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Say “Yes and” To Improv: It’s Good For Your Brain

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Abstract

Everyone improvises from the moment life begins, but few know what exactly happens when you improvise. Neuroscience shows the biological basis, and thus, the universality and practical application of improvisation. This recent research on the subject of improv shows why—for centuries—humans have been drawn to improv. The paper begins by offering historical antecedents to contemporary improvisation; then, moves on to discuss the rich history of American improvisation and the move towards integrating spontaneity into improvisational performances. Through close analysis of what makes something spontaneous, the effects of spontaneity on individuals have shown the “naturalness” of improv and its inherent presence inside us all. The discussion then branches out to bring in the recent findings of scientists about what is actually goes on in the brain when people are improvising. Finally, the universality of improv is shown through its natural—and organic—transition into the business and education world. Improv is inherent and natural, so we should say “yes” to improv and its positive effects.

Keywords: Improv, Theatre, Improvisation, Performance, Acting

Improv is Our World

In the beginning there was ... improv? Though this might seem a lofty postulation, it refers not to the creation of the universe, but to the inherent and fundamental role improv plays

in the human experience. When having a conversation, we do not base our discussions on a script; rather, our exchange occurs naturally, with each participant reacting in the moment to each other's verbal and visual cues. In the same way, when students are called on in a classroom, they improvise, responding to the stimulus of a question and formulating an answer on the spot. When giving a presentation, presenters sometimes forget to write out a note card for the conclusion and just have to wing it. Thinking on their feet, they improvise, constructing their conclusion by elaborating on a framework of ideas rather than a formal text. Every day—with colleagues, family, friends, and strangers—we improvise. In interviews, on the job, on the phone, in the most intimate conversations, we act and react, making it up as we go. Everyone improvises whether we realize it or not.

If this notion is true, then why would anyone willingly sit through an improvised performance? Why would audiences pay to watch a performance in which performers engage in the same activity they do in their day-to-day lives? Many are quick to point to the risk associated with improv, since there is a high chance of it going wrong; when it works out, the reward is even better. Others assert that improv is funnier and more “real” than any other form of entertainment, requiring performers to rely solely on their wits instead of the security of a well-rehearsed text. But the most compelling answer lies in science. Neuroscience shows the biological basis, and thus, the universality and practical application of improvisation that is absent in scripted material. Recent research on the improvising brain explains its complex processes, and why—for centuries—we have been so drawn to improv and how we can utilize the positive effects of improv in our changing world.

Historical Antecedents to Contemporary Improvisation

Before applying scientific principles to performance-based improvisations, it is crucial to consider the historical precursors to contemporary American improv on which these studies are based. The most obvious historical antecedent to American improvisation is the Italian art form of *commedia dell’arte*. Not everyone agrees about this linkage; Sam Wasson, social historian, improviser, and author of *Improv Nation*, a book about the history of American improvisation, asserts that: “Many have surmised that improv’s origins date back centuries, to *commedia dell’arte*. I don’t agree. Nor do I believe it was ‘always there.’ Like anything else. Improvisation had to be invented—and it was invented, in America” (Wasson xi). Wasson specifically attributes his belief that improvisation was formed in America to America’s affinity for both freedom of speech and minimal artistic censorship. These combining factors, Wasson asserts, are what made it possible for improv to be created in America.

Wasson’s argument is not justified; it is negligent not to acknowledge the Italian tradition of *commedia* as an influence on the development of American improvisation. Wasson seems to recognize that his belief is not totally rooted in facts, as he includes this contingent statement in the preface, rather than in the actual text of the book. Yet, Wasson is correct in the sense that even though improvisation undoubtedly has ancient precursors; it will always be a product of its time. The contingent nature of improv is what has allowed it to evolve since its origins. These origins are, contrary to Wasson’s belief, in the Italian comedy, *commedia dell’arte*, and, according to most theatre historians, can be traced as far back as the classical period (“Improvisation”). It was principally the improvisational elements included in *commedia* that made the performances so famous and allowed them to spread across Europe. The kind of improvisation employed in Italian *commedia* was based on a scenario—essentially a short description or outline of the plot of a play (Schmitt 255). Unlike a conventional script that

includes dialogue, a scenario's only function is to provide an overview of the action, so that actors will know what needs to be performed in each scene. So, while the lines change in every performance, a scenario ensures the essential action will occur every night. The usage of scenarios became a staple of commedia that was passed down for generations.

