Contemporary neuroscience is more than a promising field of scientific research. It is part of the culture. We say we’re “hard wired” to think in certain ways, we distinguish between “left-brain” and “right-brain” people and activities, and we attach great credibility to explanations couched in terms of neural networks and the like. The discoveries of neuroscience are bundled up by popularizers and hurled with devastating impact at folk psychology and the prosaic notion that people act for reasons and with a semblance of free will. In place of these platitudes, neuroscientists insist that our minds are really just complex mechanisms that process information and produce behaviors which enhance our survival prospects. This conception of thought and action was introduced into the philosophy of mind some time ago (“minds are what brains do”) and is now making headway in law and economics, challenging widely held views about free will, responsibility, and our ability to make rational decisions.

What kind of light does the neuroscientific beacon cast upon the theatre and its place in human experience? Mick Gordon offers up the first answer with the intriguing claim that the mind and the theatre can be usefully construed as mirror images of one another. And the offering is particularly enticing because Mr. Gordon is not only a student and admirer of neuroscience, he is also an accomplished playwright who has written a series of plays exploring big ideas, including On Death, On Love, On Ego, On Religion: Grace, On Emotion, On Evolution: The Ride of Your Life, and On Identity: Pressure Drop. In Theatre and the Mind,
Gordon sets out in a mere eighty pages a lucid and provocative view of both the theatre and the mind, a view informed by the authors’s interest in neuroscience as well as his experience as a playwright and theatre director. It is a short but lively book, and while I do not find the theory convincing, I do not hesitate in recommending this austere little treatise to anyone interested in the psychology of the theatre.

**The Neuroscience of Mind and Theatre**

The book opens with the audience in a darkened playhouse. The lights come on. “Information.” The faces of the characters. “Information.” They walk in a certain way. “Information.” Although Gordon is referring to the kind of “information” that neuroscientists regard as “inputs” to the brain, he nevertheless writes that “all theater takes place in the mind” (p. 7, emphasis added). And while the author goes on to say that “minds are what brains do” (8), this functionalist conception of the mind, and the neuroscientific theory associated with it, are the source of many ill-conceived arguments in the book. But before I get to these shortcomings, it will be useful to have before us Gordon’s general theory of mind and theatre.

According to contemporary neuroscience, which owes a heavy debt to Charles Darwin, our brains have evolved as a means of orchestrating our interaction with the social and physical environment, designed by nature, in part, to defend us against a variety of dangers. When we are threatened, our reflexes take over, and we act without thinking. But when we are not in harm’s way, “the brain has time for consciousness,” and “these are the moments when we experience ourselves as our selves” (9, original emphasis). For Gordon, this freedom to think is the unique gift of theatre. Because we know that the play being performed on stage is an illusion, and therefore not a threat to our existence, “our minds allow us the thinking space to experience and
consider the alternative stories and behaviours in front of us” (14). In the safety of the playhouse, “our minds are released from their survival instinct . . . [they] can be radicals” (14).

It may be readily agreed that theatre goers (not minds nor brains I stress) can find themselves in a frame of mind that is open and receptive to the forthcoming performance. But the unique character of this experience does not arise from the security the playhouse affords against imminent danger. Reading a book in one’s living room surely exposes our reptilian brain to less frightening inputs than sitting in a dark theatre with a group of strangers. More importantly, while fear doubtlessly plays an important role in our mental life, the anxieties that agitate civilized men and women are not typically the kinds of immediate physical dangers that initiate a reflex action. We are afraid of being unloved, unworthy, or unemployed among a great many other misfortunes, and the fear that accompanies these threatening possibilities can be awakened by books and movies, as well as plays.

