on the subject has centred on coordinating the role mirror neurons play in intersubjective interaction and how this imitative, mirroring process fits in with cognitive systems involved in 'theory of mind' representations (i.e. the ability to understand others as minded beings

Facts and speculations'. *The Imitative Mind*. Ed. Andrew N. Meltzoff and Wolfgang Prinz. Cambridge: Cambridge University Press, 2002. p. 253.

³¹ Philip L. Jackson, Andrew N. Meltzoff, and Jean Decety. 'Vicarious responses to pain in anterior cingulate cortex: Is empathy a multisensory issue?' *Cognitive, Affective, & Behavioral Neuroscience* 4.2 (2004): pp. 270–278.

³² Christian Keysers, Bruno Wicker, Valeria Gazzola, Jean-Luc Anton, Leonardo Fogassi, and Vittorio Gallese. 'A Touching Sight: SII/PV Activation during the Observation and Experience of Touch'. *Neuron* 42.2 (2004): pp. 335–346.

³³ Amir Lahav, Elliot Saltzman and Gottfried Schlaug. 'Action Representation of Sound: Audiomotor Recognition Network While Listening to Newly Acquired Actions'. *Journal of Neuroscience* 27.2 (2007): pp. 308–314.

³⁴ Nobuyuki Nishitani and Riitta Hari. 'Viewing lip forms: Cortical dynamics'. *Neuron* 36.6 (2003): pp. 1211–1220.

³⁵ *Ibid.*, p. 1217.

³⁶ Marco Iacobani. 'The Problem of Other Minds Is Not a Problem: Mirror Neurons and Intersubjectivity'. *Mirror Neuron Systems*. Ed. Jaime A. Pineda. New York: Humana Press, 2009. p. 125.

through their verbal and physical actions). The two most prominent approaches that take into account the presences of mirror neurons are Theory-theory and Simulation theory. Though it is beyond the scope of this paper to provide a detailed analysis of both approaches, they can be summarised as follows: Theory-theory supports the view that interpersonal engagement is structured around the ability to manipulate perceptual information (the verbal or behavioural actions of others) and construct a ‘theory’ to explain another person’s motivations, beliefs, thought processes, etc; Simulation theory on the other hand relies more heavily on the operations of mirror neurons and argues that interpersonal engagement and the capacity for empathy arise from the ability to subjectively re-enact or simulate (implicitly or explicitly) the actions of others in order to interpret and understand them.³⁷ Though both Simulation theory and Theory-theory differ on a number of points, both approaches agree, tacitly at least, that our inability to access directly the minds of others is overcome by a series of stepwise first-person cognitive operations, with the interpretative focus of both refocused inwards. In this sense, the two predominant approaches to intersubjectivity are structured along the lines of computational models of cognition, with perceptual inputs acted upon and under certain conditions producing outputs. However, as we have seen already, the move towards an understanding of cognition as a fundamentally embodied process obliges us to consider the more computational aspects of thought alongside humans’ biological, developmental, and personal histories.

³⁷ On Theory-theory see Alison Gopnik and Laura Shulz. *Causal learning psychology, philosophy, and computation*. New York: Oxford University Press, 2007, and Andrew N. Meltzoff and M. Keith Moore ‘Infant intersubjectivity: Broadening the dialogue to include imitation, identity and intention’. *Intersubjective Communication and Emotion in Early Ontogeny*. Ed. Stein Bråten. New York: Cambridge University Press, 2006. On implicit Simulation theory see Alvin I. Goldman. *Simulating Minds: The Philosophy, Psychology, and Neuroscience of Mindreading*. New York: Oxford University Press, 2006, and on explicit Simulation theory see Robert M. Gordon. ‘Intentional agents like myself’. *Perspectives on Imitation: Imitation, human development, and culture*. Ed. Susan L. Hurley and Nick Chater. Cambridge, MA: MIT Press, 2005.