Though improv has undergone significant changes since its origins, its roots in commedia are unmistakable, as contemporary American improv troupes draw on similar techniques. In fact, the scenarios employed by Renaissance actors were a tool used by Chicago actors and directors, David Shepherd and Paul Sills. The pair opened Compass in 1955, which was the first theater company to charge audiences to watch improvisation. Before Compass, improv was mostly thought of as a rehearsal technique or as a method to train actors, but never an exercise that was meant to be performed as featured entertainment.

Under Shepard's direction, performers would take a suggestion from the audience and then go backstage and brainstorm scenes based on the suggestion. Thus "they weren't making it up *the moment* they got the suggestion, but still they were making it up that night... live..." (Wasson 33). This approach appears similar to extemporaneous speaking, which differs from improv. Improv requires actors to make everything up on the spot, whereas in extemporaneous speaking individuals have time to prepare an outline before speaking. The Compass players, then, were performing something unrehearsed, but it was not quite improvisation. Despite Compass' promising start and initial success, the troupe proved to not have the longevity necessary to continue operations and closed in 1958.

Sills was not content with the closure of Compass, so the next year, he, along with Howard Alk and Roger Bowen, opened the now famous Second City on December 16, 1959 (Wasson 60). When Second City opened it was similar to the Compass because they performed

scenes that were not improvised on the spot; rather, they presented scenes that had once been improvised. Though performers would slightly adjust their dialogue to include topical political references, by and large, the scenes remained the same every night (Wasson 62-64). It was not until Second City removed scenarios, replacing them with spot-improvisation, that American improv truly distinguished itself from its historical antecedents.

This shift in improv was largely due to improviser Del Close, who despised scripted or scenario-based improvisation. Close joined Second City in 1961, thus beginning "a 30-year tenure as resident guru to improvisers" (Heidemann). Close hated the scenarios and thought they "were total bullshit...Del insisted on what he called spot-improv, improvising from a suggestion right there, on the spot" (Wasson 47). Close cherished spot-improvisation because it forced the actors to listen to one another in order to find unique solutions to the problems that would emerge organically. Close's spot-improvisation vastly differed from the highly structured scenarios that Second City performers were used to performing. Yet Close did not care about preserving the status quo; instead he advocated "...for improvisation's inherent value as an art form in its own right" (Wasson 74). This push to legitimize Close's new, more spontaneous form of improv, proved to be popular with not only performers, but audiences as well. Because of the success of these spot improvisations, Second City completely reinvented itself in 1961. Second City became the hub of American improvisation and Close's spot improvisation overtook scenario-driven performance as the de facto version of improv. Spot improvisation has largely remained the dominant type of improvisation in America since Close introduced it. Though it is clearly different from commedia or even European improv (which is much more scenario-based), there is one element that persists throughout all forms of improv: spontaneity.

The Role of Spontaneity in Improvisation

Merriam-Webster defines spontaneity as following one's natural impulses without constraints ("Spontaneity"). The spontaneous nature of improv is what makes it so interesting to watch and difficult to perform. Author Malcom Gladwell discusses the unique degree of difficulty that is present in improv in his seminal book on the unconscious mind, *Blink*. Gladwell notes that:

What is terrifying about improv is the fact that it appears utterly random and chaotic...but the truth is that improv isn't random and chaotic at all...improv is an art form governed by a series of rules, and [the performers] want to make sure that when they're onstage, everyone abides by those rules. (Gladwell 113)

Having rules to govern improv seems contradictory to the definition of "spontaneity," a word that implies behavior based purely on impulse. Rules and structure are key to fostering a space that allows performers to be able to truthfully give a spontaneous response. Developing a creative environment that trains performers in spontaneous response is crucial, for the ease of spontaneity in real life is much harder to replicate on stage. The self-consciousness most of us feel under public scrutiny inhibits spontaneity; to respond in the moment, then, requires much practice and great skill. The improv troupe Mother, based in Manhattan, thinks of actors practicing improv for performance in the same way that professional basketball players practice for their games.

Basketball is a complex and fast-paced game that requires quick and spontaneous decisions. The ability to make those split-second decisions is only possible after everyone participates in "hours of highly repetitive and structured practice... and agrees to play a carefully defined role" (Gladwell 114). These same principles allow improv, as well as any other activity that hinges on quick spontaneous decisions, to be successful. Hours of structured practice to

create a spontaneous and new performance seems paradoxical, principally because our understanding of what makes something spontaneous is so limited.