The essence of the theater does not lie in the safety of the venue, where we are released from the dominion of conditioned reflex. Quite the contrary, unlike books and movies, the theatrical performance is live, and the actors play their parts in close proximity to the audience. This immediate, and oftentimes intense, relationship between the audience and the actors on stage belies the quietism Gordon attributes to the theatrical experience from his Darwinian vantage point. Embodied brains do not go to the theatre, grasp the security of the surroundings, and then allow our “selves” “the thinking space to experience and consider the alternative stories and behaviours in front of us” (14). Rather, people go to the theatre and are presented a close-up view of an ensemble of life, an intimate, yet Olympian point of view from which to see, feel, and judge the interaction on stage, the relations and predicaments which, in greater or smaller measure, will have some bearing on our own relations and predicaments.
Mr. Gordon is convinced that “neuropsychologically, the self is a fiction” (25). What is the evidence offered in support of this proposition? The author is deeply impressed by the fact that if you watch a surgeon tug and probe around inside the brain, “you understand there’s nothing more to it.” “There’s nobody there. There’s nobody home” (25). Rather, “our sense of self, our thoughts, memories and feelings are scattered through different parts of the brain” (25). Hence, Gordon concludes, there’s “no experiencer of our experiences working the controls, no ego guiding our body through the world, no central core; no essence, no ego, no I” (25).

It is a pity that when the author goes on to console us by acknowledging that it’s “very, very difficult for us to accept” the idea that “there is no ‘I’ beyond the ‘I’ of grammar” (26), he was evidently unfamiliar with Wittgenstein’s notion of philosophical grammar and how it might bear on questions regarding the “I” and related concepts. Grammar, in Wittgenstein’s sense, refers to the criteria we apply in using words the way we do. For example, the criteria for saying a person “is sad” include such things as the person, himself, telling us he is sad, his having a sad facial expression, demeanor, or tone of voice. In a similar fashion, we say a person “knows how to play chess” if she can move the pieces according to the rules, is able to carry out at least a rudimentary strategy, can tell the difference between “check” and “checkmate,” and so on. It is important to notice that the criteria for applying the concepts of sadness and knowing how to play chess require no knowledge at all of a person’s brain state or pattern of neuronal firings (though these might come into play in explaining why a person is incapable of feeling sad or learning how to play chess). Neuroscientists investigate those aspects of the brain that make it possible (in part) for us to feel sad or to play chess, but it is not up to these scientists to tell us what counts
as feeling sad or knowing how to play chess. These are conceptual matters that logically precede, and in many cases are presupposed by, neuroscientific investigations.

The word, “I”, picks out one subject of mental and physical predicates among other similar subjects, which may include “you,” as well as various others depending on the context. But rather than exploring how these concepts are used in various settings, Gordon begins and ends his search for the “I” in the brain’s neural network, and finding nothing resembling a chief executive operating a control panel in the center of the brain, he concludes that there is no such thing as a self, an ego, or an I. This bit of research is beside the point, however, because there’s nothing about our concepts of self, ego, and I, which requires that our brains be organized in a particular manner. Thus, the fact that the parts of the brain associated with agency are not located in a single place amounts to no more of an argument against the existence of a subject, or an “I”, than the fact that the executive offices of a corporation are scattered throughout a building proves that the corporation has no “headquarters.” The absence of a centralized location in the brain where “decisions are made” only casts doubt on empirical claims to the contrary; it does not call into question the existence of the self, the ego, or the I because none of these concepts presupposes a theory of the brain and central nervous system.

THOUGHT AND ACTION

In lieu of our commonplace picture of human beings as agents who think, feel, and act, as well as being, in some measure, responsible for our actions, Gordon paints a picture in which “consciousness and the stories our minds are telling us happen after the fact.” In other words, “action, emotion, and thought happen first.” “Consciousness and its story happen second” (9). And to drive the point, as well as the analogy with the theatre, home, Gordon asserts that “we are not in control of our own story.” “Just as in the theatre, the story has already been determined.”
Indeed, “at this moment we are the latest story our mind is telling us” (10). “Our minds tell us stories that justify our thoughts and actions . . . before giving us access to choice or to alternative points of view” (9-10).

This is a very peculiar understanding of the human condition. How is it possible for “action, emotion, and thought” to precede “consciousness”? Does a person sign a mortgage contract and only later become aware of what he has done, his brain belatedly telling him that those movements of the pen across the piece of paper a few minutes ago amounted to a long-term financial commitment? Perhaps this could happen to a person in a drug-induced state, but if so, a court of law would no doubt rule the contract invalid. In a great many instances, whether legal or otherwise, being aware of what we are doing is a prerequisite of actually doing the thing in question. One cannot make promises or get married or tell a lie without intending to do these things. Indeed, we differentiate between lying and “just being wrong” based on whether a person intended to deceive us or not. And we make judgments about whether this intention was present without being privy to any information about the person’s brain state (though a lie detector might be utilized by the police when they have little else to go on, bearing in mind that lie detector results cannot be used as evidence in most courts).

