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Amy Cook, *Shakespearean Neuroplay: Reinvigorating the Study of Dramatic Texts and Performance through Cognitive Science*. (Houndmills, Basingstoke: Palgrave Macmillan, 2010). 205 pp + xii. £55.00 hbk.

Evelyn Tribble, *Cognition in the Globe: Attention and Memory in Shakespeare's Theatre*. (Houndmills, Basingstoke: Palgrave Macmillan, 2011). 200 pp + xv. £57.00 hbk.

Lina Perkins Wilder, *Shakespeare's Memory Theatre: Recollection, Properties, and Character*. (Cambridge: Cambridge University Press, 2010). 221 pp + vii. £58.00 hbk.

[1]   Questions are, and need to be, raised when scientific terms and ideas are reapplied in apparently non-scientific disciplines. The modern English restriction of the term 'science', a Latin derived term for knowledge, to those branches of study that deal with the natural and physical sciences, in itself suggests what can be an increasingly skewed modern perception of what are significant forms of human understanding (OED 5b). The concern then when the humanities adopt and apply such forms of scientific knowledge is that it entails an overbearing constraint on, and a further reduction of the value of, their own complex matter and methodologies. This has led to sceptical responses, such as Raymond Tallis's dismissal of what he terms the current 'neuromania' or 'Darwinitis'. Tallis's book *Aping Mankind* warns that the reach of neuroscience and evolutionary psychology are being overestimated, with too much of a focus on the physical rather than the cultural contributions that make us human. This is potentially a valuable counterpoint. Yet such critiques of scientific disciplines often themselves err by focusing on only overly simplified versions of scientific data and claims. Besides, in the humanities it is the reach of the cultural rather than of the physical that has tended to be overestimated, with postmodernist notions of humans as sociocultural constructs overly dominating discourses (notably in new historicism, cultural materialism, and feminist, queer and globalisation studies).

[2]   In literary studies the initial focus of the 'cognitive turn' was on a limited range of cognitive scientific ideas that were often presented as if they constituted the entire field. From the 1990s on, cognitive literary approaches primarily emerged from US based scholars and tended to be focused on overly universalising and homogenising accounts derived from a narrow strand of approaches from evolutionary psychology and from cognitive linguistics on the embodied nature of language. The first-wave emphasis on universalizing models tended towards conflict with the postmodern relativistic viewpoints that have recently dominated the humanities, which instead argue that sociocultural forces are primarily responsible for human concepts and behaviour. The persisting methodological tensions between the arts and sciences seemed in danger of being repeated within the field of literary studies through the siding of critics with oppositional explanatory paradigms. However, these thinkers remained in the minority and on the peripheries of the mainstream literary and cultural methodologies against which they tended to situate themselves.

[3]   There are now a wider range of approaches classifying themselves as cognitive literary studies or performance studies, or under the even wider banner of the cognitive humanities. Emerging out of the second wave of cognitive literary studies, *Shakespearean Neuroplay*, *Cognition in the Globe* and *Shakespeare's Memory Theatre* reflect the development of a more diverse spectrum of approaches. Second-wave cognitive literary approaches are both reconnecting with ideas of a longer heritage, such as phenomenology, as well as exploring

what such ideas as theory of mind, studies of attention and mirror neurons might have to tell us about the nature of literary methods and experiences. The movement towards understanding cognition as a combination of universal and historical features is the most common characteristic of this second-wave, as is a generally more conciliatory attitude to existing strands of literary scholarship than the first-wave approaches.

[4] The paradigm that arguably best allows for the negotiation of such a middle way is the extended mind hypothesis, also known as distributed cognition, which holds that the cognitive system is constituted by the brain, the body and the world. While a number of recent scholarly literary works have touched on this hypothesis, often it has been only fleetingly and nebulously. The transformative nature of this theory for literary and cultural studies lies in its implication that humans are fundamentally hybrid: while humans' capacity to exist in cognitive niches is shared across generations, the niches exhibit particularity. Therefore rather than either universalism or postmodern relativism this implies that we will find a rich mix of shared features and particular divergences across history and cultures. This enables a reassessment of polar representations of the mind as autonomous and universal, or as only socially constructed and culturally relative: representations which have constrained understandings of historical, as well as modern, concepts of the mind.

