An Evolutionary Perspective on Play, Performance, and Ritual

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Theorists have defined the key terms “play,” “performance,” and “ritual” in various ways and found different relationships and dualities among them. Richard Schechner, for example, places performance on a synchronic continuum between the polarities of play and ritual, with some performances involving mostly emotional release and asocial fun, while others are centered more on social or religious efficacy. In contrast, Eli Rozik denies that such a continuum exists and finds a binary opposition between ritual and theatre (along with other theatre-like performances). Most theorists of play, including Brian Sutton-Smith, also consider religious ritual to be ontologically distinct from their area of study, but unlike Rozik they understand theatre and other genres of performance as a part of their more capacious category of play. None of the leading theorists has worked out possible evolutionary links among play, performance, and ritual based upon current research. Consequently, there are some major questions concerning definitions and relations among these three key terms. They include: the likely order of their evolutionary emergence, the extent of their present similarity, and whether any of them might be considered ontologically distinct from the other two.

While definite answers to these questions require more information than anthropologists and cognitive scientists can provide at this time, I will rely primarily on the logic of evolutionary continuity to frame what I will argue is a probable and parsimonious account. Continuity theory was first articulated by pragmatist John Dewey as a means of relating Darwinian thinking to philosophy (Dewey 1938:30–31). Cognitive philosopher Mark Johnson has recently elaborated Dewey’s theory to pull it into accord with recent advances in evolutionary biology and the cognitive sciences (see Johnson 2007). Given the broad reach of my essay, I draw my evidence mostly from recent secondary sources in biological, anthropological, cognitive, and social/historical scholarship that investigates evolutionary adaptation, animal play, the foundations of performance, and the cognitive basis of ritual. As will be evident, continuity theory joined to recent scholarship provides new ways of defining the key terms in my title.

The Evolution of Play

Cognitive philosopher Mark Johnson’s understanding of the logic of continuity in theories that rely on Darwinian evolution provides a welcome framework for this investigation. Dewey realized that Darwin’s thinking challenged the tradition of inventing new ontological categories to account for phenomena in biology and culture that were actually related over evolutionary time. Categories dividing animals from humans and divisions among modes of human thought that had been a part of Kantian and Hegelian philosophy, for example, could no longer be sustained after Darwin. Dewey concluded that since all of life evolved from previously living things, there could be no ontological breaks in animal and human history and no foundational
differences among aesthetic and analytical experience. Accepting these premises, Johnson elaborates Dewey’s position in a cognitive direction:

The principle of continuity entails that any explanation of the nature and workings of the mind, even the most abstract conceptualization and reasoning, must have its roots in the embodied capacities of the organism for perception, feeling, object manipulation, and bodily movement. The continuity hypothesis, however, does not entail that there are no demarcations, differentiations, or distinctions within experience. Of course there are demarcations, and they are very real and important! The continuity hypothesis insists only that wherever and whenever we find actual working distinctions, they are explicable against the background of continuous processes. Furthermore, social and cultural forces are required to develop our cognitive capacities to their full potential, including language and symbolic reasoning. Infants do not speak or discover mathematical proofs at birth. Dewey’s continuity thesis thus requires both evolutionary and developmental explanations. (Johnson 2007:122–23)

Following continuity theory, we can anticipate that play, performance, and ritual probably emerged out of each other, but how and in what order remain to be discovered. Further, the theory suggests that there are likely to be differences as well as continuities among these categories, but the differences may not be ontological ones.

According to Johnson, scholars working within the framework of continuity theory should follow three major guidelines. First, “there must be an account of the connections between humans and other animals as regards the emergence and development of meaningful patterns of organism–environment interactions” (123). Second, scholars should use a bottom-up approach, relating matters of thought and culture to our elementary “capacities for perception and motor response” (123). Finally, says Johnson, “Because judgments of value are essential to an organism’s continued functioning, there must be an account of the central role of emotions and feelings in the constitution of an organism’s world and its knowledge of it” (123). These guidelines reflect the scientifically acknowledged realities of human evolution. Because it took Homo sapiens several million years before our hominid ancestors separated from other primates and many thousands of years after that before our senses, brains, and motor responses arrived at their current capabilities, we must seek to ground our interest in organism–environment interactions, abstract thought and high culture, and even ethical judgments—all of which are a significant part of play, performance, and ritual—in our evolutionary past.

Several scholars interested in performance have sought to explore the continuities relating performance-like activity in other animals to actual performances in humans, but few have followed Johnson’s bottom-up guidelines until recently. Examining physiology and outward behavior as indications of similar evolutionary functions, ethologists like Konrad Lorenz in the 1960s charted a direct path between animal “rituals” (such as the “waggle dance” in bees to indicate the nearby presence of pollen to other bees) and the development of rituals and other performance arts in humans (Lorenz 1967).1 Although expressing some skepticism about Lorenz’s

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1. Lorenz: “The formation of traditional rites must have begun with the first dawning of human culture, just as at a much lower level phylogenetic rite formation was a prerequisite for the origin of social organization in higher animals. […] Rhythmic repetition of the same movement is so characteristic of very many rituals, both instinc-
conclusions, Richard Schechner followed the major outlines of 1960s ethology in presenting a “ritual tree” that tracks the evolution of ritualization based in “expressive behavior” from genetically fixed forms in insects and fish to “religious” and “aesthetic” rituals in humans. His *Performance Studies: An Introduction* reprinted the drawing (Schechner [2002] 2006:61).3 Despite their evolutionary emphasis, Lorenz’s and Schechner’s approach to ritual and performance privileges physiology and behavior rather than perceptions, emotions, and other cognitive dynamics.

In contrast, Brian Boyd’s *On the Origin of Stories: Evolution, Cognition, and Fiction*, follows Johnson’s guidelines. Boyd provides an excellent synthesis of much of the current knowledge relating evolution to play and play to the emergence of all of the arts, broadly conceived, including performance (2009:80–125).1 According to Boyd—and many others would agree—our impulse to craft performances and to engage with the performances of others comes from our evolutionary heritage of play. Because the scientific research on animal play far outweighs research focused solely on human play, most scholars, Boyd included, begin with characteristics that are widely shared among all playing animals, including Homo sapiens. Boyd cites Robert Fagen, one of the celebrated researchers in the field, and I will depart briefly from Boyd’s account to quote Fagen more extensively:

> Play occurs in only a small minority of the Earth’s million or more species. Animal play is easy to recognize. Specific movement qualities and signal patterns characterize the familiar play behavior of cats, dogs, and human children as well as the play of other animals. Mammals and birds, and perhaps a few fishes and reptiles, are the only kinds of animals known to play. (Fagen 1995:24)

Fagen’s categories of animal play include brief repetitive acts by rodents, running and jumping performed singly by some mammals and birds, the sparring and wrestling of primates and carnivores, and more complex forms of social play, in which animals use objects or features of the landscape to play protohuman versions of hide-and-seek, tug-of-war, and follow-the-leader. Although Fagen includes an ethological examination of behavior, he is also attentive to psychology and social relationships among animals.