Spontaneity, contrary to how it is commonly understood, is not random. Rather, the ability to be spontaneous "...under the fast-moving, high-stress conditions of rapid cognitions is a function of training and rules and rehearsal" (Gladwell 114). The most important rule that allows improvised performances to be successful is a base-level sense of agreement that exists between all the performers (Gladwell 111-117). This implicit sense of agreement occurs to foster a hive-mind style of thinking among the performers. Performers do not exist as individuals, but as an interdependent unit, affirming each other's ideas and suggestions. Throughout the world of improv, this concept of affirmation has been simplified to 'saying yes.'

In her autobiography, *Bossypants*, Tina Fey, famous actor, improviser, and former writer on SNL, explains the importance of following this rule and agreeing with whatever your scene partner creates:

So if we're improvising and I say, "Freeze, I have a gun," and you say, "That's not a gun. It's your finger. You're pointing your finger at me," our improvised scene has ground to a halt. But if I say, "Freeze, I have a gun!" and you say, "The gun I gave you for Christmas! You bastard!" then we have started a scene because we have AGREED that my finger is in fact a Christmas gun. (Fey 84)

Without this mutual agreement, it would be impossible to establish a space for spontaneous behavior to occur; thus, the principle of 'saying yes' makes it easier, because performers know that their scene partner will have their back.

Another pioneer of improvisational theatre, Keith Johnstone, has written extensively on his experiences with spontaneity as a writer and teacher. Johnstone believes that everyone has

the capacity to be spontaneous, but society breeds out the tendency to think on our feet. Based on his experience in a school setting, Johnstone reaches the conclusion that “most children can operate in a creative way until they’re eleven or twelve, when suddenly they lose their spontaneity, and produce imitations of ‘adult art’” (Johnstone 77). For once children reach this age, their creative and spontaneous impulses are often suppressed. Instead, children are encouraged to behave like respectable adults and begin following a ‘script’ rather than their own impulses. Institutions and employers tend to discourage individuals who push the boundaries, preferring those who adhere to societal norms.

Pressure to conform and fit in is why, even though spontaneous behavior is natural, humans have become so skilled at suppressing their spontaneous impulses. Even artists, who are supposedly free-spirited creative types, are taught that “the best artist was the one who made the most elegant choices” (Johnstone 79). But deliberative choice is counterintuitive to the very essence of improvisation, which is about utilizing the unconscious part of your brain to make spontaneous choices. Actors are often too afraid to make choices; they worry that since their choices are not deliberate and tested they will be unoriginal, uncreative, and unfunny.

In the real world, Johnstone believes that “most of us are highly skilled at suppressing action. All the improvisation teacher has to do is to reverse this skill and he creates very gifted improvisers. Bad improvisers block action, often with a high degree of skill. Good improvisers develop action” (Gladwell 114). The way to achieve the best improvisation occurs by not thinking about being original or funny, but rather, just giving in to the most obvious impulse. What is an obvious impulse? To answer this, Gladwell references an exchange between two actors in a class that Johnstone was teaching. In an improvisation, two actors are performing a scene as a patient and doctor. Actor A (the patient) mentions that he is having a problem with his

leg, to which Actor B (the doctor) says that he will need to amputate it. Actor A responds by making a clever joke, saying that he cannot have his leg removed because he is rather attached to it. This joke shuts down all forward momentum, and the improvisors become frustrated because they are not able go anywhere else with the scene. This problem can be traced back to Actor A’s attempt to make a joke following Actor B’s obvious impulse of suggesting amputating the leg.

Johnstone stopped the scene and challenged Actor A to try the scene again, but instead of trying to be clever, to give into his partner’s suggestion. The pair does the scene again, this time with a renewed commitment to following the suggestions of their partner. Actor A begins with the same opening statement that his leg is hurt, Actor B responds that he needs to amputate it. This time Actor A affirms Actor B’s statement and informs the doctor that the leg in pain is the same leg that the doctor amputated last time. The scene then is able to keep going and eventually ends with the two actors being worried about the disease Actor A has spreading to the furniture. The same scene, with the same actors, playing the same roles, with the same beginning—moved in a vastly different direction, full of possibilities, all because the actors listened to each other and followed their impulses, rather than trying to be funny (Gladwell 114-116).

Going with the most obvious choice is often scary to performers because they are wary of not seeming clever. Yet the most inspired artist, according to Johnstone, “is being *obvious*. He is not making any decisions, he’s not weighing one idea against another. He’s accepting his first thought” (Johnstone 88). Accepting one’s first thoughts is no easy task and is often quite nerve-racking for performers. Improv asks performers to accept whatever the first thing is that comes into their brains, an act—a technique—of spontaneous acceptance that occurs almost exclusively in improvisation. The experience of improv is unique; therefore, scientists have become fascinated by its processes, and are conducting research on how improvisation happens.