[5] Out of the three works, Amy Cook's *Shakespearean Neuroplay: Reinvigorating the Study of Dramatic Texts and Performance through Cognitive Science*, holds most in common with first wave approaches in terms of its focus on cognitive linguistics. Despite its title, *Shakespearean Neuroplay* does not draw on very much neuroscientific material and where neuroscience is touched on it is presented in a form that would surprise many working in neuroscience. Neuroscience covers everything to do with the brain and nervous system, including genetics and molecular research, modelling and examining networks of cells, brain imaging and behavioural studies. Whereas Cook claims: '[o]f course the neurosciences are focussed at the level of the neurons' (4). As this misunderstanding reflects, the subtitle might more precisely have replaced its 'Cognitive Science' with 'Cognitive Linguistics'. Cook draws primarily on the conceptual blending theory of Giles Fauconnier (with various others) and to a lesser extent on the works of George Lakoff (with various others) (2). The replacement would also have made needless the defensive measures that the mention of 'Cognitive Science' has imposed on the introduction, with Cook's description of 'disciplinary walls' as 'figments of the imagination' (xi). While disciplinary boundaries do not necessarily reflect or demarcate static or fundamental categories, so that interdisciplinary approaches remain an important means to probe and supplement disciplinary norms, to discount the shaping of disciplines by diverse matter and methodologies, not to mention sociocultural and political agendas, is not the best way to manage relations between the sciences and arts.

[6] In some respects Cook's work seems to be suffering from a postmodern hangover. The weak claim made for supposedly drawing on the sciences lies not with any assertion of its objectivity or veracity: 'I deploy the sciences not because it is more "objective" or true than previous theoretical movements in theater, but because the interests and findings within that field shed light on this field' (3). While the understandings that science offer us are still approximate and incomplete this need not mean that they do not hold truths. Cook goes on to explain that with this book she sets out to 'provide the reader with a method of inquiry, (rather than just the results of my inquiry)', yet it is not clear finally that this method does offer any new insights (2).

[7] In Chapter 1 Cook describes how the shift in cognitive science from a view of the brain as a computer to the brain as embodied has meant that it now has much to offer performance studies and how since our 'ability to watch, understand, appreciate and be

moved by a theatrical production involves elements of our biology, an investigation into these questions will encounter research in science' (1). This loosely implies that there is a scientific underpinning to theatrical engagement on which the humanities can draw. Cook then goes on to claim though that 'we create linguistic and conceptual categories – they are not objective reflections of what is "out there"', which does not state anything that has not been supposed by postmodern notions of language and still leaves humans in a state of epistemological solipsism (2). A more exact model that overcomes this impasse would be to argue that linguistic and conceptual categories are hybrid forms that relate both to cognitive structures *and* to structures in the perceived world.

[8]   One of the main arguments of the book is that 'theater is a way of staging and challenging categories', which although not a new claim about theatre, is an important one (2). Cook's method of demonstrating this is in terms of considering the ways in which Lakoff's conceptual metaphor theory and Fauconnier and Turner's conceptual blending theory demand a rereading of Shakespeare. Cook begins by referring to Lakoff's claim that linguistic and conceptual categories have the same character, which suggests that elements of the mind can be revealed through language. Lakoff argues that our abstract concepts are derived from our embodiment, and illustrates this with a number of image schema, such as 'TO SEE IS TO KNOW'. Thus abstract concepts cannot be talked about non-metaphorically, and while a metaphor highlights certain aspects of an abstract concept it elides others (10). Cook then compares and contrasts this with Fauconnier and Turner's conceptual blending theory (CBT), since rather than one thing being understood in terms of something else, 'blends are constructions of meaning based on the projection of two or more input spaces to a blended space', with only some information from both of the input spaces carried over and integrated to create the new idea (11). In line with her earlier definition of theatre, Cook sees this notion of emergent meaning as distinctively theatrical (12). Cook's final conclusion that language is both 'creative and banal' she later describes as something 'I hope to persuade theatre scholars and practitioners of'; yet, surely such persuasion is hardly necessary (92, 150).