Fagen’s examples point out several continuities between animal play and the play of Homo sapiens. Although other playing animals cannot approach the cognitive complexities of *Hamlet* or baseball, they, like us, recognize play as a distinct event with its own “conventions.” Among other things, this means that members of the same species understand that a playful exchange need not arouse a fight or flight response. Second, from Fagen’s descriptions of these activities and from numerous experiments performed on playing animals, it is clear that these animals, especially the young of the species, will seek out opportunities to play. At some level, these mammals and birds “intend” to play. Rather than simply responding automatically to

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2. This chart follows the outline of Lorenz’s concept of ritual and evolution noted in footnote one above. See also Schechner’s earlier essay, “Ethology and Theater” ([1977] 2003).

3. Boyd’s book has been widely and very favorably reviewed by leading literary critics, biologists, and others. See the website of Harvard University Press for reviews and excerpts from the book: www.hup.harvard.edu/catalog/BOYORI.

external stimuli, they will take up play spontaneously. Finally, animals “enjoy” their mutual play. Scientists know this because they have tracked chemical changes associated with joyful emotions in the brains of mammals during and after play. Consequently, play is self-reinforcing. As the foundation of all performance, the activity of play in animals already entails notions of intentionality, enjoyment, and event.

With this kind of evidence in hand, many scientists have concluded that play is an evolutionary adaptation. That is, play is a species-wide behavior in some mammals, birds, and others that functions in ways that ultimately helped and continues to facilitate those species’ ability to survive. Boyd summarizes the logic and evidence that lead to this conclusion:

Play evolved through the advantages of flexibility; the amount of play in a species correlates with its flexibility of action. Behaviors like escape and pursuit, attack and defense, and social give-and-take can make life-or-death differences. Creatures with more motivation to practice such behaviors in situations of low urgency can fare better at moments of high urgency. Animals that play repeatedly and exuberantly refine skills, extend repertoires, and sharpen sensitivities. Play therefore has evolved to be highly self-rewarding. Because it is compulsive, animals engage in it again and again, incrementally altering muscle tone and neural wiring, strengthening and increasing speed in synaptic pathways, improving their capacity and performance. (2009:14)\(^5\)

What has worked evolutionarily for rats, dogs, and elephants has also worked for us. It is likely that our hominid ancestors had been playing for a long time before our eventual species parted ways genetically from our near relations, the proto-chimpanzees, about six million years ago.

Since that time, judging from the increasing size of hominid skulls and other clues, our ancestors survived as much by their wits as by their physical acumen. According to Boyd, playing allowed proto-humans to flourish because it increased their cognitive flexibility, especially their ability to recognize, repeat, and refine patterns. Boyd defines pattern broadly as any discernible arrangement of order or form; humans find patterns in a face, the night sky, and a narrative. He particularly emphasizes the cognitive patterns—patterns of sound, design, words, and/or action—embedded in artistic creation and reception. Such patterns constitute his view of art as “a kind of cognitive play, the set of activities designed to engage human attention through their own appeal to our preference for inferentially rich and therefore patterned information” (2009:85). The arts helped evolving hominids to pattern their lives, coordinating curiosity, memory, attention, and empathy in socially engaged and open-ended ways. Boyd is clear that “even if it diverts energy away from immediate survival or reproductive needs, [art] can improve cooperation within a group enough for the group to compete successfully against others with less inclination to art.” And when it comes to the arts, he adds, “We should think in the first place not of art galleries or concert halls […], but of chants, drums, dance, body-markings, costumes, banners and the like” (106).\(^6\) Boyd provides persuasive evidence that the arts, broadly conceived, increased the survivability of our species.

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5. In this summary, Boyd follows and extends Fagen’s 1995 conclusions: “Functional significance of animal play, so far as is known, involves three different aspects of social relationships: (1) Play serves to indicate current well-being and future reproductive success; (2) play helps animals [rats] learn when to act in self-defense and when not to; (3) play is important in developing and maintaining close, emotionally positive dyadic social relationships in adulthood and between parents and offspring” (Boyd 2009:40).

6. Other scholars have also emphasized the performative, mimetic qualities of hominid play. Richard Schechner emphasized these qualities in “Toward a Poetics of Performance,” for example (Schechner [1975] 2003). And, more recently, Merlin Donald has underlined the importance of hominid gestures, dance, and play in his *A Mind So Rare* (2001).
Of course the human category of play normally includes much more than performance and the other arts. In his overview of the scholarship on play, Brian Sutton-Smith (1997) lists about 300 types of activity that are conventionally described as playing. These include: daydreaming, building models, running, reading, stamp collecting, photography, bicycling, playing tricks, playing cards, dancing, getting laid, gossiping, watching television, gambling, going to a folk festival, playing music, playing Iago, golfing, windsurfing, arm wrestling, and celebrating a birthday. Some activities in Sutton-Smith’s catalogue of play involve what other scholars would also term performances. Most scholars would likely agree that playing music, watching television, golfing, and playing Iago are kinds of play that can also be placed in the subcategory of performance. Notice that all of these examples of performance engage human attention through patterned activities; they accord with Boyd’s definition of art, even though some of them (watching television and golfing) fall outside of conventional definitions of “the arts.” It’s clear that performance functions within Boyd’s general definition of the arts and, consequently, that human performances derive evolutionarily from animal play.

