The mind on stage: why cognitive scientists should study acting

Thalia R. Goldstein and Paul Bloom

Department of Psychology, Yale University, P.O. Box 208205, New Haven, CT 06520, USA

One of the main pleasures of contemporary life is the observation of realistic acting-in dramatic theatre, television comedies, award-winning movies, and pornography. However, realistic acting is relatively new; before the early 20th century, performance was highly stylized, closer to what we would think of as pretense or oration [1]. What goes on in the process of realistic acting? And why do we enjoy it so much?

The enactment of characters via religious rituals, myths, theatrical performances, and rites of passage has been found in every culture. Western theatre is said to have started in 6th century BC Greece when a chorus member, Thespis, separated himself from the chorus and began to act out a single character rather than act as a narrator. Ancient Greek acting was highly stylized, rhetorical and oratory in manner, with characters that had inflexible personalities, and dance-like movements that portrayed certain 'humors' [2]. It was not until 17th century Elizabethan England that characters had inner states portrayed onstage (via monologues directed to the audience); nonetheless, gestures and actions were still exaggerated with oratorical style and caricature-like portrayal. Up until the early 20th century, romanticism and heightened melodrama ruled the day. For a famous actress of the time, such as Sarah Bernhardt, the key to great acting was the histrionic virtuosic 'force' of her emotional strength, and the exaggerated power with which she showed emotions to those around her [1].

Realistic acting, then, is very new and it cannot be seen as a biological adaptation. We are not going to discover 'an acting module' or a 'thespian instinct'. Rather, it is a human invention, like reading or chess. As such, it is likely to draw on a host of other cognitive capacities. But which ones?

One candidate is pretense. Both pretense and acting involve parallel representations [3]. In pretense, a banana can serve as a telephone; or a father can behave as if he were a ferocious lion. Similarly, one might reasonably describe an actor as 'pretending' to be a character. Acting and pretense also involve mutual knowledge: when X pretends or acts in the presence of Y, X knows that Y is aware that X is pretending or acting and vice versa.

However, there is a difference. The sort of pretense that develops spontaneously in children involves clearly demarcated cues [4]. Pretense has a conveyed self-consciousness that distinguishes it from most acting. Someone pretending to be angry, for instance, might shake her fist in a dramatized way while smiling and making full eye contact. A good actor who is acting angry will behave realistically: if you did not know she was acting, then you would think she

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Until the early 20th century, acting was less realistic than today, with exaggerated gestures and actions.

was really angry. Pretense resembles acting in the traditional, stylized way, not contemporary realistic acting.

A second possibility is that realistic acting is exploiting our capacity for deception. In everyday speech, 'acting' is often used to describe instances of deception, for example 'he is just acting as if he loves you'. Acting, however, is not deception. Actors are not really trying to trick the audience, and from the standpoint of an audience member it is crucial that one knows that it is acting. Watching a good actor act angry (see http://www.nytimes.com/interactive/2010/12/12/magazine/14actors.html#6) can provide pleasure only when one knows that it is acting; if one were deceived, the reaction would be quite different.

One might ask then whether the capacity for realistic acting is a modified form of these more natural and universal practices – perhaps pretense stripped of the self-conscious cues or a form of honest deception. Research with children might clarify this issue. Do children's initial attempts at realistic acting have a pretense-like flavor? Perhaps the stylized acting that one finds through most of history reflects children's natural biases. We also know that children find it difficult to successfully deceive others

Corresponding author: Goldstein, T.R. (Thalia.Goldstein@yale.edu).

[5]. Do they more generally find realistic acting to be particularly difficult, mirroring the problems that they have with successful deception?

Another question concerns the relationship between acting skills and other capacities, especially social cognitive capacities, such as theory of mind or empathy. Are actors better able to imagine the mental states of others by observing their faces or behavior? Do they excel on empathy? And, conversely, does the practice of acting enhance these skills? A recent study found that a year of acting training increases empathy in children and adolescents, and theory of mind skills in adolescents, suggesting some reciprocal relationship between acting and social cognition (Goldstein, T.R. and Winner, E., unpublished data).