[9] Cook's intention is also reflective of the second-wave in cognitive literary studies, in that she aims to blend these cognitive linguistic approaches with an appreciation of historical period, in order to give a new reading of the mirror in *Hamlet* in chapters 4 to 6. In order to achieve this, chapter 2 sets out to show that CBT is different from traditional literary analysis. Yet it begins by observing that the notion that language can emotionally move and can transform one's perception and understanding has been long known by the rhetorical and oratorical traditions, before then needlessly redefining this capacity as 'frame shifting', using a modern term from Coulson (27-30). Cook next says she will clarify the three key elements of CBT: 'mental spaces', 'compression', and 'vital relations'. The notion of 'mental spaces' is used to indicate the associations which a word entails. The supposed 'vital relations' are in fact not explained by Cook; Fauconnier and Turner define them as 'all-important conceptual relations' that 'show up again and again' such as 'cause-effect' (*The Way We Think*, 92). Finally, 'compression', Cook explains, refers to the way 'language miniaturizes the complicated into the simple', making complex relationships 'human scale', with this compression actually adding to the power of language rather than being reductive: 'While simplicity obscures important elements of an issue, distilling makes our language rich because it necessitates decompression' (31). The result Cook claims is that CBT shows us how 'different linguistic structures...enabled and constrained different thinking' and so in a reading of Hamlet 'calls attention to the different linguistic mappings and cognitive mappings that undergird the play but generally go unnoticed' (38, 41). Again we do not need to call on CBT for such awareness as Renaissance texts themselves evidence. Francis Bacon's works, for instance, describe the tendency of the embodied mind in combination with the contingent nature of words to create elegant epistemological fictions by narrowing

comprehension to an anthropocentric viewpoint, though Bacon adds that words, despite and because of this very contingency, also thereby enable the retention and transmission of knowledge (*New Organon*, 42, 50; *Advancement of Learning*, 110-11, 119). This tendency to create narratives that satisfy our own understanding and the pattern-making nature of the mind are exactly what Bacon hoped the great instauration might overcome through a more incremental and empirical testing for the '*Interpretation of Nature*' (*New Organon* 30). Awareness of the workings and power of rhetorical play, our human-relating tendency and the constraining yet creative nature of words is not reliant on or particularly aided by CBT.

[10] Chapter 3 explores the mirror in literary and visual art in relation to the technological advances in mirrors during the early modern period, although again CBT does not contribute to the existing knowledge of these as Cook claims (43). Cook concludes her analysis by approvingly quoting Harold Bloom: 'There is no 'real' Hamlet as there is no 'real' Shakespeare: the character, like the writer, is a reflecting pool, a spacious mirror in which we needs must see ourselves.' Cook suggests that the unwitting Bloom 'is not the only one to use the mirror in Hamlet's fashion' as '[c]ritics are so steeped in the blend of meanings in Hamlet's mirror, even before reading the play, they cannot read the blend without relying on it as an input space' (43). In fact in the second half of the quotation given by Cook Bloom is, as he must know, drawing on another use of the mirror by Shakespeare in *Anthony and Cleopatra*, where Maecenas explains the cause of Caesar's grief at Anthony's death: 'When such a spacious mirror's set before him/ He needs must see himself.' (5.1.34-5). More time spent on Shakespeare and less on CBT might have made for a more accurate reading of Bloom. In chapter 4 Cook goes on to analyse 'the fourteen uses of "mirror" in Shakespeare's plays' in order to consider how they affect our reading of *Hamlet* (65). In fact, there are many more references to mirrors in Shakespeare's plays albeit they do not necessarily use the word 'mirror'; he predominately uses the word 'glass', aptly enough because it is calibrated to evoke a richer range of meanings, through its capacity to slip between signifying opaque reflectiveness and transparent penetrability. Therefore it is not clear why Cook restricts her analysis to the word 'mirror'.

[11] Chapter 5 offers a more insightful examination of Ingmar Bergman and Livliu Cuilei's productions of *Hamlet* in order to compare their staging of the play, focusing in particular on the mirror scenes. In Bergman's production Hamlet uses a stage knife as a mirror when instructing the players that the purpose of playing is 'to hold as 'twere the mirror up to nature' (3.2.22) and when confronting his mother Gertrude and claiming that he will show to her 'her inmost part' (3.4.19); this draws on Renaissance notions of anatomizing as revealing hidden sins and therefore, as Cook explains it is 'a rich and varied representation of the structuring metaphor' (101). Cuilei uses an onstage vanity mirror in which Hamlet puts on clown make up during the instructing of the players and which is onstage but unused in the closet scene with Gertrude in order to focus attention 'on the masks put on to generate and circulate power' (101). Cook then turns her attention to Michael Almereyda's film version of *Hamlet* in which Sam Shepard, a director as well as an actor, plays the ghost as Shakespeare is once believed to have done. Through 'the confluence and clashes of mental spaces evoked' Cook suggests 'Almereyda tells a rich story of high and low art, dead and alive, father and son, film and video, stage and screen' (111). To elucidate this Cook draws on McConachie's notion of the 'actor/character blend' whereby spectators' perceptions of the actor/character are created from our general notions about identity, as well as knowledge of the character and the actor (106-7).