Following Johnson’s continuity theory, we should expect that human play, including performance, involves many of the same cognitive abilities found in the playing of other higher mammals. Further, most of the improvements in cognitive operations evident in humans should build upon those in chimps, dolphins, and elephants. From the evolutionary evidence available, this appears to be true. Take empathy, for example. Recent neuroscientific work on mirror neurons validates the reality and importance of empathy for human performance. Networks of such neurons in the frontal lobe of the brain, evident in many higher mammals as well as humans, respond to intentional motor action initiated by others. If an actor/character onstage in a murder melodrama grabs for a gun, the grabbing motion will be picked up by the mirror networks of those sitting in the auditorium; the spectators’ mirror networks will fire in the same way that they would have if each of them had done the grabbing. In contrast, if the actor/character onstage accidentally dropped the gun—an unintentional mistake—the mirror networks of audience members would not respond. Although the experimental work on mirror networks in humans is far from complete, many scientists agree that these groups of neurons are fundamental to human empathy. In order to put yourself in the shoes (and mind) of another person, whether onstage or elsewhere, you must be able to read significant indications of that person’s intentions and emotions. Through mirror network processing of the muscles in another’s face and body, humans are able pick up some information about the other’s emotions and intentions, information that unconsciously informs empathetic response. By approximating other’s intentions through our mirror networks, we can fine-tune our own responses and intentions toward them (Thompson 2007:382–411). All of this occurs unconsciously a hundred times a day, both in performance situations and elsewhere.

Many higher animals also have mirror networks that grant them a degree of empathy, but they cannot approach our ability to understand the beliefs, desires, and intentions of others in our species (see Donald 2001). If a group of chimps sees another one pick up a stick and use it to reach for a piece of food, the mirror neuron systems of the other chimps will respond much as the human spectators at the murder mystery responded to the actor grabbing the gun. But it is clear from experiments that the ability of the other chimps to fully empathize with the intentions and desires of the stick-wielding chimp is very limited, primarily because they cannot form concepts about what their conspecifics generally do with sticks when food is out of reach. Nor could they likely deduce that their fellow chimp was hungry. Humans, in contrast, easily move from specific instances to general deductions, even though their conclusions are sometimes wrong. As a species, we have a greater need than any other to stay “in tune” with our fellows. With regard to empathy, then, our mirror networks appear to be similar to those of chimps, but they are connected to other parts of our brains that can exercise much more conceptual ability.

In other ways, too, our play is similar to but different from other animals. Dolphins and elephants can remember simple routines of play, but their memories are not as good as ours. In part, this is because their minds are restricted primarily to episodic memory (which allows
for the recollection of specific events) rather than the combination of episodic and semantic memory (which facilitates the recall of several types of patterns, including language) in humans. Dolphins may have some limited semantic memory, but their performances at Sea World and similar venues cannot begin to approach our production and enjoyment of stand-up comedy, football matches, and theatrical farce in terms of the ambitious demands on attention and the complexity of patterned actions. Although we share the same primary emotions with many higher mammals, we can gain consciousness of our emotions and recognize them as feelings. While many spectators might prefer to let their sentimental emotions overtake them while listening to a romantic ballad, they will know what feelings they are experiencing during the song and can choose to moderate them. In contrast, anyone who has played with a dog knows that their emotions often overwhelm and control them; they will continue to rag a stuffed toy until their master intervenes or they tire of their play.

From Play to Performance

Although there are important continuities linking our mirror networks, primary emotions, and episodic memory to those of other mammals, other of our cognitive operations and abilities demonstrate significant differences from the rest of the animal kingdom. In his “Neuroscientific Approaches and Applications within Anthropology,” James K. Rilling summarizes the recent research on four of them (Rilling 2008). The most striking of these evolutionary discontinuities is the human capacity for oral communication through language and, with it, symbolic expression and reasoning. Even chimpanzees raised in captivity and trained to learn symbolic communication cannot approach the still-developing language ability of a normal two-and-a-half-year-old child. Second, as noted previously, chimps deploy simple tools such as twigs, but making complex tools—those requiring that several parts be joined together—is beyond them. In order to manufacture a Stone Age axe, our ancestors needed levels of mimetic and conceptual ability that were (and are) unique to hominids and Homo sapiens. The third difference, says Rilling, is altruism: “Although all primate species exhibit altruism toward genetic relatives, humans are exceptional in the extent to which we cooperate with non-relatives” (19). As many scientists have noted, managing altruism in social relations requires several complex cognitive abilities, from trust, to detecting non-reciprocators, to instilling the social emotion of shame. Rilling’s fourth area of discontinuity separating human cognition from that of other primates is mental self-projection. Although chimps may have some low-level skill in mental projection, humans “can simulate alternate worlds that are separate from the one being directly experienced”; we can “project ourselves into the past to remember things that have happened to us, into the future to formulate and rehearse plans, and even into the mind of others” (22). Clearly, all four of these uniquely human abilities are relevant to performance. Language enables actor-audience communication, complex tools such as drums and spears can facilitate enactment, and altruistic trust underlies the group effort of rehearsing. But Rilling’s fourth area of human uniqueness, the ability to simulate alternative, imaginary, and future worlds, provides the cognitive foundation of all performance.

Projecting the self into imaginary worlds appears early in the normal development of Homo sapiens. There is substantial evidence that toddlers at the age of two are already creating performances that involve subjunctive situations. In a paper entitled “Toward a Theory of Play as Performance: An Analysis of Videotaped Episodes of a Toddler’s Play Performance,”
J. Gerstmyer related his year-long study of his daughter’s play activity, performed both solo and with friends of her own age. Sutton-Smith reports several significant conclusions from Gerstmyer’s study:

1. [The toddler] used paralinguistically appropriate “in role” speech, such as “motherese” when she was pretending to be a mother. “Motherese” is the kind of high pitched, dramatically toned, but slow and emphatic speech that mothers use with their babies.

2. She used vocalized sound effects to identify and enhance a non-verbal enactment, for example “vroom vroom” when pushing a toy car.

3. She used “magicking,” which is a play “shorthand” whereby, for example, a brief nonverbal play action, such as shaking a pot accompanied by the verbalization “cook cook,” might be used to represent a relatively sizable time segment of ongoing food preparation. It is typical for play to be a highly condensed representation of whatever it is about [...].

4. She showed anticipatory and facilitative enactive behavior: for example, picking up the toy telephone before saying “hello.”

5. There was, at times, brief out-of-role behavior that served the play action objective, as when she looked for a prop and retrieved it for ensuing action [...].

6. There were brief affiliative, out-of-role facial expressions or gestures, which served to touch base between partners, such as giggling and laughing during, say, a pretend action of violence.


As Sutton-Smith recognizes, Gerstmyer’s toddler self-consciously stepped into and out of roles to create what he calls “actions about actions” (195).