Not all of us are capable actors, but we do enjoy watching others act. The average American, for example, spends about three hours a day watching television (http://www.bls.gov/news.release/atus.nr0.htm), and much of this involves watching realistic acting. Some of the pleasure here is shared with other imaginary pursuits but some might be special. Perception of acting is different from reading or listening to stories because realistic acting provides us with experiences that might be perceptually indistinguishable from observing actual real-world interactions. Unlike literature, the creation of a movie or play requires an extreme level of specificity. Every detail of both the physical actions of the actors (e.g. how does the character eat breakfast?) and the creation of the background (e.g. what color are her walls painted?) must be fully realized [6]. To the extent that the pleasure of imaginary pursuits is due to their successful mimicry of experiences that would be pleasurable if they were real- the prototypical example here being pornography- realistic acting provides the perfect pleasure technology [7].

The production and perception of realistic acting poses some daunting cognitive challenges. Actors must convey feelings and actions that do not correspond to their actual selves or their actual situation; they have to 'live truthfully' under imaginary circumstances [8]. This is difficult, and there is a rich debate among the contemporary acting community as to how this can best be done (see Box 1). Part of the pleasure one gets from observing acting is therefore an appreciation, as with other forms of art, of a successful and difficult performance [7]. The ability of a person to seemingly transform wholly into another person, physically and emotionally, is a mesmerizing and dazzling skill.

There is also a challenge to being an audience member. There are no obvious cues that distinguish acting from reality in the behavior of the realistic actor, only the 'frame' of the television set or proscenium stage. Indeed, there are many reports of audience members having problems distinguishing actor and character; the actor who played *Marcus Welby M.D.* was besieged with demands for medical advice, and actors who play soap opera villains get hate mail [9]. Interestingly, perhaps children's enacted worlds are less realistic (e.g. *Barney*, *Blue's Clues*) to circumvent these dual representation problems. Possibly at an early age, if the worlds were not outlandish, children would not know that the characters were actually acting [10].

Thus far, the relationship between acting and psychological science has mostly gone in one direction: actors have long drawn on findings from psychology and physiology to enlighten their portrayal of characters and, over the past few years, scholars in the world of theatre studies have attempted to integrate findings from cognitive science [11]. However, there has been little research that directly explores the process and pleasures of realistic acting. It is now time for cognitive science to take the stage.

Box 1. Two schools of acting

Starting with the work of Diderot [12] and continuing through modern writings and teaching, there has been heated debate over how best to train actors to portray characters. The two leading Western theories of how best to act can be classified as 'technique', 'outside-in' or 'physical-based' acting versus 'method or system', 'inside-out', or 'emotional-based' acting.

Beginning with Diderot, technique-based theorists believe that actors are not to feel the emotions of characters or to manipulate their own emotions in the service of a role. Real tears should be produced without any real emotion. This is echoed in the modern teachings of Meyerhold and Saint-Denis who trained actors in acrobatics, mime, and physical characterizations, and in the work of some modern English actors (e.g. Michael Caine and Laurence Olivier) who believe the actor's job is to learn the physical aspects of the character, and to devalue the inner emotions and motivations [1].

By contrast, inside-out-based acting advises actors to feel what they are acting and to depend on that feeling when portraying a role. Modern system or method acting derives from the teachings and writings of Stanislavsky [13]. He taught that realism onstage could only be attained by recognizing and replicating the emotions of the characters: the actor must feel real emotions and experience actual memories. Actors should not be overwrought or declarative but rather truthful and realistic to the words of the script. This system was expanded and taught by such notable acting coaches as Lee Strasberg, Michael Checkov and Uta Hagen, and practiced by notable Hollywood actors including Meryl Streep, Marlon Brando and Dustin Hoffman.

Although most actor training today is somewhere between these two extreme approaches, the debate on how to best prepare actors to create the most realistic portrayals is ongoing.

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