An alternative interpretation of the purpose of mirror neurons, one which relies more heavily on developmental cognitive research, and by extension on the ‘situatedness’ of cognition than do other approaches, is offered by Gallagher and Zahavi. In *The phenomenological mind*, Gallagher and Zahavi, echoing Lakoff and Johnson in putting greater emphasis on the pragmatic nature of the brain and its functioning, contend that perception itself, not some additional system which builds on perceptual inputs, is the primary tool with which we interpret and come to understand the world around us and its inhabitants.³⁸ Gallagher and Zahavi cite developmental research which has shown that children from as young as two months old begin to respond to behavioural cues from others, long before they develop the capacity for conceptual thought.³⁹ Through the innate ability to recognise those similar to ourselves, interhuman behaviours are determined primarily through a non-mentalising form of interaction. Mirror neuron activation from this perspective does not facilitate the sort of ‘offline’ cognitive processes espoused by Theory-theory and Simulation theory. Instead, it is ‘part of the processes that underlie intersubjective perception rather than the additional cognitive step of *simulation*’.⁴⁰ The mirror neuron system, through the way in which it primes an individual for physical interaction, is enactive in the sense that it recruits the sensorimotor system along with the sensory perception system, rather than the latter alone. On a fundamental level, perception *is* understanding; our stimulus-driven perceptual abilities develop in tandem with our ability to make sense of those with whom we share the physical world.

This basic form of interpersonal interaction does not become obsolete as our infant brains develop; ‘[r]ather, it remains primary throughout the life span, across all face-to-face

³⁸ Shane Gallagher and Dan Zahavi. *The phenomenological mind*. Oxford: Routledge, 2012.

³⁹ *Ibid.*, 208.

⁴⁰ *Ibid.*, p. 199.

intersubjective experiences, and it underpins those developmentally later practices that may involve explaining or predicting mental states in others'.⁴¹ These developmentally later practices of interaction arise from what Gallagher and Zahavi refer to as 'secondary intersubjectivity'.⁴² Elaborating on the early-developing perception of the gestures and actions of other people as inherently meaningful, the key to more sophisticated secondary intersubjectivity is the ability to appreciate another's actions in context, as the actions of a being capable of agency, which take place in a shared setting: 'We interpret the actions of others in terms of their goals and intentions set in contextualized situations, rather than abstractly in terms of either their muscular performance or their beliefs'.⁴³ This does not imply that humans are incapable of forming deliberately 'mentalised' conceptions of other people's beliefs, attitudes, desires, etc. in order to understand them; humans *are* capable of doing so by conscious manipulation of received information, prompted by circumstance. However, this is the exception rather than the rule. By default, we overcome our inability to access directly others people's minds by attending to the interpretation of them in the context of our shared, material, embodied, and embedded environment.

If we take the idea of shared physical and representational contexts providing the basis for human intersubjectivity, then we are provided with a much clearer opportunity to map cognitive scientific research onto an examination of spectatorship in the theatre. As we have seen, the cognitive mechanisms examined above aim for an account of how we come to understand each other in our shared realities, that is, in our real life situations and circumstances. To go back to the question posed at the beginning of this section, the next step for an examination of spectatorship in the theatre entails providing an account of how we can understand other beings in fictional or

⁴¹ Ibid., p. 210.

⁴² Ibid., p. 210.

⁴³ Ibid., p. 211.

representational contexts. Even the most cursory attempt at introspection tells us that there are clearly affinities between how we respond to others and to fictional characters (that is, we treat them ‘*as if*’ they were real). However, citing a willing suspension of disbelief is not enough from the perspective of a cognitively-responsible approach to spectatorship.