Homo sapiens appear to be the only animals that can embody and perform a subjunctive reality as a part of their play. No other animal can project itself into and out of imagined roles to create the kind of ongoing activity that Gerstmyer’s two-year-old managed with fun and ease. Gilles Fauconnier and Mark Turner term this kind of mental projection “double-scope integration,” also “complex conceptual blending” (2002:179). This cognitive operation is a necessary prerequisite for all subjunctive performances—and, as we will see, for much more. Without it, as Fauconnier and Turner relate, humans would not be able to “fantasize, deceive, delude, consider alternatives, simulate, make models, and propose hypotheses” (217). Elephants and dolphins may approach such subjunctive play activity, but we seem to be the only animals on the planet that can fully accomplish these kinds of tasks. “The great evolutionary change that produced cognitively modern human beings,” state Fauconnier and Turner, “was a matter of evolving an organism that could run off-line cognitive simulations so that evolution did not have to undertake the tedious process of natural selection every time a choice was to be made” (217).

Evolution equipped Homo sapiens with this mode of mental projection around 50,000 years ago and perhaps earlier. As Turner relates, other mammalian species evolved the ability to do primitive types of conceptual integration, but only Homo sapiens can manage the complex mode of this kind of mental projection. “Human beings are thus on a gradient with other species, but what a difference an extra step makes,” says Turner. “Double-scope blending is the crucial incremental cognitive capacity that makes it possible for human beings to create and share art” (2006:94). Like Boyd, Turner understands “art” broadly as any patterned activity created by humans intended to draw the attention of other humans, which easily includes all performances. In particular, such blending allows humans to compress what might otherwise be perceived as a diverse range of behaviors into a single event. Other animals watching basketball players on a court or actors on a stage cannot see the activity in front of them as part of a whole game or a discrete performance; lacking double-scope blending, they cannot integrate such
multifarious percepts into a single concept. Humans, in contrast, carve pattern and regularity out of the booming, buzzing confusion of existence all the time, mostly without thinking about it. Consequently, states Turner, “over the last fifty thousand years, give or take (the dating is still being worked out in the archaeological record) human beings have demonstrated a remarkable ability to create new conceptual diversity” (95).

As I have explained in previously published work about theatre and cognition, actors and spectators unconsciously engage in double-scope conceptual blending to make possible their theatrical activity (McConachie 2008:40–55). Blending is not an option for theatrical participants; it is a cognitive necessity. Gerstmyer’s toddler managed several roles, both theatrical and dramatic, during her performance play. Gerstmyer’s list has her playing the roles of props master, sound designer, audience member, and, of course, actor. While playing the mother, the toddler was both herself and her role, simultaneously, but she could also separate self and role to comment, self-reflexively, on the role she had just played. In cognitive terms, the toddler had blended a concept of herself with a concept of a mother to create a new identity, a toddler/mother. Then, just as quickly, she was able to unblend the toddler/mother identity to return to a self that could continue to play in other ways.

The dynamic of conceptual integration rests on an understanding of the mind, common among cognitive scientists of many persuasions, in which “concepts” are necessary prerequisites for many cognitive operations. By “concept,” say neuroscientists Gerald Edelman and Giulio Tononi, “we mean the ability to combine different perceptual categorizations related to a scene or an object and to construct a ‘universal’ reflecting the abstraction of some common feature across a variety of percepts” (2000:104). They give as an example the human face, which we recognize as the same “concept” regardless of the many different noses, eyes, shades of skin, etc., that we all perceive in different, unique combinations. Human beings begin categorizing singular percepts into general concepts right after they are born, and perhaps before. In addition to the human face, cognitive concepts include such basics as the color “blue,” a notion of “behind,” and the physical object used for sitting that, among English speakers, gets called a “chair.” “Self” and “role” are also concepts, universal categories that bring together many perceptions into one generalization that the mind remembers and can instantly call to use. These categories, like other foundational mental concepts, occur in all cultures.

Through empirical evidence and logic, Fauconnier and Turner demonstrate that people imaginatively engage in blending games with thousands of their mental concepts all of the time, mostly below the level of consciousness. As they explain, one kind of double-scope integration that we call theatre encourages spectators to merge actors and characters by mixing together the concepts of actor and character to create actor/characters (2002:266–67). Spectators blend in selective content from their concept of an actor (that he/she is alive, can move and speak, etc.) and some content from their concept of a character (that he/she has a certain past, faces specific situations in the present, etc.). When spectators “live in the blend” of a performance, they do not mix all of the colors available to them from their actor and character paint boxes; they temporarily put aside their knowledge that the actors have other lives outside of their immediate role-playing and that the characters began initially as words on a page, for instance. All conceptual integrations allow for imaginative selection among the content of the mental concepts that are blended. If the spectator perceives the identity of the actor as a star, she or he may include the star’s public persona in the blend, for example.

Actors also engage in conceptual integration to immerse themselves in their roles. According to Fauconnier and Turner, the actor “is engaged in a different kind of blend, one in which his motor patterns and power of speech come directly into play, but not his free will or his foreknowledge of the [dramatic] outcome” (267). Before stepping onstage as Hamlet, the actor knows that his character will die at the end of the play, but, performing “in the blend” as actor/Hamlet, he suspends that knowledge in his moment-to-moment interactions with the actors playing Horatio and Claudius. Like spectators, actors also move in and out of their blends;
they oscillate between inside and outside positions vis-à-vis the ongoing drama. Sometimes this occurs intentionally, as when a performer consciously gauges the sound of audience laughter to decide when to begin her or his next line. And at other times, accidents—tripping on a costume, forgetting a line—will jerk actors out of their blends to leave them temporarily “naked” onstage, a momentary divide in their theatrical/dramatic identity that separates their person from their role. Of course actors also put aside their blends every time they leave the performance space to exit backstage.

Athletes involved in performances also move between backstage spaces (the locker room, the bench) and onstage environments (the playing field, the tennis court). Although sports events are not usually understood as fictional, they are a part of every culture’s subjunctive experience. “What if we structured a competition between these kinds of players, under these conditions, and with these rules” is the implicit subjunctive phrase behind every sports event. This subjunctive reality involves athletes in the same kinds of blends that occur in acting. The ice hockey player in the position of forward, for example, blends certain attributes of him or herself (that he or she has a well-muscled body and can play aggressively) with the role (the “given circumstances” of playing hockey and the specific role of forward on the team) and becomes a self/forward while on the ice. Like actors, hockey players try to block from consciousness aspects of themselves and their personal situation that would inhibit them from playing their best in the moment-to-moment give-and-take of the game—that the other team is favored to win by 5 to 1, for example. In the athlete/position blend, the athlete probably blends in more of him or herself than does the actor to create an integrated self/role. But the cognitive fundamentals of blending are the same.