Gordon’s claim that thoughts (stories) follow actions only gains a foothold because he gives special meanings to the words, “thoughts” and “actions.” In Gordon’s account, “thoughts” are the product of certain brain processes. These processes create stories that are then thrust into consciousness, but only after other brain processes have generated bodily movements of which, at the time of the movements, we were unconscious. Now, even if we grant that the brain processes associated with our awareness of our movements occur only after these movements have taken place, it does not follow that our actions precede our thoughts because actions are not
simply bodily movements and thoughts are not simply processes occurring in the brain. If, for example, we wish to examine someone’s claim “to have thought things over carefully before deciding to file for bankruptcy” (a case of thinking before acting), we will focus on what the person did before filing for bankruptcy rather than on the temporal sequence of her brain states, which are unavailable to us in any case. And if we find that she has had several conversations about bankruptcy with her attorney, has taken extensive notes about the possible consequences of bankruptcy, and so on, we then have reasons to conclude that she did in fact think carefully before acting. And we come to this conclusion because this is what it means “to think carefully before acting”; it has nothing to do with the temporal ordering of brain states or processes.

**CAUSE AND EFFECT: REASON AND ACTION**

Gordon claims that, in the theatre, one pattern of story-telling dominates: “the inference equation, effect therefore cause” (19). The author goes on to say that Aristotle’s canonical conception of plot structure, a story with a beginning, a middle, and an end, is, in fact, “how our minds consider potential action in the face of threat” (21), adding that “this process is largely unconscious” (21). Putting the two ideas together, Gordon concludes with a sweeping generalization: “All stories share a similar architecture . . . and our minds unconsciously assume that a story must follow a logic based on an explanatory inference equation of effect therefore cause within a governing story formula of beginning, middle and end” (22-23).

The author is not entirely clear about the kinds of “effects” and “causes” he has in mind, but he seems to believe that the theatre goer operates with a quasi-Cartesian model in which states of mind cause behavioral effects. The audience hears angry words, sees tightened muscles in an actor’s face, and infers fear or anxiety, and perhaps a readiness to act in the face of a threat. This “ghost-in-the-machine” model is not, however, the model that informs Gordon’s own
thinking. Since minds “are what brains do” in his scheme of thinking, our brains must be the primary “agents” of causation, producing behaviors as well as the narratives that embellish them. Yet, neither the Cartesian model, nor Gordon’s own neuroscientific account, is persuasive because the relation between thought and action is not one of cause and effect. Tightened facial muscles are not the effect of anxiety, but a manifestation of it. And we do not infer an anxious state of mind from a person’s face; we see the anxiety expressed in it. Watching a play is not, then, a two-step process in which we observe physical movements and infer the states of mind that caused them. Most often, we apprehend anxiety, grief, and joy immediately in a person’s words, face, and body. In some instances, we cannot even surmise what a person is doing unless his behavior is viewed and interpreted as proceeding from certain desires, beliefs, and intentions. This is true of such actions as buying and selling, promising, lying, and paying a debt.

Although Gordon doesn’t explain why our brains evolved as “inference machines,” we may suppose, consistent with his Darwinian-based neuroscientific outlook, that our ancestors learned to foresee dangers and opportunities by inferring causes from effects, thereby improving their survival prospects. But in addition to learning the “explanatory inference equation of effect therefore cause,” human beings evolved another way of being in the world: we learned to act for reasons, to provide justifications for our conduct, and to ask others for an account of their motives and purpose. In many cases, a person’s reason for doing something is readily apparent. Typically, we need not ask why someone takes out the trash or pays his taxes. In more complicated cases, there may be multiple, even conflicting, considerations. Thus, we might ask a friend why she decided to cancel her vacation or to invest in a little known company. Occasionally, when someone’s behavior is erratic or irrational, if, for example, they fall down a lot, then we may suspect a medical condition, such as a brain tumor. But it is important to notice
that this last case is different from the others because a brain tumor, while it may the cause of someone’s falling, and while it may be offered as an excuse for falling down, it cannot be a motive for falling down because this is not what the person intended to do.