One scholar who has applied insights from cognitive disciplines in the examination of theatre spectatorship is Bruce McConachie. In his *Engaging Audiences*, McConachie’s approach to explaining how spectators negotiate the character/actor ‘doubleness’, one which is at the heart of any theatrical event, centres on Mark Turner and Giles Fauconnier’s conceptual blending theory. Like Lakoff and Johnson, Turner and Fauconnier focus on the embodiment of metaphorical thought and how the mind’s propensity for imaginative, conceptual thinking is grounded in early bodily experience, and has practical applications. According to Turner and Fauconnier’s theory, the brain has the ability to combine basic, conceptual information from varied and distinct situations in order to form more complex meanings. This operation is not confined to imaginative or creative endeavours but is ubiquitous in everyday thinking. The authors explain how the brain processes perceptual information in ‘small conceptual packets, constructed as we think and talk, for purposes of local understanding and action’.⁴⁴ These ‘packets’ are discretely stored in the brain; elements of which they are comprised can be selectively retrieved and are free to be combined with information from others, with the resulting blend yielding potentially new information.⁴⁵ Their premise is neatly summed up by Lakoff and Johnson, who also reference Turner and Fauconnier’s work. Lakoff and Johnson write: ‘Distinct conceptual domains can be coactivated,

⁴⁴ Mark Turner and Gilles Fauconnier. *The Way We Think: Conceptual blending and the mind's hidden complexities*. New York: BasicBooks, 2002. p. 40.

⁴⁵ We note here that the idea of pre-existing information providing the structure around which new mental concepts can be generated echoes Jacobani’s research cited above, with ‘prior information’ playing an active role in determining the meaning of new concepts.

and under certain conditions connections across the domains can be formed, leading to new inferences. Such ‘conceptual blend’ may be either conventional or wholly original’.⁴⁶ McConachie interprets Turner and Fauconnier’s conceptual blending theory as accounting for the ability to experience a live theatrical performance while not losing sight of the fact that it is an artificial construct. When outlining the application of the theory to the perception of actors and characters, McConachie notes that spectators are able to “‘blend” the actor and the character together into one image, one concept of identity, to enable their affective immersion in the performance’.⁴⁷ Spectators are easily able to quit this blend as soon as the houselights come up at the end of the performance and are able to readjust as new information and stimuli present themselves. At the same time, however, ‘spectators do not believe they are participating in an unreal illusion when they “live in the blend” of performance’.⁴⁸

This analysis of the cognitive operations peculiar to spectatorship stands to reason when dealing with representational or semi-representational theatre pieces. When we turn attention to *Not I*, however, we begin to see the peculiar challenges to conventional modes of spectatorship that Beckett imposes on his audience. The character of Mouth is described in Beckett’s surgically precise notes as ‘8 feet above stage level, faintly lit from up close and below’ with the ‘rest of [the] face in shadow’.⁴⁹ Throughout the performance, the lead actor’s body is almost wholly obscured from view, with the only other onstage presence a large hooded figure situated downstage left.⁵⁰

⁴⁶ Lakoff and Johnson, p. 47.

⁴⁷ McConachie, p. 42.

⁴⁸ McConachie, p. 50. Theatre scholar Stephen Di Benedetto, who uses cognitive insights in his work, summarises: ‘Whereas we are aware of make-believe [e.g. fiction or theatre], there is little difference between our reception of mimesis or reality, because they share the stimulations of neurons that fire within the different regions of the brain’ (Stephen Di Benedetto. *The provocation of the senses in contemporary theatre*. New York: Routledge, 2010. p. 6).

⁴⁹ Samuel Beckett. *Samuel Beckett: The Complete Dramatic Works*. London: Faber & Faber, 2006. p. 376.