It is an easy stretch of the imagination to understand that spectators at sports events also blend athletes and roles together to create player/positions that are believable and entertaining. Because athletes usually perform the same positions from one game to the next (unlike actors who switch roles frequently during their careers), spectators typically conflate the athlete with the role. But spectators also know that Ben Roethlisberger is not only a quarterback for the Pittsburgh Steelers, for example; they can unblend Big Ben and the role of quarterback whenever they wish. (Pittsburghers upset about Roethlisberger’s scandalous sexual assault have an added incentive to consider the man apart from his leadership of the Steelers.) Athletes may also become temporary fans. In a tennis match, a player is often aware of and appreciative of her or his opponent’s moves.

In addition to conceptual integration, sports philosopher R. Scott Kretchmar points to other attributes of games that separate them evolutionarily from most other play activities. When we invent and play games, he says, “we stipulate relationships between means and ends in order to know ‘what counts’” (2007:7). As an example, Kretchmar notes that it is not enough to get the ball in the hole to have it “count” in golf; players cannot carry the ball to the hole and drop it in, but must hit it into the hole with a golf club. What Kretchmar calls the “logic of gratuity” also applies to games. “This involves the capacity to negotiate a pair of apparent contradictions,” he states, “specifically that harder is better and certain experiences of uncertainty trump those of security and certainty” (7). Basketball is structured so that a three-point shot is harder and less certain than a free throw, with the justifiable consequence that it counts three times as much. Other animals are incapable of inventing and negotiating the rule-following behavior that all games require. Many animals play, but none except Homo sapiens can play games. Kretchmar notes that, while general play came first in evolution, the cognitive demands of playing games mean that this specific form of play has probably been around for only the last 50,000 years.

Kretchmar does not discuss conceptual blending, but his understanding of games leaves no doubt that blending is a necessary component of game playing. In Kretchmar’s discussion, games, like other kinds of performances, depend on social conventions that locate players and spectators both in and out of the action—immersing themselves in competition one moment and pulling back to keep score or plan strategy in the next. Without conceptual blending,
Some animals can play, but only humans can perform. Without the evolution of conceptual integration, performance could not have emerged as a possibility for Homo sapiens.

The same may be said about dancing, participating in a parade, playing in a rock band, and other similar actions. Humans made up the conventions of these practices and must be able to step in and out of their roles as dancers, beauty queens, and musicians in order to rehearse and perform them for others. Other animals do not have this cognitive flexibility; they cannot fully separate self from role. Some animals can play, but only humans can perform. Without the evolution of conceptual integration, performance could not have emerged as a possibility for Homo sapiens. Further, it is clear from the female toddler’s performance of “motherese” that the human ability to use blending for performance is built into our genes. No older child or adult taught her about “magicking,” although it is also evident that her culture shaped the kind of performing she decided to enact. The prerequisite of conceptual blending makes performance in humans continuous with but also distinct from other kinds of animal play.

How did conceptual integration evolve? Cognitive scientist Merlin Donald hypothesizes that the harsh realities of early hominid life put evolutionary pressure on our ancestors to expand their cognitive, affective, and social capacities to enable them to cooperate and compete for survival. This occurred over the course of what Donald calls the mimetic era of human evolution, a period of tool-making, fire-using, and protoperforming involving mime, dance, music, and spectacle from roughly 2 million to 50 thousand years ago. As Donald explains, the protoperformances of the mimetic era involved attention and pattern that gradually became more metacognitive and led to communicative outcomes among their participants. Performative in nature, these mimetic activities relied upon distributed cognition, which knitted together each of the small bands of hominid cultures struggling to survive. “Human cultures can be regarded as massive distributed cognitive networks, involving the linking of many minds,” states Donald, “[... that guide the flow of ideas, memories, knowledge” (2006:4). In these millennia before the evolution of language, our hominid ancestors slowly stretched their integrative capabilities as they expanded the frontal lobes of their brains and their cultural networking. “The canonical example of this kind of integration is event-perception,” notes Donald, “which can unify a blur of millions of individual sensations of sight, sound, touch, taste, smell and emotions into unitary event-percepts” (4). As we have seen, compressing many activities into the concept of a single event requires double-scope blending. When hominid bands recognized repeated mimetic actions as performance events, they also exerted more conscious processing in the construction, rehearsing, and performance of roles within these events. Eventually, complex forms of mimetic culture reliant on double-scope blending, such as theatre and games, emerged between 100 thousand and 50 thousand years ago. Donald closes his “mimetic era” at 50 thousand years,

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7. This dating precedes by several tens of thousands of years what Yann-Pierre Montelle, in his Paleoperformance (2009), takes to be the evolutionary emergence of “theatricality” among humans. In this book, Montelle draws on a definition of theatricality reliant on the reading of signs on cave walls to argue that theatricality first appeared about 30 thousand years ago when our ancestors were performing deep in the caves of Spain, France, and elsewhere. I see no reason to doubt that the cave drawings from that time that we now celebrate were a part of more elaborate performances, but Montelle says nothing about the cognitive developments that must have preceded such events to make them possible and legible. Consequently, his late date for the emergence of theatricality, even granting his narrow definition, seems dubious.
when he, along with other anthropologists and linguists, supposes that groups of Neanderthals and Cro-Magnons began communicating symbolically through language.8

This discussion leads us to a new definition of performance. Considered as an emergent activity of human evolution, performance is an intentional, emotionally expressive, event-centered phenomenon involving pattern and attention in social interaction—i.e., a type of play—that entails conceptual integration. As we know, scholars have defined performance in many ways, but none has distinguished it from other modes of play in terms of its evolutionary and cognitive foundations.

