

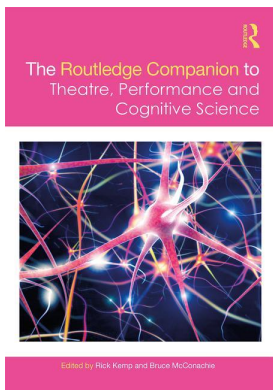
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4E COGNITION FOR DIRECTING

Thornton Wilder's *Our Town* and Caryl Churchill's *Light Shining in Buckinghamshire*

Rhonda Blair

Staging traditional text-based theatre can be described as moving from the page to the stage, doing things with words or making the word flesh. Theatre artists create worlds-within-the-world that are meaningful for and affect those who make them and see them. Using two case studies, Thornton Wilder's *Our Town* and Caryl Churchill's *Light Shining in Buckinghamshire*, this essay considers how to apply principles of 4E cognition to processes of making theatre, in negotiating the relationships among text, research and embodiment. Terms from cognitive science illuminate the inter-relationships of perception and meaning involved in performance, and also in human experience more broadly. 4E cognition is a basic feature of human existence – we operate by its principles all the time every day. This essay uses some of the research in 4E cognition to study rehearsal and performance processes in the theatre, in order to better understand both theatrical practice and aspects of human cognition more generally; rehearsal processes and performances provide discrete models of cognitive ecologies that are broadly reflective of how we operate in life. Through the case studies, I consider dramatic text, actor-as-individual, actor-as-company-member, physical material given (e.g., space, set, costumes, props – or 'properties,' things actors manipulate and use with their hands) and audience, and how these work together. Applying enactivist concepts can move actors from an intellectual grasp of historically complex materials into a fully embodied and collectively vital engagement. I begin with a brief reminder of the 4E terms: embodied, embedded, extended and enacted.

Embodied: Cognition isn't separable from our physical being, but rather occurs throughout our physical being. One of many proofs of the interconnectedness of these different aspects of cognition is the inseparability of language production, language comprehension and perception of intent in the brain. Some of the same brain areas are crucial to language production *and* to language comprehension *and* to perceiving the intention of physical actions such as grasping and manipulation (Fadiga et al. 2006): 'the sensorimotor cortices are crucial to semantic understanding' of action (Kaag 2014:186), that is, whether you pick up a box or someone tells you 'Pick up that box,' many of the same neurons are activated (186).

Embedded: Cognition depends heavily on off-loading cognitive work and taking advantage of potentials, or affordances, in the environment, for example, the handle on a cup of hot coffee allows us to pick it up, we stand on a chair to reach a high shelf; a fundamental aspect

of cognition derives from the individual's interactions with the environment (see Robbins and Aydede 2009:10).

Extended: Cognition can be understood as extending beyond the boundaries of the individual to encompass aspects of our material environment as well as our social, interpersonal environment. The ecology in which we live and to which we react includes other people. This engages things such as neural and kinaesthetic mirroring systems and mind-reading, or 'Theory of Mind,' which posits how we respond based on our ability not just to perceive the actions of others, but to read their intentions, consciously and pre-consciously. This is an obviously fundamental aspect of the actor's work.

Enacted: Cognition is inseparable from action, and is an outgrowth and even an attribute of action. A particularly valuable insight for actors is Alva Noë's that perception is 'something we do. ... *What we perceive* is determined by *what we do* (or what we know how to do); it is determined by what we are *ready* to do. ... *we enact* our perceptual experience; we act it out' (Noë 2004:1–2). In this view, to act is to have a mental image and vice versa (Noë 2004:130–1); no "translation" or transfer [from perception into action] is necessary because it is already accomplished in the embodied perception itself' (Noë 2004:80).