[12] This chapter closes with some reflections on David McNeill's research on gestures, which has received attention lately in a number of literary or performance studies, because of McNeill's assertion that gestures '"coexist with speech"' and that the gesturing hand presents '"thought in action"' and '"a narrative space"' (113). Here there is some comment on the relation of these ideas to neuroscience with reference to work on mirror neurons that

suggests that this mechanism links both speech and gestures. Research by Rizzolatti and his colleagues has established the presence of a brain system that links motor to verbal mechanisms, as well as a spectator to an actor's cognitive processes. Neurons in your motor area fire not only when you perform an action but also when an action word is spoken or when you perceive another perform an action: 'Mirror neurons represent the neural basis of a mechanism that creates a direct link between the sender of a message and its receiver' (Rizzolatti and Craighero 2004, 183). Cook helpfully points out that if gestures are, as McNeill claims an integral part of language, then 'this expands the field of focus for what language and cognition is' and offers a 'method of understanding performance' (122).

[13] Chapter 6 is primarily where the notion of neuroplay emerges, again in reference to mirror neurons and the capacity that they give us to map another's experience onto our own, a capacity Shakespeare makes use of in his drama (136). Again this is not a new observation. For example, Rizzolatti and Sinigaglia's preface to *Mirrors in the Brain* opens with the authors' referring to the theatre director Peter Brook's comment 'that with the discovery of mirror neurons, neuroscience had finally started to understand what had long been common knowledge in the theatre' (ix). Theatre makes use of the ways actors' embodied movements, verbalisations and facial expressions are animatedly participated in by spectators and an understanding of mirror neurons helps uncover the neural mechanism that participates in this capacity. Cook's final conclusion on the play as a mirror in *Hamlet* is that: 'Shakespeare's formulation that the purpose of playing is "to hold" masks the role of the holder in angling or pointing' (148). Yet it goes unmentioned by Cook that this was a conventional motif; the use of play-as-mirror motif in a prologue had come into use in early morality plays a generation before *Hamlet* as described by Bernard Spivak in *Shakespeare and the Allegory of Evil* (104). However in *Hamlet* the play-as-mirror motif is not offered as an objective prologue by the play, but only about the play-within-the-play, of which the audience is aware that the author of at least parts of it is the melancholic Hamlet. The adroit point Shakespeare is making through the appropriation of this convention then is that the angling is most decidedly pointed.

[14] While Cook sets her work in the context of the move away from Chomsky's 'generative grammar', which argued there was a universal inherited grammar enabled by a special language area in the human brain, and towards the comparatively more recent cognitive linguistic approaches she herself draws on (4), in the preface to Tribble's work the editors of this series on 'Cognitive Studies in Literature and Performance Studies' hark back to Chomskian theory, with Chomsky himself cast as the supposed father of the cognitive revolution, as the opening line reads: 'Noam Chomsky started a revolution in human self-understanding and reshaped the intellectual landscape to this day by showing how all languages have deep features in common' (ix). Even given the heavy leaning on a narrow branch of linguistics by early cognitive literary approaches, the view expressed here appears like Hamlet's mirror to give a strangely askew view. Nor is it a view that seems reflective of the books that appear in this series, which include Cook and Tribble's amongst them.

[15] Evelyn Tribble's *Cognition in the Globe* instead is one of the few works so far that has drawn on the theory of distributed cognition in any detail. Tribble suggests that the means by which early modern playing companies coped with the mnemonic load of performing up to 6 different plays a week was through distributed cognitive practices. This book expands on the arguments originally set forth in her paper 'Distributing Cognition in the Globe' that was published in *Shakespeare Quarterly* in 2005. In both these works Tribble argues that there has previously been a misunderstanding of the playing system due to the view of memorisation as individual and mechanistic rather than collaborative and situated. The basic line of argument is persuasively fleshed out in the book, with more detailed examination of: plots, playbooks, and parts in chapter 1; voice and gesture in chapter 2; and training of novices in chapter 3.