Religious Ritual and Performance

Where does this definition leave religion and its expression in ritual? I realize that social scientists have defined “ritual” in many competing ways. As anthropologist Peter G. Stromberg remarks:

Ritual may refer to a Catholic Mass, a greeting routine, a formulaic courtship dance undertaken by a certain species of bird, the obsessive handwashing of a person suffering from obsessive compulsive disorder, and so on. The potential application of the term is so broad and so open to interpretation that pinning down the essential nature of ritual is unlikely. (2009:101)

I will follow Stromberg and define ritual in what he admits is “a conservative and fairly restrictive sense”; ritual, for him, is “simply a religious ceremony of some sort” (102). This definition has the advantage of parsimony. Since nearly all social scientists would include religious ceremony within their definition of ritual (and many would point to it as a prototypical example), any generalization about ritual that is not true for religious ceremonies can count as mistaken.9

Initially, it may seem that ritual does not involve performers taking a subjunctive perspective on their play. Football players and theatrical spectators know that they are participating in a convention-bound activity; they understand that they are playing assumed roles in events that have been consciously separated from everyday culture. In contrast, ritual activities in religious events may be separate and convention-bound, but they are not usually understood as subjunctive experiences by their believing participants. A priest celebrating a Catholic Mass, for example, does not assume that he is playing the role of a priest who believes in a God that only exists for the duration of the ritual performance. There is no “what if” from the point of view of participant-believers at a Eucharist. When the ritual of the Mass is complete and the church service is over, the priest remains in what Catholic theology teaches is a special relation to the Almighty and many Catholic worshippers believe they can carry their God into their everyday lives. For the faithful, belief severely constrains the incursion of subjunctive experience into religious ritual.

Evolutionary examinations of ritual usually consider religious belief when exploring its possible origins and adaptive values. Several anthropologists attuned to the new insights of cognitive science have taken a fresh look at the likely evolutionary roots of religion. Stewart Guthrie, Jonathan Lanman, Justin Barrett, and Harvey Whitehouse emphasize the importance of the Hypersensitive Agency Detective Device (HADD) in the minds of hominids and later Homo sapiens as a primary reason for our species’ creation and worship of gods (see Guthrie 2007; Lanman 2007; Barrett 2007; and Whitehouse 2007). Like conceptual blending, HADD draws on the specifically human cognitive operation of projection. Many psychological experiments have demonstrated that people often claim that they have detected animate agency in images,

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8. See, for example, Terence W. Deacon’s *The Symbolic Species* (1997).

9. For example, in her *Ritual: Perspectives and Dimensions*, Catherine M. Bell finds that many ritual theorists agree that rituals involve communal action that draws on traditional ways and confirms religious beliefs (1997:94).
natural events, and accidents where none really exists. People believe they can see the face of a deity in the embers of a fire, for example, or are able to perceive the workings of the gods in a thunderstorm. In these instances, they have projected their own notion of agency into a situation they cannot explain to enable them to understand it as the will of some superhuman power.

Evolution primed our species to be hypersensitive about invisible agents that might do them harm. Better to interpret that rustling behind the bush as a lurking tiger about to pounce than to ignore the signs of possible agency! On those few occasions when such interpretations were correct, the hunter-gatherer might survive. Guthrie, Lanman, Barrett, and Whitehouse presume that a belief in unseen higher powers often operated in the same ways in our past and probably continues to shape religious belief today. Better to believe, like the rest of the tribe, that the gods might curse your hunting or blight your crops than to risk offending unseen but always lurking animate powers. Better still to try to propitiate such deities, even if the rituals that your tribe had formulated were seldom effective. According to these four anthropologists, HADD, initially an evolutionary adaptation that sensitized our ancestors to the possibility of dangerous agency, led to the secondary cognitive effect of helping them to invent and perpetuate religion. HADD facilitated the extension of performance into religious ritual.

As sociologist Robert A. Scott explains, HADD works cognitively through double-scope blending. Scott focuses on the attribution of divine intervention to medieval Christian saints as an example. “In a sense, the ‘job’ of a saint,” he notes, “is to supply a mechanism by which it becomes possible for humans to connect to and gain the protection of heaven” (Scott 2006:217). To create the blend of a saint, worshippers project characteristics from three sources—the concept of a corpse (because all historical saints are dead), the concept of a live person with human agency, and a concept of the divine—and integrate them into a fourth, integrated space. A blend of attributes from each of these spaces, the saint becomes a body with superhuman, divine agency that can influence God on behalf of a worshipper. Scott concludes that “this transference of divine powers also makes possible the potential for intersession and healing that humans consider the acid test of whether a dead human being is or is not a saint” (218).

Scott Atran’s study, *In Gods We Trust: The Evolutionary Landscape of Religion* (2002), generally confirms the insights of later scholars who emphasize the crucial role of HADD in the evolution of religion. Atran notes that cultural religious expression presents what seems to be an evolutionary quandary: why should cultures embrace practices that range from stopping work at specific times of the day, to sacrificing animals, to mutilating the body, and (in some instances) to killing relatives simply to keep faith with an immaterial deity? According to Atran, most primitive religious rituals rehearsed situations of danger, stress, pain, and occasional death to enable humans to process traumatic experiences in their lives that have no logical or probable explanation or outcome. Such events played a much larger part in human history 50 thousand years ago than they do today, when disease, starvation, and violent death were more frequent occurrences. Despite appearances, then, Atran shows that sacrifice, mutilation, and similar ritual practices sanctioned by religious belief helped Homo sapiens to deal with life-threatening events and to bind individuals more tightly to their group. Primarily for this reason, religious rituals were evolutionarily adaptive.

If religious rituals are understood from this evolutionary perspective, it is clear that they are an offshoot of other kinds of performances. Indeed, there is some evidence that performance activities preceded religious rituals in our evolutionary past. Brian Boyd notes that while the earliest sketchy evidence for religious practice dates from 90 thousand years ago, ocher has been used for body decoration for at least 120 thousand years and probably much longer. Boyd reasons that hominids, already habituated to dancing and singing for each other, likely presumed that their gods would perceive and enjoy their performances in the same ways. Religious belief and ritual, then, probably emerged near the end of Donald’s mimetic era, when religion was also able to draw on the thousands of years in which HADD was operative for hominids. Since, as Atran notes, belief plus the performance of ritual reinforces social cohesion, those early bands that began performing and worshipping together also thrived together.
Consequently there is good evidence to reverse the assumption of many theorists that performance and the arts grew out of religion. Rather, rituals tied to religious beliefs are the evolutionary offspring of play and performance. Boyd is clear that patterning and attention in the arts had to precede religious rituals:

Indeed, those who claim that art derives from religion do not explain how it could do so. If a group of early humans had begun to believe in supernatural forces, why would and how could they then have invented art to serve the purposes of religion? Why would they have thought of art as a next step, if there had not already been ways of embellishing surfaces and altering shapes and producing sounds and movements that elicited a deep response in human eyes and minds? Religion, on the other hand, needs art as a precursor. Without the existence of stories that diverge from the true [...] religion could not have arisen. (Boyd 2009:113–14)

The evidence and logic of evolution do not support those priests and congregants who believe that their faith has nothing to do with subjunctive experience, who place their earnest rituals in opposition to performative play. Nonetheless, those religious fundamentalists throughout history who sought to distance their worship services from sports and other performances were perhaps right to worry; conceptual blending in one area of life can easily infect other areas with the joys of subjunctive play.