4E principles reframe our understanding of what language is and how it works. Language is not an abstract or merely 'mental' representation of meaning, but arises out of bodies in specific situations as a component of both action and perception. Language is a tool that participates in constructing meanings of our experience; the state of the body is not only an input into language interpretation, it is also an output. Linguist George Lakoff and philosopher Mark Johnson draw heavily on three major findings of cognitive science and argue that our sense of our bodies, indeed, the fact of having a body, is the source for major metaphors of thought, meaning and values: first, the mind is inherently embodied; second, thought is largely unconscious; and, third, abstract concepts are largely metaphorical. They hold that fundamental metaphors of time (e.g., 'time is money'), space ('she felt distant'), events and causation ('I was walking on eggshells'), selfhood ('I just let myself go') and morality ('he had no backbone') that pervade our thinking and speech, and that are the principal tools by which we construct meaning, grow directly out of our sense of *physical* being: 'An embodied concept is a neural structure that is actually part of, or makes use of, the sensorimotor system in our brains. Much of conceptual inference is, therefore, sensorimotor inference' (Lakoff and Johnson 1999:20, ital. added). That is, a concept is a particular state in the brain – and, hence, *de facto* a physical state. A crucial implication of this is that the metaphors we live by (to use the title of their first book together [1980]) are not just conceptual or poetic, but are of our bodies in the most immediate way. Cognitive scientists and linguists Gilles Fauconnier and Mark Turner also give prominence to metaphor. Their network model of conceptual integration begins to account for the way we put together associations from widely divergent situations and experiences; they assert that, first, imagination is the central engine of meaning, and, second, (echoing Lakoff and Johnson), metaphor is central to cognition. Disparate 'inputs' are blended to create new knowledge, insight or experience that go beyond that contained in the initial inputs, that is, to create a blended conceptual space. One example they give is of using the image of a waiter carrying a tray as an aid in learning to ski downhill more effectively; intuitively, this association makes sense to us, though the two inputs in fact involve very different movement problems. Nonetheless, we are somehow able to blend the inputs kinaesthetically to accomplish the task of skiing. Conceptual blending is consciously cognitive on one level – we are able to describe or depict it – but it operates largely unconsciously; significant, unconscious acts of translation and, especially, transformation must occur for the things being blended, for example, tray-carrying being

'like' skiing, to fit together.¹ For theatre makers, viewing language as embodied action takes us beyond traditional close reading to engage a more nuanced assessment of language, images and structures of the text. As Amy Cook says, it could be that 'language is less a system of *communicating* experience than actually *being* experience; we do not translate words into perceptions, we perceive in order to understand' (Cook 2009:589). Body, breath, voice and language are inseparable – in life and in acting.

A global way of thinking of about 4E cognition is in terms of how the 4Es help us articulate different aspects of the cognitive ecologies in which we live. Cognitive ecology is a holistic term for engaging

the multidimensional contexts in which we remember, feel, think, sense, communicate, imagine, and act, often collaboratively, on the fly, and in rich ongoing interaction with our environments. ... The idea is not that the isolated, unsullied individual first provides us with the gold standard for a cognitive agent, and that mind is then projected outward into the ecological system: but that from the start (historically and developmentally) remembering, attending, intending, and acting are distributed, co-constructed, system-level activities.

(Tribble and Sutton 2011:94)

We constantly engage shifting and varied cognitive ecologies as we move from 'environment' to 'environment.' In theatre, one can think of any play as being its own cognitive ecology,² in which we engage embodied, embedded, extended and enacted aspects.³

What follows are two case studies of theatre productions which I directed as models of how we might apply principles of cognitive ecologies and 4E cognition, basic features of our existence, to the rehearsal and performance processes and practice.

***Our Town*, Southern Methodist University, fall 2010**

In our work on Thornton Wilder's *Our Town*, we leveraged 4E concepts of embodiment by keeping preliminary discussions to a minimum and engaging the actors' minds explicitly through their bodies and senses; embeddedness by having actors work on their feet, figuring out spatial orientation and how to utilise a minimal number of set pieces; extendedness and enaction by engaging spatial relationships to discover and create connectedness among actors and with the audience. Elements such as group singing and shared responsibility for the live soundscape reinforced the feeling of communion, of extendedness, allowing the actors to be more sensitively attuned to the moment.