⁵⁰ Beckett himself has expressed his frustration at not being able to find a satisfactory staging arrangement to accommodate the Auditor character, with Knowlson noting that Beckett discussed the notion of the

The ability to empathise with another, or form a contextualised sense of their actions in order to better understand them, is greatly inhibited when faced with such an unconventional representation. This performance strategy, however, as striking as it is, is not enough to break the illusion of the performance or cause spectators to focus their attention elsewhere. Although desirable and in many ways easier for spectators to process, having an actor ‘inhabit’ a character is not an essential component of a successful production. From the perspective of conceptual blending theory, it is clear that spectators are able to adapt to unconventional presentations – certain facets of information can be inhibited or emphasised to facilitate the performance. Beckett relies on spectators’ ability to initially ‘go along’ with a performance that does not offer a conventional synthesis between a bodily actor and conceptual character. But by almost completely denying the presence of the body itself, and with it an avenue through which spectators customarily engage with a piece of theatre, Beckett tests this capacity to its limits. No matter how prepared they are before entering the auditorium, spectators must strain to keep the illusion of the performance going; this accounts for the particularly exhausting experience of seeing a live production of the piece.

Without any autonomous physical presence, the language spoken by Mouth is prioritised in the performance and commands the majority of spectators’ attention. The same process of identification that prompts the blending of actor and character comes into effect with how spectators perceive the actor/character and the words they speak; words spoken on stage during a performance are taken to relate to the ‘blended,’ theatrical space that the character identity

character as ‘an error of the creative imagination’ (Knowlson, p. 617). On the wider issue of the opposition between text and performance and the tension arising from the ‘textual variability in Beckett’s printed and performed oeuvres’, see S.E. Gontarski ‘Still at Issue after All These Years: The Beckettian Text, Printed and Performed’. *Journal of Beckett Studies* 24.1 (2015): pp. 104–115.

occupies. Through the combination of the extremely etiolated figure of Mouth, which has already compromised spectators' attempts to engage with the character, and the claustrophobic interiority of Mouth's words, which resemble a verbal stream of consciousness, spectators unconsciously and automatically conflate the subject of Mouth's logorrhoea, this 'tiny little thing', with Mouth herself, and are effectively forced to assume that Mouth is describing her own experiences. Again, however, Beckett goes one step further in his attempt to make the piece as challenging an experience for spectators as it can be. He counters the conflation of Mouth and her subject with spectators' tendency to recognise patterns as they present themselves through the performance. As Lakoff and Johnson note, human beings are acutely aware of patterns that are exhibited throughout day-to-day life, constantly forming and updating categories of experience to make sense of what is perceived. This is a mental phenomenon over which people have no immediate control: 'Categorization is thus not a purely intellectual matter, occurring after the fact of experience. Rather, the formation and use of categories is the stuff of experience. It is part of what our brains and bodies are constantly engaged in'.⁵¹ This aspect of cognition becomes more significant when witnessing a performance, where the audience is encouraged to ascribe meaning to onstage events. Faced with the uninhibited flow of words, spectators cannot fail to grasp onto anything that demonstrates some semblance of structure. However, the one pattern that persists across the performance is Mouth's insistence that she is speaking about another person: 'What ... who ... no ... she!' Part of the unsettling experience of *Not I* is grounded in the contrast between spectators' conscious awareness of Mouth's insistence that 'she!' is someone else, and the unconscious predilection to blend 'she' and Mouth as one identity. Two of the most basic mental activities used when engaged in a performance compete against one another. By the end of the performance,

⁵¹ Lakoff and Johnson, p. 19.

Mouth is simultaneously the ‘tiny little thing’ whose life is recounted, while at the same time, in a different area of the brain, Mouth is avowedly and vehemently not ‘she!’

The need for narrative

An important aspect of an audience-member’s engagement with a dramatic performance is the ability to form a coherent and workable sense of the piece’s narrative. This is especially important for spectators of *Not I*, given that any immersive empathetic engagement with the character of Mouth is so fundamentally impaired. As McConachie points out, the construction of narrative is an inherent part of the act of spectating: ‘Film and theatre spectators always extract cues and construct causal sequences with a schema in mind, a cognitive template for a probable narrative action’.⁵² These cognitive templates or schemas are distinct from the categories noted above in that they form in the first stages of infancy and play a far more permanent role in the structure of the developing mind and in memory. Next, I will argue that the predominant schema that dictates spectators’ experience of *Not I* and Mouth’s discourse is the source-path-goal image schema, and show how Beckett deliberately negates and contradicts spectators’ initial conception of the piece by the time it concludes.