Of course there are many believers across the world who understand their religious rituals as a kind of performance and take great joy in marrying theatre to faith. In his Theatre and Religion on Krishna’s Stage: Performing in Vrindavan, David Mason investigates a large group of Hindus who stage plays with child actors to worship Lord Krishna. A major goal of ras lila performances, as their religious theatre is called, is to celebrate the embodiment of Krishna’s playful spirit in the performances of selected boys in the town of Vrindavan, located south of New Delhi. Lightly rehearsed, the boys stumble through many roles in scenes from the early life of Krishna, but the spectators/worshippers for this theatre are not disturbed by their lack of professionalism because they see the playfulness of the young Krishna in the boys’ antics and they glory in their fun. As Mason explains, ras lila combines both the doubleness of theatrical representation and the goal of honoring a god. “Ras lila theatre, then, is not only theatre, but a worship service,” states Mason. “The stage activity quite unselfconsciously crosses boundaries between ritual and theatre, and, in this way, *ras lila* theatre may demonstrate just how artificial those boundaries can be” (Mason 2009:7). Indeed, ras lila exemplifies one culture’s synthesis of play, performance, and ritual. Conceptual blending anchors the performance of the playful ritual for both actors and spectators. HADD is evident in the agency of Lord Krishna, credited by all believers for the joy that the boy actors take in their performances and for the general success of the ritual. Finally, play separates the performance event from the workaday world and suffuses all of its artistic patterns and demands for attention with rapture and release.

**Toward New Definitions**

The evolutionary path of play, performance, and ritual provides a helpful preface to considering how we might revise some of the current definitions of these three key terms for performance studies. From the perspective of evolutionary continuity, animal play has enhanced the survivability of many birds and mammals, including Homo sapiens. The general parameters of play among animals—in particular, play as a separable event, as an intentional and self-reinforcing expression of emotions, and as a social interaction involving pattern and attention—set the stage for the evolution of human performance. While there are evident continuities among the

10. Mason, of course, is not alone in recognizing the interweaving of play, ritual, and religion in many Indian festivals. See, for example, Schechner’s “Striding through the Cosmos: Movement, Belief, Politics, and Place in the Ramlila of Ramlagar” ([1990] 1993).
play of all higher animals and human performance, there are also demarcations, which occurred over the course of two million years or so, that set performance apart from other types of animal play. The most important of these for our purposes was double-scope integration, which was apparently complete roughly 50 thousand years ago. This cognitive adaptation facilitated subjunctive play, the ability to invent and perform games, drama, presidential parades, rap songs on websites, and all of the other performances that distinguish us from our chimpanzee cousins. While performance was coevolving with the distributed cognition that undergirds all human culture, our hypersensitive ability to detect the possible agency of predators in the natural world led our species to invent religion and to elaborate the worship of supernatural beings through religious rituals. From the start, rituals were a kind of performance, dependent upon complex conceptual blending and the dynamics of intentionality, event, emotion, pattern, and attention that define all performances. If the evolution of animal play is thought of as a tree, its wide trunk branches off in several directions and one of its larger limbs near the top is performance. From the branch of performance sprouts theatre, games, religious rituals, and other varieties of subjunctive activity.

This evolutionary perspective on play, performance, and ritual rests on a recent synthesis of evidence from anthropology, neuroscience, cognitive psychology, and other empirically based disciplines. While some pieces of this synthesis are falsifiable in scientific terms, others are more speculative. None of the major claims of this synthesis, however, contradicts what is generally regarded as settled science. Further, this summary provides a way of connecting the (many disparate) dots concerning our three terms through the general logic of evolutionary continuity. This scientific logic, in turn, works within an ontology that seeks to link the causes of evolutionary change with cognitive dynamics. In short, the synthesis that I (along with Boyd, Donald, Turner, and several others) am proposing depends upon philosophical realism. In Philosophy in the Flesh, coauthored with George Lakoff, Mark Johnson clearly distinguishes his and Lakoff’s position of “embodied realism” from other philosophies, including positivism and social constructivism (1999:337–568).

Ontologies and conclusions that rest on philosophical realism, embodied or otherwise, will present a major problem for most scholars in performance studies. As a field, performance studies emerged in the 1970s and ’80s when humanists generally embraced a social constructivist point of view about the foundations of existence and knowledge. This view, which also predominated in cultural and literary studies, encouraged many performance studies scholars to believe that Homo sapiens could rule out biology and cognitive dynamics as having anything to do with things cultural. Most social constructivists relied on a version of behaviorism when they turned to psychological explanation, a perspective that approached the mind as a Lockean blank slate upon which culture might inscribe any discourse it required. As this metaphor suggests, Foucauldian positions work within social constructivism, but so, too, do many older sociological models and several newer postmodern perspectives, such as Erving Goffman’s role theory and Judith Butler’s initial embrace of performativity.¹¹ Foucault, Goffman, and Butler, of course, have had a major impact on the field of performance studies in the past 25 years. For this reason, a simple layering of the definitions of play, performance, and ritual that I am proposing on top of other more or less accepted versions of performance studies is not possible. An evolutionary perspective resting in embodied realism requires that we start again with performance theory, from the basics.