[16] Chapter 1's focus on 'the stuff' of memory, begins with a reconsideration of the use and number of stage doors, suggesting that by providing a visual, spatial and cognitive context they structured the work of the company. The plots, of which just seven survive, are large one-sided manuscript sheets that are thought to have been hung on the wall of the actors' tiring house and that provide a list of casting, scenes, and entrances, and sometimes also lists of props, musical cues and descriptions of dumb shows. Tribble describes a plot as a 'two-dimensional chart to be mapped onto the three-dimensional space of the theatre, and to be used in conjunction with the parts, the space of the stage and the playbook' (52). If we think of the playbook as a street map spread over many pages, Tribble suggests, then the plot is like the map which provides on one page in reduced form all its most important components. Since players were only provided with copies of their individual lines and cues, the plot provided a means for the larger whole to be seen and helped 'to facilitate thinking in groups' (54). Tribble comments that the fact that amateur parts note the addressee of each speech and contain fuller cues reflects the fact that they could not rely on a similar level of '*group expertise*' (58-67), although it could be added that it also reflected a lack of individuals' expertise in the group. Meanwhile playbooks, of which sixteen survive from the pre-Restoration stage, are most salient in terms of what they lack: annotation. Tribble argues that this again indicates that a distributed cognitive system was in place, with such annotation made unnecessary by the expertise of the actors and knowledge of stagecraft during this period. Playbooks were sheets folded into four columns: one for speech headings; two for the play; and one for the generally sparse stage directions (54-58). All this 'stuff' Tribble concludes collectively make up the distributed system of early modern theatre, with each element providing a different 'affordance'; with J.J. Gibson's term 'affordance' describing the way that an object or a feature of the environment invites a certain relational mode (67-68).

[17] In chapter 2 Tribble moves on to look at the roles played by the embodied skills of playwrights and players. The formal features were used to structure the language to maximise memorability and also to allow '*fluent forgetting*: the substitution of words within the metrical framework and the sense of the text' (72). This was borne out of the hybridity of Shakespeare's theatre which combined a desire for textual fidelity with oral practices. Tribble then reframes the observations of G.T. Wright, amongst others, by suggesting that the move in the later works to a more irregular rhythm and short and shared lines marks a shift from the scaffolding of memory by conventional verse structures to their distribution across the various actors as 'remembering one's own part hangs upon another...with the echo of words and phrases snaking across a series of speeches' (85).

[18] The next section considers the role of gesture with, as Tribble comments (drawing on Joseph Roach), the notion of moving the spirits of spectators through gestures a literal allusion to the physiological mechanisms thought to link actor and spectator. It would have been interesting to highlight here the parallels between this notion of emotional transmission and our current understanding of the role of mirror systems as enabling a partial sharing in the experiencing of another's primal emotions, such as disgust, fear and pain. The mirror system provides a common neural base for experiencing and perceiving these emotions; they form an *as if* loop, a link between our own and others' emotional experiences (Rizzolatti and Sinigaglia 173-193). The transmission of the passions via the spirits and the transpirable bodies of players and spectators is surely an expression of this capacity within the humoral belief system of the Renaissance.

[19] Like Cook, but with a broader sweep, Tribble then examines recent theories by those such as David McNeill, Adam Kendon and Susan Goldin Meadow that claim a strong '"thought-language-hand link"' with 'greater retention of material' and even '"a *causal* role in thinking"' (93, 95). These are helpfully brought to bear on the debate between

Rosenberg's characterisation of Elizabethan acting as formalistic and mechanistic, and Bertram Joseph and Joseph Roach's counter claims that acting is based on expressing and transmitting emotion. Tribble points out that in John Bulwer's works, *Chirologia* and *Chironomia*, while the art of gesture must be learned it must also be adapted to one's own nature and with its recruitment of social and institutional networks as well as embodied expertise, Tribble argues, it is part of an extended as well as an embodied system (99-101).