Our department casts our fall shows in late spring, so I met with the company once before leaving for the summer; this was the only time we sat around a table. Theatre rehearsals often begin with an initial phase called 'table work,' typically lasting anywhere from three or four days to a week, in which the company reads through and discusses the text, gets background information about the play and playwright, considers possible interpretations and shares thoughts and ideas. This compartmentalises and, I believe, limits an actor's ability to engage cognitive processes holistically. Our single spring meeting included my introductory comments about the play, Wilder, and the play's era; a presentation by our design team about sets, lights and costumes; and a read-through of the script. I asked the actors to come back in late August off-book (the theatre term for having lines memorised), and to familiarise themselves with the hymns in the play. Over summer I emailed them writings by Wilder, PowerPoints with photographs of people, towns and landscapes from early

twentieth-century New England and other visual images to engage them with the characters and their world. I asked the actors not only to think of the photographs as ‘information,’ but also to imagine smells, sounds, textures and feelings conveyed or implied in these images. This worked directly with the actors’ bodies – their embodied thoughts and imaginations – by engaging their senses with Wilder’s world and the world of the play.

From the beginning, being in physical relationship to the space and each other was part of the ‘thinking’ and construction of meaning and interpretation, that is, consciously engaging the 4Es. While 4E operations are occurring in the particular cognitive ecology of even just sitting at a table with others, I engaged the usual processes from this perspective. Our theatre space sat 120 in two parallel seating units. Actors could enter around all sides of the seating units, as well as go up or down the center aisle of each unit. It was a single environment for the 19 actors and the audience, as some of the scenes and moments happened on and in the seating areas. The outline of our set had been taped out on the rehearsal room floor, and we had a full set of rehearsal furniture. Actors carried scripts only for prompting (i.e., to check for a line when memory momentarily failed) and to take notes and record blocking (the term for where to move and when). While human beings always operate by principles of 4E cognition and cognitive ecologies, from the first day of rehearsal we worked with an eye towards deploying and leveraging these concepts. Actors’ bodies were immediately engaged more fully than they would have been by just sitting at a table (embodiment), using space and properties (embeddedness), in relationship to others (extendedness), engaged in action (enactedness). The actors were on their feet, in space and time with each other, dealing with text in terms of spatial relationships and movement. I was strongly informed by Noë’s construction of perception as ‘something we do,’ and Gallagher’s idea of spatiality of situation, as space being more about what’s happening than about location. Actors always have to answer ‘Who am I?’ ‘What am I doing?’ and ‘Where am I?’ but the 4E terms moved us immediately into a more explicitly collective engagement of relationship to self, environment, objects and others as a cognitive ecology. (This has some resonance with techniques such as Stanislavsky’s and Viewpoints, but differs from them by being framed in cognitive science terms.)

We relied as much as possible on the actors to create the material and imaginary aspects of the play’s world, that is, the ecology of Wilder’s *Grovers Corners*. During the few scene changes that take place, company members moved the limited set pieces (e.g., wooden chairs) from ‘kitchens’ to ‘church.’ We used no hand props, and action was sometimes almost in the laps of the people in the front rows or by the aisles. Except for recorded organ music for the wedding, the company made all sound cues live and were often visible to the audience while doing so; they used, among other things, a child’s toy train whistle, a crate of milk bottles shaken during the milkman’s deliveries, an empty metal pipe struck to serve as the church bell and a rolled up newspaper thwacked in the hand of an offstage actor as the newspaper boy tossed his imaginary papers on his route; actors visible on the periphery made animal noises – one crowing for the rooster at dawn, five clucking while Mrs. Gibbs fed her flock of chickens and one neighing and snorting as Bessie, the milkman’s horse. The entire cast also worked extensively on the three hymns in the play. The actors, from the deeply religious to the atheist, came to experience a connectedness through singing together. This also drew the audience in when the actors sang two verses of ‘Blessed Be the Tie’ at the end of the curtain call.⁴

We wanted the audience not only to feel that we were telling a story both specific and ‘timeless’ (something about which Wilder writes), but also to be included in and embraced by the life of the town. In short, much of this work was about evoking connectedness and feeling through our awareness of the dynamic nature of 4E aspects of cognition.