In contrast to performance studies, the scholarly field of play studies and play theory mostly resisted the siren song of social constructivism and kept at least one foot in philosophical realism. It is not surprising, then, that Brian Sutton-Smith’s theorizing in The Ambiguity of Play

¹¹. For a cogent discussion of the differences between realism and social constructivism, see Tobin Nellhaus, Theater, Communication, Critical Realism (2010).

is that play variability is analogous to adaptive variability; that play potential is analogous to neural potential; that play’s psychological characteristics of unrealistic optimism, egocentricity, and reactivity are analogous to the normal behavior of the very young; and finally that play’s engineered predicaments model the struggle for survival. What then follows from this account of cultural natural selection is that play, for its part, may be an invention meant to model such natural selection processes. (1997:229)

From the perspective of Johnson’s continuity theory and recent empirical findings about evolution and cognition, Sutton-Smith’s hypotheses still make good general sense. Brian Boyd, for example, continues to draw on Sutton-Smith’s arguments for his own summary of the evidence for play as adaptation. What is missing from Sutton-Smith’s conclusions, however, is the important difference that double-scope blending made in the evolution of play. While The Ambiguity of Play encompasses an enormous variety of playing, Sutton-Smith could not have known in 1997 that subjunctive play in humans requires cognitive abilities continuous with but beyond the reach of other playing animals.

In a series of essays and papers in the 1970s, Richard Schechner bucked the rising tide of social constructivism to recognize the significance of play for the biological and cultural evolution of performance. In “Drama, Script, Theater, and Performance,” for example, Schechner stated that “an examination of play’s biological function—its survival value—will add to our understanding of its structure and process, pointing the way to relating primate play behavior to human performances” ([1973] 2003:100). His “Toward a Poetics of Performance” begins with a long quotation from two anthropologists about a kind of “carnival” gathering among chimpanzees in Africa that Schechner deploys to note likely similarities between groups of these primates and bands of Paleolithic hunters ([1975] 2003). Schechner’s “Ethology and Theater” recognized similarities among the play of great apes and the kind of rehearsing that humans undertake, plus the fun they enjoy when they perform. At the same time, however, he pointed out that prehuman primates could never achieve the “level of reflexive self-understanding” achieved by Spalding Gray and other human performers ([1977] 2003:241).

In these essays, and indeed throughout his scholarship, however, Schechner braids play with ritual to explain performance. “Playing, like ritual, is at the heart of performance,” he states in his recent Performance Studies: An Introduction ([2002] 2006:89). “In fact performance may be defined as ritualized behavior conditioned/permeated by play,” he concludes (89). To make play and ritual nearly coequal partners in a definition of performance, however, contradicts what Boyd, Donald, and I have been claiming about the likely evolution of performance from play. Further, like Turner, I emphasize the necessity of double-scope blending for the evolutionary emergence of performance out of simple play. To his credit, Schechner identified what he called a “double gap” in consciousness that occurs only in human performances, a mode of self-reflexivity that can now be recognized as a part of double-scope blending ([1977] 2003:260). In his 1970s work, however, Schechner found “no break between animal and human behavior” regarding artistic achievement ([1975] 2003:208) — a position he reaffirmed in his introductory textbook. While recent anthropologists and neuroscientists also emphasize evolutionary continuity, they can now point to four major breaks separating human minds and actions from those of other primates. And one of these, mental projection, relates directly to the origins of performance. This contradicts the older ethological position still affirmed by Schechner and also eliminates ritual as an evolutionary predecessor of performance. Unlike play, our ancestors could not engage in religious rituals until they could manage double-scope blending; only the emergence of performance from play made ritual, along with theatre and games,
possible. (A simpler definition of ritual as repetitive behavior would maintain Schechner’s evolutionary link, but such a definition, from a cognitive perspective, would necessarily exclude religious rituals.)

Eli Rozik’s definition of ritual in his *The Roots of Theatre: Rethinking Ritual and Other Theories of Origin* also contradicts my conclusions, but for a different reason. Like Brian Boyd, Rozik finds no empirical evidence that theatre evolved from religious rituals. But, unlike Boyd, he does not make the case that ritual is an evolutionary descendent of subjunctive play. Instead, Rozik holds that theatre and ritual are ontologically distinct:

> Theatre is a medium that can serve different intentions and purposes; and ritual is a particular mode of action, with definite intentions and purposes, which can use any medium. Ritual and theatre do not constitute a binary opposition; they operate on different ontological levels. (2002:337)

According to Rozik, theatre’s roots “lie in the specific image-making faculty of the human psyche” (xi) and this faculty produces representations of actions through live performers that may communicate a wide range of fictional worlds. Ritual, in contrast, is a “mode” that may incorporate several media (including theatre) and is intended to generate specific results in the real world. Missing from Rozik’s understanding of ritual is the cognitive dynamic of HADD, which effectively encourages humans to read superhuman agency into perplexing phenomena and thus leads them to worship these deities.

Unlike play, our ancestors could not engage in religious rituals until they could manage double-scope blending; only the emergence of performance from play made ritual, along with theatre and games, possible.

The larger problem with Rozik’s distinction between theatre and ritual, however, is his leap to an ontological explanation. Theatre, he says, draws on a particular “faculty” of the mind, whereas several kinds of human faculties may inform and structure ritual. As Mark Johnson notes, philosophers in the 17th and 18th centuries tried to make ontological distinctions among what they understood to be several cognitive “faculties,” including sensation, imagination, feeling, reason, and understanding, and these erroneous concepts continue to shape aesthetic theory today. *Pace* Rozik, there is no “specific image-making faculty” that operates apart from the rest of cognition; making and communicating theatrical images is a part of memory, perception, attention, empathy, and most of the rest of our general cognitive capabilities. Faculty psychology flies in the face of continuity theory, which posits the necessity of evolved relationships among all cognitive operations in humans and other animals.

In opposition to the creation of ontological categories to divide up the continuities of thinking and feeling, Johnson celebrates John Dewey’s *Art As Experience* ([1934] 1987). Echoing the conclusions of Brian Boyd, Merlin Donald, and others about playfulness and the arts, Johnson asserts:

> We need a Dewey for the twenty-first century. That is, we need a philosophy that sees aesthetics as not just about art, beauty, and taste, but rather as about how human beings experience and make meaning. Aesthetics concerns all of the things that go into meaning — form, expression, communication, qualities, emotion, feeling, value, purpose, and more. Instead of isolating the “aesthetic” as merely one autonomous dimension of experience, or merely one form of judgment, we must realize that aesthetics is about the conditions of experience as such, and art is a culmination of the possibility of meaning in experience. (2007:212)

Within this expanded notion of aesthetics, we can best understand the genres of performance — theatre, sports, films, rituals, and other forms of subjunctive action — as continuous with the evolution of our species.
References