When we are watching a play, we are not in the business of inferring the causes of an actor’s conduct, at least not in the sense that we infer fire from the presence of smoke. Watching Antigone pleading with Creon to allow her brother to be buried even though he fought with the enemy, we do not infer the cause of her pleading. Antigone loves her brother and she believes that the divine law requiring a decent burial trumps the King’s authority. This much is readily apparent; there’s no need to form an hypothesis about some occult process taking place in either her mind or brain. Similarly, when Creon rejects Antigone’s pleas and forbids his daughter from burying her brother because he fought with the enemy, we need not search for the cause of his behavior because he gives us a reason; a King must put the interests of the City above familial affection.

The whole inference game of cause and effect is out of place here. We grasp Antigone’s and Creon’s reasons for action directly, and even if we regard them as being compelled by familial love and duties of state to make their conflicting claims, the imperatives of love and duty stand in relation to their behavior not a causes to effects, but as reasons for their actions. Antigone is a great tragedy because we are familiar with the experience of being pulled in opposite directions by conflicting principles, feelings, and commitments. If these motives had to be inferred by means of a theory that connected certain bodily movements to particular brain states, Antigone would have lost its hold on us long ago.

What Lies Beneath Reason?
Gordon playfully suggests that Shakespeare anticipated cognitive behavioral therapy by four centuries when he wrote, “tis nothing either good or bad, but thinking makes it so” (31). Hamlet’s words ramify in many directions, but not, perhaps, in the particular direction Mr. Gordon wishes to take them. The author begins by reiterating a central claim running throughout the book, which is that we do not usually know why we are doing what we are doing because “so much of our behaviour is caused by brain systems that operate without our conscious knowledge” (31). However, the discussion of “brain systems” quickly gives way to a more pedestrian force, “unconscious emotion,” which “tends to form our beliefs and motivate our actions” (37). At last we’re on familiar ground, as most of us have come to realize at one time or another that some of our beliefs are rooted in dimly understood feelings rather than in a clearly articulated chain of reasons. If you have never experienced this epiphany, then Mr. Gordon urges you to attend the theatre because “our minds assume from the theatre what they find so difficult to accept in real life; that it is unconscious emotion not conscious thought that tends to form our beliefs and motivate our actions” (37).

What does neuroscience have to tell us about the role of emotion in our judgments? Gordon cites an experiment performed by the neuropsychologist, Paul Broks, which purportedly demonstrates “the primacy of emotion in decision making by considering disgust” (36). Broks’s experiment begins with a man who is preparing a chicken dinner for his guests. But before he puts the chicken in the oven, the man slips on a condom and has sex with the chicken. His guests, being none the wiser, enjoy their meal. Why do we think this is wrong? After all, “the meat is uncontaminated and everyone enjoyed their meal,” Gordon reassures us (36-37). Dr. Broks reports that his experimental subjects were “morally dumbfounded” when presented with this scenario because they believed intuitively that something was wrong, but were “stuck for a
rational justification” (37). “The reason we feel like this,” Gordon concludes, “is because we think that we use reason to make moral judgments, when actually it is our emotions that guide us” (37).

This argument is wanting on several grounds, but I’m going to restrict my criticism to just two difficulties, both of which can be seen in Gordon’s claim that the dinner guests have no reason for anger because their thoughtful host used a condom before having sex with the chicken, and therefore the guests were in no danger of food poisoning. In the first place, an argument about the sorts of things that a person has reason to be angry or disgusted about presupposes some kind of norm or standard of right and wrong. In this example, the criterion of misconduct, for Gordon and Broks at least, is limited to physical harm. If the host had not used a condom, the chicken could have made the guests ill, and then they would have had a reason to be angry. Although restricting the category of wrongs to illness and injury may seem quite natural to a neuroscientist (and to at least one playwright), such a limitation is arbitrary if unaccompanied by any justification whatsoever. Although no physical harm was done in this case, would it not be perfectly reasonable for the guests to complain that their host had treated them without respect?