***Light Shining in Buckinghamshire*, Southern Methodist University 2016**

Caryl Churchill wrote *Light Shining in Buckinghamshire* in 1976, when the UK was struggling out of a three-year recession involving stagflation (a deadly combination of high unemployment and major inflation), decline in the GDP and labour strikes. Using the events of the English Civil War primarily from 1647 to 1649, she illuminates contemporary problems of power, access, property, class, gender, morality and faith. The play follows historical and fictive characters who rise up against the monarchy to demand freedom and basic rights such as food and pay. Religious forces of the time ranged from the establishment of the Church of England to the anti-Catholic Protestant ethos of Cromwell to the millennial fervour of the Ranters, who believed Christ would return any day to reign over the Earth. Churchill explodes aspects of traditional narrative and representation, and, like Brecht, uses elements of *Verfremdung*, historicisation, episodic structure, songs and scene titles. Characters range from Cromwell to landowners to vicars to the poorest of the poor, engaged in the project of reenvisioning and surviving in a turbulent England.

Historically and politically dense, the play has 23 scenes set in the Putney Debates hall, poor homes, dark roadsides, a vicar's comfortable rooms, a church, a tavern, among others. Originally done with two women and four men, the actors played over 30 characters, who sometimes were played by a different actor in a different scene; this mirrored the collaborative way in which the script was developed under Churchill's leadership and embodies the historical argument against property made by the Levelers and Diggers, who wanted to dismantle ownership of land and property. In our production, cast with six actors (two Masters of Fine Arts students, four Bachelor of Fine Arts students, two of them women, four men), a given role was always played by the same actor. (A 2015 National Theatre production had a cast of 18 plus 40 community members.)

While one rehearsal at the table sufficed for *Our Town*, *Light Shining* required more sitting, reading and explication: actors needed to know about historical facts, historical figures, issues and conditions of the English Civil War, and specifics of the play's language to have a foundational sense of the meaning and urgency of these things for the characters. This was fundamentally for clarifying meaning and argument, part of which was helping actors find images that connected them personally and affectively to the play, strengthening their sense of investment and urgency (or, in acting terms, a sense of the 'stakes' of the scene or play). This included relating the play to fall 2016, with the political upheaval of the presidential election, factions, religious fundamentalism, economic inequalities and their manifestation in things such as food, shelter, sex, gender and religion. This discussion and analysis engaged the actors' minds through bodily, sensory images, looking for associations and analogues with their particular experiences. This focus on embodiment – engaging and waking up the actors' psychophysical being – laid the ground for supporting relationships (extendedness) and action (enaction).

Psychologist James Gibson's concept of affordances is useful here to understand how we engaged particular embedded and extended aspects of 4E cognition, once the actors got on their feet in the space. Briefly, an affordance is what the environment provides for a person to accomplish certain things, for example, a knife can be used for cutting, a stick for scratching a hard place to reach on one's back and a rock for sitting or climbing on. Affordances are fundamentally connected to intentionality and action; an individual's sense of an affordance is dependent on what she is trying to accomplish or needs to do. As Gibson states, 'Needs control the perception of affordances (selective attention) and also initiate acts' (Gibson 1982:411).

When the actors got onto their feet and had different stage areas and levels, set pieces, props and costume pieces, we played with what these afforded in terms of character, action and emphasis.