[20] In chapter 3 the focus is on the social as a means to expertise and enskillment. The chapter begins with a quotation from Ed Hutchins' seminal work on the use by navigation teams of distributed cognition: '"[o]ne can embed a novice who has social skills but lacks computational skills in such a network and get useful behaviour out of that novice and the system" (114). Tribble then tracks recent research on the social and situated learning necessary to transform novices into experts in a number of kinds of workplaces, before going on to examine depictions of players in Shakespeare's plays that, Tribble asserts, emphasise the need for fluency more than for fidelity (126). The next section, drawing on David Kathman's research, examines the practice of using 'boys' aged roughly between 12 and 22 who would then usually progress from female to male roles, and while as J.H. Astington has pointed out and Tribble notes, not all players passed through this system, she argues that this is suggestive of a training system. Not because the female roles the 'boy actors' were called upon to play to begin with, such as a Rosalind or a Lady Macbeth, were easier, but because the training and workplace structures enabled them to play these highly sophisticated roles. Tribble claims that early modern plays themselves scaffolded smaller speaking parts through using embedded instructions within the actor's own lines or through the parts of those on stage with him, with repetition across lines a means of reinforcing memory and the correct take-up of cues. Interesting as this is the few examples offered do not compellingly demonstrate that this was a general or widespread system. Nonetheless, the book as a whole does much to support Tribble's conclusion that the model of 'cognitive ecology' is necessary in tackling 'a complex human activity such as theatre' through calling for an examination of 'the entire system' (151).

[21] Lina Perkins Wilder's *Shakespeare's Memory Theatre* offers a fascinating account of the interrelation between early modern notions of memory and theatre, even although some of the grander and widesweeping claims made by Wilder seem unwarranted. The introduction builds on recent claims by William Engel and Tribble that 'the theatre was a place whose physical and social properties shape remembering', by adding Wilder's converse contention that just 'as the plays enable remembering so remembering shapes the formal properties of the plays' (1-2). Yet, while there is certainly evidence that theatrical materials can be used to signify memory and that concerns about memory can shape aspects of a drama, this does not legitimise the extravagant, and yet reductive, claim made by this book that: 'The materials of theatre are, for Shakespeare, the material of memory' (1). As with Cook's book, this primarily begs the question as to why current volumes might feel driven to make such elevated claims.

[22] Setting this aside, *Shakespeare's Memory Theatre* offers a rich exploration of Shakespeare's use of theatrical devices to help create a fictional past to plot and characters, with for instance, the use of objects and physical space, as well as rhetorically evoked but absent objects (2). The first chapter provides a detailed analysis of the concerns about memory that were heightened by print culture, and explores the various early modern descriptions of print as detrimental, a parallel, or as a replacement to memory. It also focuses on the contemporary use of 'memory theatres'. As Francis Yates has previously described, from Greek antiquity into the early modern period, architectural spaces were used as a means to memorise knowledge systematically: by attaching a sequence of information to a sequence of places or features in a building you could then recall the information by visualising them again. Following Yates, Wilder comments on the

distinction between continental models of memory theatres that were based on classical amphitheatres, and John Willis and Robert Fludd's models, with the latter explicitly based on the playhouses of early modern London, which thereby strengthened the association between memory and contemporary theatre. Through the rhetorically evoked but absent objects, for instance Prospero's books, Wilder argues that 'the plays create an atmosphere of unfulfilled desire, a desire that attaches not just to the particular objects but to the whole notion that memory can be made tangible, that it can be given order' (58). Absent here is any mention of what have become in literary theory the more traditional psychoanalytical discourses; the one lack in recent distributed cognitive approaches is their unremitting positivity concerning human's embodied and extended nature, while Wilder here evokes Renaissance anxiety about these that psychoanalytical accounts' illuminate. Arguably attention to both distributed cognitive and psychoanalytical insights are necessary as a complement to the anxiety as well as celebration of these in Renaissance accounts.

[23]   The following chapters explore how the relations between different accounts of memory play out in a number of Shakespeare's plays and about how this relates to their theatrical genres. In chapter 2 *Romeo and Juliet* is used to exemplify the 'key principles of Shakespeare's memory theatre as it relates to tragedy' (20). Wilder comments on the fact that Romeo and Juliet themselves ultimately become mnemonic devices and the retrospective quality of the play given the induction's plot summary (59-60). Then we move on to a more shaky supposition that connects the Nurse's and Romeo's modes of remembering. The Nurse represents 'the habit of *dilatio*' in her recollections of weaning Juliet (65). The Apothecary, who Romeo fatefully remembers, is like the Nurse a '*mother* substitute', one who replaces kinship with economic bonds, and who also contrarily evokes the Friar whom, Wilder argues, advocates orderly recall (68, 69). The Nurse 'is the unacknowledged model for Romeo's remembering', Wilder contends, despite the fact that Shakespeare removes Romeo from the Nurse's recollection scene that he is present for in Brooke's version (71). Wilder asserts that there is an 'implicit competition among mnemonic methods' with Romeo replacing the Friar's with the Nurse's model, so that the play genders Romeo's departure from social orderliness female (82). A more interesting point arises amidst this main argument, as Wilder describes how when Romeo recalls the apothecary he recalls a scene not witnessed by the audience, which suggests an extra-dramatic existence to his character and an 'evoked but unstaged past' that also serves to 'enrich and motivate staged action' (81).