In their discussion of the primacy of metaphors in conceptual thinking, Lakoff and Johnson note that there is a ‘relatively small collection of primitive image schemas that structure systems of spatial relations in the world’s languages’.⁵³ These thirty or so schemas are recurring conceptual cognitive architectures; they are present across languages, are for the most part independent of cultural influences, ethnicity etc., and begin to develop in the earliest phases of life.⁵⁴ As the

⁵² McConachie, p. 165.

⁵³ Lakoff and Johnson, p. 35.

⁵⁴ Nellhaus has challenged or sought to augment Lakoff and Johnson’s work for what he sees is its assumption that

authors explain, ‘the spatial logistics of these body-based image schemas are among the sources of the forms of logic used in abstract reason’.⁵⁵ One of these is the source-path-goal schema. The ability to recognise this conceptual construct is based on cognitive patterns established by human beings’ early cognisance of their own body in physical space during infancy; we begin in one position (source), are compelled to move along a certain route (path), and eventually end up in another, more desirable position (goal). The significance of the source-path-goal schema for spectatorship, and aesthetic experience in general, is that it underlies the ability to perceive narrative structure. The first manifestation of this that many children will encounter is in fairy tales with a beginning, middle, and end. Over the course of life, people encounter a multitude of narrative forms that challenge or reinforce this schema – in some cases, both at once.

The source-path-goal image schema is primed from the very beginning of *Not I*, with ‘out ... into this world ... this world ... tiny little thing ...’ suggesting the birth of a child.⁵⁶ Within the first 30 seconds, Mouth has referenced the conception, birth, and dotage of this ‘tiny little thing’. Because it is such a foundational aspect of how experience is structured (aesthetic experience in particular), an audience-member will automatically map out these points of information and form a basic framework for the existence of the subject of Mouth’s monologue. In conjunction with this,

foundational image schemas are arbitrary. He argues that the social aspect of human interaction and “historically conditioned [...] communications practices” play a larger role than the authors seem to imply (Tobin Nelhaus. ‘Performance strategies, image schemas, and communication frameworks’. *Performance and Cognition: Theatre studies and the cognitive turn*. Oxford; New York: Routledge. (2006): p. 77). The reason I have chosen not to address this aspect of spectatorship is down to the fact that much of the work that responds to Lakoff and Johnson in this way focuses on the roles that cultural signifiers play, which I believe is not hugely important to the spectatorship of *Not I*. McConachie demonstrates that culturally conditioned operations do indeed play a role in spectatorship of the plays he discusses but he focuses on their cognitive foundations rather than cultural variances (See McConachie, pp. 65-76).

⁵⁵ Lakoff and Johnson, p. 36.

⁵⁶ Beckett, p. 376. Turner notes that narratives concerning birth are structured by a number of basic image schemas, one of which is concerned with ‘one thing coming *out* of another’ (Mark Turner. *The Literary Mind*. Oxford: Oxford University Press, 1998. p. 52, emphasis in original). This is probably the most appropriate in terms of the opening phrases of *Not I*, but with one qualifier; “out...into this world...this world...” could more accurately be described by one thing coming *into* another – a peculiarly Beckettian inversion of this image schema.