Gallagher's 'space is about situation' was again a touchstone focusing actors on characters *doing* something in the space in relationship to the others, and responding to and building on what they were receiving from the others; this would eventually include the audience. As with *Our Town*, elements such as the cast singing the four songs in the play and the shared responsibility for scene changes reflected principles of extended cognition, in the anticipating and coordinating of actions, related to the actors being more attuned to each other and engaging the audience in the life of the play and its situations. Extended cognition is one prism through which to look at this kind of coordination and 'fellow-feeling'; this can also be discussed in other cognitive science terms outside the scope of this paper, for example, mirroring, Theory of Mind, and empathy. Another touchstone was Noë's perception-action dyad, in which sensorimotor skills enable perceptual access to the world, that is, 'an understanding of the way in which sensory stimuli change as a result of movement,' in which to see something is 'to interact dynamically with it in a manner that one understands ... To see an object is to stand in a relation to a thing that is characterized by the exercise of a range of characteristic sensorimotor skills' (Noë 2008: 661). Cognition and perception through action was fundamental throughout: doing – leading to conscious and articulated understanding, meaning and feeling – being 'first among equals,' rather than privileging 'interpreting' or talking.

Embodied metaphor was fundamental to designing the space. We were inspired by Isaiah 24, xvii–xx, which begins the play and is sung by the cast. It describes the pit of hell, the key image informing our scenic design:

Fear, and the pit, and the snare are upon thee, O inhabitant of the earth.

And it shall come to pass that he who fleeth from the noise of the fear shall fall into the pit; and he that cometh out of the midst of the pit shall be taken in the snare; for the windows from on high are open, and the foundations of the earth do shake.

The earth is utterly broken down, the earth is clean dissolved, the earth is moved exceedingly.

The earth shall reel to and fro like a drunkard, and shall be removed like a cottage; and the transgression thereof shall be heavy upon it; and it shall fall and not rise again.

(Churchill 1976:191)

'Fear,' 'the pit of hell,' 'the earth utterly broken down' and 'clean dissolved' capture the feeling of the world of the play and the hellishness that is part of many of the scenes. A central playing area – the 'pit' – was surrounded by four seating areas on risers (84 seats total), a main entrance, three performance areas with platforms of different heights and configurations, all of which were deconstructed lumber and 'rock,' painted to look as though charred and ruined from fire and decay. Through its intimacy and structure, this space intertwined audience and performer. The proximity of actor and audience was crucial to the cognitive 'field.' The songs and certain speeches were delivered directly to the audience, and, in the Putney debates scene, the audience was addressed as New Model Army members to be persuaded by the different factions. Actors were as close as two feet to audience members and never farther than ten.

Each actor had a base costume with contemporary elements to facilitate quick additions or removals of select period or period-inflected pieces for each character. These pastiches

grounded the actors and kept visible for the audience the situatedness of the story as both contemporary and period and the actor's identity as she or he transformed from role to role, sometimes in front of the audience. An example: in view of the audience, at the end of a scene an actor playing a pregnant woman removed her pregnancy pad, tossed it aside and tucked her skirt to become a man being recruited at a pub; later, she donned a rich jacket, a cavalier's hat and gauntlets to play Cromwell in the Putney Debates.

Props operate literally and metaphorically in regard to the 4Es. A simple example: late in the play, after the king's defeat and Cromwell's success have changed nothing for the poor, a butcher confronts the audience with their privilege, stuffing themselves with meat while children starve. All 4Es can be seen at work here: the actor donned a bloody apron and carried a large cleaver, extending the physical reach of his arm, the blade threatening, associations being triggered in the audience's body-minds. The bloody apron and cleaver played on audience members' bodily experiences of and associations with blood and large, sharp things; the impact was not just abstractly intellectual, but experiential, that is, embodied. The actor used the cleaver to actually expand his reach and his power (embedded), expanding the size of his gestural 'circle' and the intentional nature of his action, which carried more threat and force than if his hand had been empty (extended and enactive). A more complex example: in an early scene, 'The Vicar Talks to His Servant,' a smug, well-off royalist vicar sits at his table, drinking wine and eating oranges from a big silver bowl, and desultorily asks the servant waiting on him about his sick baby (who is in fact dying); at the scene's end, he gives the servant a single orange for the baby. The actors needed to understand the significance and rarity of oranges as a product grown far away and imported at great expense into England, an unimaginable beneficence for the servant. Late in the play, in 'The Vicar Welcomes the New Landlord,' the vicarage has been confiscated by Parliament and bought by one of Cromwell's men. The tables have turned. There are no stage directions, so we had Star, an officer for Cromwell and the new owner, assume the vicar's place at the table from the earlier scene and eat oranges taken from his jacket, the bowl on the table now empty, while the vicar stood where his servant had before. Near the scene's end, Star hands an orange to the displaced and frightened vicar. No mention of oranges in this scene, but it was an explicit, embodied repetition of aspects of situation and action.