[24] Chapter 3's exploration of Shakespeare's history plays explicitly explores competition between mnemonic methods and objects, since 'history as a theatrical genre gives focus to the conflict over ways and means of remembering' (20). Wilder describes that 'the conflict between Henry V and Falstaff is not between change and stagnation but between methods of, and focuses for, remembering'; while clearly issues concerning remembering are an important aspect of what is involved, this statement weakens itself by being overly ecliptic (87). In a similarly single-minded reading, the famous Prologue that calls on the audience to '[p]iece out our imperfections with your thoughts' (1H4, 1.1.23), Wilder describes as making the 'audience's minds a third remembrance environment' (in addition to the presentational *platea* and representational *locus*) (84); again memory is clearly involved here but so are other mental capacities, with the emphasis in this passage being on the dynamic interaction between representation and imagination: 'And let us, ciphers to this great account,/ On your imaginary forces work./ ... / For tis your thoughts that now must deck our kings' (Pro. 17-18, 28). The physical contrast between Hal and Falstaff is described as being 'increasingly a gendered contrast' with Hal's 'habitual emasculation' of Falstaff and the play's description of the hostess as Falstaff's 'old tables, his note-book, his counsel-keeper' (*2H4*, 2.4.264-5) feminizing Falstaff so that again the disorderly memory that is outcast is associated with 'the female body' (88, 102, 104). With this last quotation it might have been

more productive to attend to the notion of the distribution of memory across persons, along with the simultaneous figuring of parity between textual and biological forms of memory. Overall Wilder overplays gender.

[25] Chapter 4 reconsiders Hamlet in light of this focus on the memory, and again Wilder presents the play as gendering the remembering body as female: thus, Hamlet is feminized by the ghost (102), at the same time as Hamlet attempts 'to remove the "baser matter" or feminine *materia* from the workings of his memory' (22). Yet even given the general association of the material with the feminine and Hamlet's misogyny, it should be noted that there is no actual connection of the feminine with memory in this passage. While in *Hamlet* memory is problematic in its 'fertility', in *Othello* and *Macbeth* memory is presented as diseased through being based on falsehood or fragmented, as explored in chapters 5 and 6. In *Othello* the invented past is a means of deception that ends in tragedy, which Wilder attributes in chapter 5 to 'the unknowable mnemonic space of the female genitalia' (140). In chapter 6 Wilder claims that like the supposedly feminized Hamlet, Lady Macbeth 'enlarges the role of the female remember' and 'occupies a mnemonic agenda that is hybrid in its gender associations' (156). Chapter 7, Wilder claims, demonstrates how the final plays make clear the mnemonic structure of Shakespeare's memory theatre through a reading of *The Tempest*. It is suggested that in *The Tempest* there is an interrelation drawn between Prospero's memory and the events on stage, with Prospero's cell equivalent to a memory cell and the spirit actors like the spirits in Prospero's brain. Yet the parallel here would be more correctly described as one between the cognitive and theatrical more generally.

[26] In conclusion, while Wilder's attempt with this work to explore the ways in which '[m]emory is not the purview of a single central agent but a collaborative and partial process' offers in many places interesting readings of the plays, it is hampered by its reluctance to modify its readings appropriately in light of the evidence of the plays themselves through its determination to redefine Shakespeare's Globe as 'Shakespeare's memory theatre' (23). For Shakespeare calls his theatre 'the Globe' to evoke not just the memory, but the mind and world, and their intimate interrelation. Nevertheless, while these three books on Shakespeare and cognitive literary and performance studies all to varying extents reflect the tendency of emerging theoretical movements to either '[b]e too tame' or 'overdone', they remain worthy of some applause for trying out new implements in their attempts to probe the means by which literature and performance 'hold as 'twere the mirror up to nature' (*Hamlet* 3.2.16, 3.2.25, 3.2.22).

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