Neurological Effects of Improvisation

What goes on in the brain during improvisation? Neuroscientist Charles Limb, from Johns Hopkins University, was determined to find out, leading him to conduct an experiment to see the effects of improvisation on the brain. Limb's study measured the brain activity of jazz pianists while using an fMRI machine while they were improvising on a keyboard. Limb's study was primarily aimed at tracking the brain's activity during improvisation to see if it differed from the brain's activity during scripted performance.

His study focused on two parts of the brain: the medial prefrontal cortex (MPC) and the dorsolateral prefrontal cortex (DLPFC). In daily life, the MPC is the part of the brain that is primarily associated with self-expression. As Limb describes it:

The DLPFC is closely associated with impulse control. It's a part of the brain that makes you think twice before you eat a slice of pizza or gamble – a sort of mental shackle that keeps your neurons in check...Limb found that [the improviser] “deactivated” their DLPFC once they began improvising. [The improviser] turned off part of their conscious brain to let the unconscious mind do the work ...creativity vis-à-vis improvisation may be a result of... the suspension of self-monitoring and related processes that typically regulate conscious control of goal-directed, predictable, or planned actions. (“What Improv Teaches”)

In other words, when improvising, improvisors were inhibiting their inhibitions. By disassociating the DLPFC, improvisors turned off part of their conscious brain to allow the unconscious mind to do the work. In an interview, Limb compared the activity in the brain while improvising to the brain's activity during in REM sleep: “It's tantalizing to think some connection exists between improvisation and dreaming, which are both spontaneous events.

These [improvisors] may in fact be in a waking dream” (Loria). Limb’s comparison suggests that while performing, improv actors seem to exist in a liminal or altered state; if proven, his hypothesis might explain why, after performing improv, some improvisors do not remember what they did on stage. This examination of the brain on a neurological level emphasizes the connection between limiting inhibitions and true spontaneity in improvisation.

Limb has particularly been looking into a hybrid between improvisation and scripted performance: rap. Rap is a sort of anomaly, because while parts of rap are scripted, freestyling incorporates significant amounts of improvisation. An article written by the Dana Foundation, a private philanthropic organization that supports brain research, discusses Limb’s current study on rap and the brain.

Limb has been scanning the brains of rappers the same way he looked at jazz musicians: comparing fMRIs when they recited memorized passages to when they “freestyled,” or improvised in rhyme. Although the study is still in progress, preliminary data suggest major changes in brain activity when you go from memorized rap to freestyle. (Sherman) Rap’s mixture of scripted materials and freestyling places it more in line with the scenarios that were present in commedia than with spot-improvisation. Nevertheless, Limb’s observations relating to the brain during the freestyling portions of rap indicate that during improvisation the brain operates differently than it does when performing memorized tasks.

Limb’s experiments are not the only studies that have been applied to the unconscious part of the brain; researchers have also been examining what generates creativity on a neurological level, for even though scientists have done extensive mapping of the human genome, they “...are still trying to understand the massive network of neurons and glial cells beneath our skull. Concepts like creativity – the ability to make a mental leap and come up with

something new – are even more mysterious” (Loria). Limb discusses this notion in his TED talk. Even though creativity is a fundamental part of humanity, very little is known about how humans are able to be creative. Without creativity, Limb asserts, humans would have failed to advance as a species (Limb).

One of the major studies done about the nature of creativity was conducted at the University of Illinois at Chicago; their study examined the relationship between the unconscious mind and creativity using alcohol. Researchers tested two different groups of students, one drunk and one sober, with “drunk” being defined as having a blood alcohol level of 0.075%. Both groups were asked to attempt to solve several insight puzzles. These problems were a series of remote associate tests—for example—scientists asked the groups what one word unifies crab, sauce, and pine (the answer being apple).

Remarkably, the scientists found that the drunken students solved more of these word problems (and faster) than the sober students. (The tipsy students were also more likely to perceive their solutions as the result of a sudden insight). Specifically, those intoxicated were *30 percent* more likely to solve the problems. (“What Improv Teaches”)

These surprising results serve to reinforce Limb’s study about the unconscious mind. Though the conscious mind has its strengths, spontaneous creative expression is not one of those strengths. Creativity comes from relaxing one’s neurons so they are able to work out different and new connections that rational thinking would otherwise inhibit. When individuals are the most creative is when they have silenced their DLPFC and are just allowed to act without overthinking. Sometimes, as shown through the University of Illinois at Chicago’s experiment, alcohol can help with this process. Alcohol seems to be one way to allow for regular, non-improvisors, to silence the DLPFC in their brain and be freely creative (“What Improv

Teaches”). In a way, these studies confirm ancient wisdom about the connection between Dionysus (god of wine and theatre) and the creative process. While it is true that intoxication can lead to great art, in excess, it can also lead to terror, chaos, and self-destruction. This is why the innovative training of Close and his successors was so important; their methods provided a way to achieve the suppression of one’s inhibitions without relying on substances.