The 20-minute long Putney Debates scene at the end of the first act can be seen as a case study for addressing language and embodiment. Composed of verbatim extracts from transcripts of the first three days of the New Model Army's debates about how to structure Britain's new constitution, it provided a rich testing ground for how to apply 4E cognition tools and terms to embodying the text. The scene has theatrical pitfalls: there are dense arguments about issues such as franchise and property, in the conceptual frameworks and syntax of 1647. It's a long scene of political debate at the end of a long act. It could seem abstract and impersonal. However, for the characters, the stakes (an acting term for what is to be gained or lost, which in this case is the fate of England) could not be greater. The actors had to grasp this in their bodies and grab the audience so that they not only understood, but felt the urgency of the arguments. This involved engaging aspects of extended and enactive cognition, as the actors collaborated to find the 'dance,' the discoveries and the argument of the scene, and 'weaponize' their arguments to affect the audience. Lakoff and Johnson's embodied metaphor and Fauconnier and Turner's conceptual blending underpinned our approach, keeping physical imagery, physical stakes and contemporary associations and cultural-temporal 'translation' (from the latter 1640s England to 2016 Dallas) foremost and central. The scene provided a rich ground for understanding the profound inseparability of language from physical and affective feeling, as a response to environment.

Franchise, property and their relation to each other are central to the scene's argument. Commissary General Henry Ireton, a Cromwellian, argues for franchise being linked to property, while Colonel Thomas Rainborough, a Leveller, holds that any male resident should have a vote, regardless of owning land. In rehearsal we linked this to 2016 election campaign, drawing parallels between the Debates' arguments and those of October 2016 about money-as-speech, wealth inequality, property, voting rights, among other things, to spark actors' engagement with speech as action, as performative and agential, as a tool to get something important done. (In discussions I had with many who attended the performances, there was indeed a clear grasp of *plus ça change, plus c'est la même chose*.)

4E and enactivist perspectives provide tools and categories to address key directorial, acting and design tasks, allowing us to engage the work of any psychophysically based practitioner more effectively because we now know more of the science behind it. These provide a more specifically articulated focus on questions such as 'How can I make this physical?' 'How can I describe this in terms of relationship or environment?' 'How can I describe this in terms of experiences the artist has had (metaphor, analogy, metonymy)?' 'How can the actor or designer connect this to something sensory?' 'How can I use personal relationships and our actual physical environment to bring the material to life?' These can connect us more consciously to the problem of embodying a text – or making a piece of any kind. This has not to do with psychology or motivation as defined in traditional psychologically based approaches to acting. Because they are dynamic and relational, 4E approaches are *de facto* social and political, as well as personal. The default mode is 'embodied, embedded, extended, and enactive': How can we use mind, language, bodies, environment and our connection to each other to engage material, whatever it is, in an enlivened, even urgent way that will make us smarter and more attuned to it – and the world?

Notes

- 1 This discussion of language and cognition is a version of my discussion in *The Actor, Image, and Action*, pp. 16–18.
- 2 This has resonance with Elinor Fuchs's foundational essay on text analysis, 'EF's Visit to a Small Planet: Some Questions to Ask a Play,' which are derived from notes at her course on dramaturgy at the Yale School of Drama. It is an invaluable resource for how to read a play.
- 3 This echoes Stanislavsky's concept of characters in given circumstances – bodies in shared environments, trying to accomplish actions; I have written about this at length in *Actors, Image, and Action: Acting and Cognitive Neuroscience*, which also discusses 4E cognition's resonances with other Stanislavskian terms such as circles of attention and communion.
- 4 Some of this may sound familiar to those who saw David Cromer's production of the play in Chicago or New York; I was in fact deeply inspired by it.

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