the initial conflation of Mouth with 'she' will prompt audience-members to speculate as to the cause of Mouth's current position. The alleviation of cognitive dissonance plays a significant role in this; during the opening moments of *Not I*, the fragmented verbal images of birth and the disembodied orifice encourages spectators to suppose that Mouth's monologue will eventually yield some sort of explanation for her current position. There is a tacit expectation, owing to the innate need for cognitive preconceptions to be satisfied, that the 'source', in the form of 'she'/Mouth's life, will be linked via the 'path' of the narrative to the onstage spectacle (effectively, the 'goal'). Yet as the piece progresses, the satisfactory resolution of this expectation becomes less and less likely. As noted above, the frequency with which Mouth denies the first-person increases as the performance nears its completion; the proclivity to think of Mouth and 'she' as one identity is impaired as the vehemence of Mouth's rejection of it becomes more pronounced. As well as this, the increasingly iterative nature of Mouth's locutions begins to erode any sense of narrative linearity.

The structure implied by the source-path-goal schema is further weakened in the way that Mouth's monologue, originally taken to be part of the narrative space, begins to comment on the onstage spectacle – in a way, echoing how audience-members would describe the spectacle. Phrases like 'found herself in the dark', 'all the time the buzzing ... so called', 'stare at her uncomprehending ... and now this stream' describe the predicament that Mouth's subject finds herself in, while at the same time ensure that the distinction between narrative, physical theatre-space, and spectators' mental summations becomes increasingly opaque.⁵⁷ Spectators' experience

⁵⁷ Beckett, pp. 377–379. Cohn has previously sought to address this permeability by employing a sort of catch-all term, 'theatrealty'; a phenomenon where 'fictional and theatre situation and place can converge' (Ruby Cohn. *Just Play: Beckett's Theatre*. Guildford: Princeton University Press, 1980. p. 27). What Cohn identified, and what is essentially a pre-existing cognitive capacity exploited by Beckett, can be updated and substantiated by Turner and Fauconier's conceptual blending theory; audience-members appreciate the dual-role enacted by the spotlight in

of the piece could easily be summed up by Mouth's description of the episode in the supermarket: 'not catching the half ... not the quarter ... no idea what she's saying ... imagine!.. no idea what she's saying!.. and can't stop ... no stopping it'.⁵⁸

Renowned Beckett director Xerxes Mehta has noted that Beckett's theatre is structured like a spiral, with *Not I* a 'single spiral of overwhelming force'.⁵⁹ Mehta's concept of spiral as a 'marriage between a circle and a straight line' is noteworthy here as it ties in with the two competing image schemas that determine the force of the piece by its conclusion.⁶⁰ Though the piece's initial rubric is linear, underpinned by the source-path-goal schema, Mouth's meandering, self-questioning repetitions eventually override this as she searches in vain for 'something that would tell how it had been ... how she had lived ... lived on and on' at the same time as the audience.⁶¹ The relevance of the narrative episodes describing the life of this 'tiny little thing' (her birth and childhood, the April morning 'wandering in a field ... looking aimlessly for cowslips ...', the scene 'out shopping ... busy shopping centre ...', when crying into her lap in Croker's Acres, and 'that time in court') are dismissed one by one: 'nothing to do with that? [...] Hit on it in the end'.⁶² *Not I* opens by suggesting that it will maintain some level of linearity, the structure with which spectators are most comfortable, but ends with repetition and iteration providing the primary image-schematic structure. Part of *Not I*'s impermeability is, I believe, the manner in which the original source-path-goal schema is infixed; that is, through a combination of the suggestiveness

Beckett's *Play* (to continue with the example used by Cohn), where it functions as a piece of theatre equipment outwith W1, W2, and M1's narrative, and as an enabling device within it.

⁵⁸ Beckett, p. 379.

⁵⁹ Xerxes Mehta. 'Beckett's Spirals'. *A Companion to Samuel Beckett*. Ed. Stanley E. Gontarski. Oxford: Blackwell Publishing, 2010. p. 377.

⁶⁰ *Ibid.*, p. 373.

⁶¹ Beckett, p. 381.