“But,” we may imagine the host’s retort, “you’re not sick; no harm was done; what are you complaining about?” The guests stammer; they cannot come up with a reason for their disgust. Professor Broks and Mr. Gordon conclude that their inability to give a reason shows that theirs is an emotional, not a rational, response to what the host has done. To see what is wrong with this conclusion, let us imagine a slightly different conversation in which one of the guests asks the host, “why did you do that?” and the host replies, “I thought it would be amusing to watch you eating a chicken I just had sex with.” “But,” the guest angrily responds, “you
shouldn’t treat me as a vehicle for your amusement; that’s disrespectful.” “I don’t get it,” the baffled host replies, “what’s wrong with treating someone disrespectfully?” “Well, if you don’t know why, I can’t help you,” the guest concedes. Should we conclude that, because the guest cannot give a reason why treating a person with disrespect is wrong, the guest’s beliefs about respect are based solely on emotion? Suppose I cannot tell you why $2 + 2 = 4$, or explain to you why red is darker than pink, or convince you that killing babies for fun is wrong. Does my inability to come up with reasons mean that these propositions are just emotional responses? “Reasons come to an end,” Wittgenstein said, and the bedrock on which they build (which may change over time) is neither rational nor emotional; it is just there, “like our life.”

EMPATHY AND OTHER MINDS

Although most neuroscientists are resolute in their rejection of the Cartesian “ghost-in-the-machine” picture of the mind/body relation, their own preferred conception simply replaces Descartes’s mind-ghost with a Darwinian-designed piece of brain-software that does many of the things we ordinarily attribute to the person as a whole -- thinking, feeling, making decisions, and the like. What does this picture imply regarding our relationship to other embodied mind/brains? In Gordon’s account, “our minds [read: brains] are hard-wired to connect with those around us and to resonate with them” (39). We can see this in newborn babies who cry when they hear other babies crying. Eventually this hard-wired impulse becomes “empathy,” which “allows us to sympathize, and to understand others, by imaginatively putting ourselves in another’s psychological, emotional shoes” (39). Of course, this process is not always successful. People who suffer from autism, for example, “have no theory of mind,” which allows normal people “to attribute mental states like beliefs, intents and desires to oneself and others based on the silent presumption that others have a mind like our own” (40). Tribalism can also be an obstacle to
sympathetic understanding, although, from an evolutionary standpoint, a limited range of empathy very likely aided “the individual’s survival within the group and in the face of competition from other groups” (44). Yet, do not despair, Mr. Gordon counsels; a million years of evolution can be undone by a trip to the playhouse because “our minds experience the theatre as an extension of shared imaginative play, which originally helped develop and hone our theory of mind” (44). In the theatre, “our minds will always both empathize and sympathize most with a character suffering, or fighting, an injustice,” and being thus extended, our range of sympathetic understanding can reach across tribal barriers, affording us the opportunity to understand and appreciate the life of “different racial, traditional, religious and social groups” (44-45).

The theatre may indeed have some of the salutary effects the author attributes to it, but these are not brought about by the theatre’s sharpening “our theory of mind.” Indeed, it is ironic how closely Gordon’s own theory of mind parallels the much criticized argument from analogy, which holds that we infer the existence and content of other minds by first noticing the correlation between our own behaviour and associated mental states, and then, “based on the silent presumption that others have a mind like our own,” infer their mental states on the basis of their behaviour. In the first place, it should be obvious that we do not identify our own thoughts and feelings by inferring them from our outward behavior. I don’t need to look at myself in the mirror in order to find out whether I’m angry, and I can tell you whether I’m feeling guilty even though my eyes are closed. By the same token, I do not infer from the tightened muscles in your reddened face that you are angry. I see the anger in your face. I see that you are angry (not your mind nor your brain). Nevertheless, let us grant that while Mr. Gordon’s theory of mind is, arguably, misguided, he is quite right to see beneath the vast array of cultural differences the
common inclinations of mankind and to regard the theatre as a vehicle for their expression and understanding.

**Morality**

Mr. Gordon writes that “all theatre is fundamentally an exploration of human desire, explored through the language of a central conflict between a protagonist whose function is to demonstrate the positive aspect of human desire and an antagonist whose function is to demonstrate its negative aspects” (48). The same conflict takes place within our minds, which “value and rationalise our desires but they also intuit that desire, when unmitigated, is dangerous to life” (48). We see that “extreme desire tends to generate extreme action, which in turn tends to generate conflict” (48). Hence, we devote “vast quantities of conscious energy attempting to mitigate our extreme desires.” At the same time, we realize that it is possible to lighten this psychic burden by conforming to accepted standards of behaviour, and this is “why we place so much store by our intuitive sense of right and wrong” (49). We feel less dissonance when obeying convention, which “suggests that our minds are hard-wired to be moral” (49).