⁶² *Ibid.*, pp. 377–382.

of the verbal and physical imagery and the universal nature of the schema itself. Mouth's dismissal of the narrative episodes' significance ensures that the linear and cyclical structures are brought into close association with one another by the end (hence the 'descending spiral' structure in Mehta's terms⁶³). Crucially, however, for spectators, the distinction and dissonance between the two remains.

Conclusion: Cultural cognition and Beckett

As Williams (via Zunshine) stresses in *The Long Revolution*, all forms of human culture are a result of the brain's complex interactions with its environment. As such, the limits of our understanding of any cultural artifact are correlative to the extent to which we understand ourselves. Any cultural manifestation is a product of 'the human mind in its numerous complex environments' and is ultimately communicable to it – this includes everything from neckties and bowler hats, through existentialist philosophy and avant-garde theater, to political institutions and financial markets.⁶⁴ The relationship between the interiority of the mind and the exteriority of its surroundings, it must be remembered, is a two-way street, with each in a constant cycle of reinforcing and augmenting the other. The specifics of the cultural contexts which ensure that Beckett's oeuvre retains its import, as such, remain open to examination and debate. Audiences' tastes and reactions vary from culture to culture, from group to group.⁶⁵ The basic cognitive operations that spectating evokes, however, are pretty much here to stay; neurologically speaking, theatre-goers from one generation to the next, from one society to another, are no different.

⁶³ Mehta, p. 379.

⁶⁴ Williams, quoted in Zunshine, p. 5.

⁶⁵ McConachie, on the historicity of spectatorship, sums this idea up neatly: 'Just because audiences have the cognitive skills to accomplish a specific narrative task does not necessarily permit a culturally embedded production team to challenge them with it' (McConachie, p. 165).

As we have seen, our ability to determine the meanings of others' actions and to 'read' their minds is not reducible to a mirroring or simulation of their mindset, nor, in a theatre setting, does it rely on our familiarity with aesthetic tropes or conventions. Though from a first-person perspective it may seem that our focus is directed almost exclusively at the interpretation of what is being presented onstage, in reality the structure of our cognitive architecture means that our interpretative focus is supplemented by a whole range of other, mostly unconscious, predispositions. I noted above that scholars have sought to map out the trajectory of Beckett's theatrical career as it progressed from the semi-vaudeville *Godot* and *Endgame*, to the ritual-like *Not I* and *That Time*. The argument has been made that Beckett was applying an ever-refined method of subtraction to his theatrical work.⁶⁶ However, in terms of how we as spectators confront non- or semi-representational theatre, it is clear from what we have examined that what Beckett challenges his audience with is not a radically new mode of characterisation, one which would require an elemental shift in how we address the theatre. Perhaps it is now necessary to shift the focus from Beckett's creative process itself to the reception of the work by spectators. This goes beyond questions of methodology; the argument to be made from this perspective is that Beckett's 'lessening' of his own work was not a means to itself, but rather an attempt to exploit the basic traits of human cognition that are necessary for his plays to function; that is, for them to produce and communicate meaning with symbolic, non-typical dialogue and imagery. Beckett's later theatre, *Not I* in particular, is in some way a return to the first principles of drama, with the spotlight on Mouth looking to zero in on the exact nature of the modification of focus that allows us to 'live in the blend' of theatre with the very same cognitive apparatus that allows us to function in everyday life.

⁶⁶ In particular, Brater's thesis on Beckett's later work is based on this idea.

All approaches from cultural vantage points, including Adorno's, are concerned not just with the work itself but with the various normative factors (social, political, aesthetic, etc.) which prop them up. These analyses reach a confluence with cognitive approaches as soon as we look to establish how these normative influences come to be the forces they are in the first place – as expressions of human beings' interactions with each other and their environments, to paraphrase Williams. Beckett's work in its entirety gives us the opportunity to examine not only the contingent natures of the cultural conventions that give his work such resonance, but the presupposed and taken-for-granted cognitive phenomena which bear the responsibility for their impermanence.

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