What does it mean to say that “our minds are hard-wired to be moral”? Gordon describes a cross-cultural thought experiment in which people from a great many countries were asked whether they would have a man named Oscar switch an out-of-control train from its current track, where it was headed for five people, to a different track, where it would only kill one person. Everyone interviewed by the evolutionary biologist conducting the survey said it would be morally permissible for Oscar to throw the switch, killing one person rather than letting the five others die. Yet, while the response was uniform, the reasons offered in explanation varied across cultures. According to Mr. Gordon, “this suggests that although the way our minds
express their decision making is culturally determined, most human minds have a hard-wired and universally similar moral architecture” (50).

I suspect that this thought experiment had to be very carefully designed to elicit this common reaction. Notice that the subjects were not asked what they, themselves, would do in these awful circumstances, but whether it was “morally permissible” for another person, Oscar, to throw the switch. In addition, the single man who will be killed has his back turned and cannot see the train coming. Thus, the horror of having to kill someone in order to save five others is twice removed. It is not very hard to imagine variations of this thought experiment that would very likely elicit divergent responses (see below). It’s as if the researcher in this case intended to transform a genuine moral predicament -- should I kill someone in order to save five others? -- into a simple question of moral mathematics -- aren’t five good things better than one good thing? A uniform answer to this question across cultures wouldn’t be too surprising (though it doesn’t necessarily follow that this uniformity is due to hard-wired human brains).

It’s easy to imagine more complicated circumstances that would elicit non-uniform responses across cultures, for example, should Antigone disobey her father and King and proceed to bury her traitorous brother? Divergent moral outlooks don’t have to be invented. There’s a well-known sociological study which found that working-class American families tend to punish their children when the child’s behavior produces unwanted consequences, whereas middle-class families tend to be more Kantian, focusing on the intentions rather than the consequences of their child’s behavior. And, no doubt, there are some parents within both groups whose “philosophy of punishment” differs from the class norm. This makes a mess of Mr. Gordon’s theory. Instead of a hard-wired, consequentialist morality operating beneath a
patina of varied rationalizations, which Gordon infers from the out-of-control train experiment, we have instead different patterns of decision making guided by different norms and principles.

**TRANSCENDENCE AND THE POINT OF THEATRE**

Mr. Gordon reiterates the obvious in saying that “the hard problem for neuroscience is to explain how physical processes in the brain give rise to subjective experience,” but then offers this provocative analogy: “the hard problem for theatre is achieving the corollary of transcendence” (59-60). Such transcendence cannot be achieved by didactic theatre, but, luckily, our minds are “agile social guides, hard-wired to interpret themselves and others both through outer expressions and actions and through inner thoughts and emotions” (64). In fact, we are twice blessed because our minds are also “automatic empathizers” with a “highly developed theory of themselves,” which gives us an “understanding of another’s intentions, goals, desires and beliefs.” Good theatre is successful precisely because it uses narrative patterns that parallel the way our minds work, with “representative characters who mirror the mind’s conception of itself as a protagonist, an ‘I’” (64). “When we begin to understand how our minds work,” Gordon speculates, “we can use that understanding to challenge our minds’ conception of themselves” (65). The aim of theatre, therefore, is to “provide a better thinking space for self-reconsideration,” and playwrights “can best serve the theatre by integrating our new knowledge of the workings of the mind to help us make better work” (71).

This is an inspiring vision of the possibilities of theatre. Unfortunately, it is contradicted by virtually all of the author’s arguments leading up to it. If minds are only “what brains do,” then Socratic self-examination is not possible for us because, while brains are impressive pieces of biological engineering, they are still just mechanisms that transform inputs into outputs. Brains cannot engage in self-examination because brains are not moved by reasons but by causal
inputs. And although a human being cannot think without a brain, it is still the person, and not his brain alone, who thinks, feels, acts, and occasionally goes to the theatre.

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