Improv: The Art of Not Thinking

Thus, new research points to the creative benefits of letting one’s inhibitions go and just giving in to impulses, a conclusion that sounds remarkably similar to what was preached by Johnstone, Close, and the other legends of improv. Rational and deliberate thought is the bane of improv and comedy. People who attempt to be funny usually are not. Johnstone dismisses people who think too much during improv “...because they want to be thought clever” (Johnstone 87). True improvisors will not try to be funny, but will let their unconscious mind do the work for them. Thinking too much about the pros and cons of everything you do onstage is counterintuitive and far too much work. Of course, as Gladwell has already emphasized, improv is not just totally about going with the flow. Like any great athlete, an improvisor’s ability to perform without thinking takes great time, energy, and practice. But once an improvisor puts the work in, the unconscious mind should be doing most of the work (“What Improv Teaches”).

This total freedom to be creative has led some to claim that improv is the only way that it is possible to be “real” onstage. The late Theodore J. Flicker, a director and original member of the Compass improv troupe, declared that “real dramatic integration is actually possible only in improvisation when all responses are quick, personal, and honest, and not the product of thought” (Wasson 90). Flicker believed that not giving performers time to think through their actions was the only way for performers to produce a genuine response. Flicker asserted that it is

only during improvisation that performers could make real connections that would not only look real, but be real. His belief about what constitutes real dramatic integration completely dismisses scripted theatre as a medium for spontaneous performance. Yet pitting scripted theatre against improvised performances is not a fair way to evaluate these two vastly differing forms.

Improv is not necessarily more real, but fundamentally different from scripted theatre—not just the performance of each, but on the neurological level as well. Improvised performances are largely the products of an unconscious mind, whereas scripted performances tap into stories that are conscious and deliberate. Del Close was right when he asserted that improv should be employed in its own right, rather than as a means to create a scripted performance (Wasson 74). Improv should instead not be pitted against scripted performance, but should rather be viewed as its own independent form. When viewed separately from scripted performance, it becomes possible to chart the development of twentieth-century improv from a rehearsal technique into a popular art through acclaimed theatre companies like Upright Citizens Brigade, The Second City, and The Groundlings—as well as popular television shows like *Whose Line is it Anyway?* and *Curb Your Enthusiasm*.

Improv as a Universal Tool

Significantly, the benefits of improvisation are no longer being confined to strictly performance-based settings. Corporations and schools now draw on improv techniques to increase productivity and enhance learning. Why has improv spread past the realm of performance? Limb's studies about creativity have been significant in legitimizing the neurological benefits of tapping into the unconscious mind. Similarly, the growth of research into performance studies has shown how much of “real life” is performative. Aside from these

theoretical notions, institutions have begun to see the practical and beneficial effects of using what improv methods teach.

Second City has recognized how improv could be translated into the corporate world and has actually begun offering trainings and seminars designed for businesses. Their professional development programs use improv exercises to teach employees about new ways to work through problems. As noted on its website, Second City promotes improvisation as a crucial way to help “participants internalize better ways to communicate, collaborate, and innovate—all while building comfort with risk and change” (“Second City Works | Professional Development”). To adapt and think on one’s feet are vital skills for success in the workplace. Businesses agree, for they have integrated improvisation into the training programs of new hires.

Daniel Pink, author of a series of management books, including the best-seller *To Sell Is Human*, has been instrumental in the incorporation of improv into business training. Due to the nature of our current climate, anything that can be predicted can become automated. Pink is quoted in *Bloomberg* as stating, “all that matters now is the unscripted stuff—unexpected questions, personal connections. There’s only one technique out there for what to do when you don’t have a script: improv” (Effinger). Improv is geared towards tapping into the unconscious mind to come up with things that a computer cannot. The adaptability and unprogrammable skills that improv teaches is why improv has gradually become such an essential practice in the business world.

Similarly, good teaching has always been about improvising and adapting. In fact, Johnstone was a teacher before he became involved with theatre. Johnstone’s most famous improv exercises and games are modeled on his experience as a classroom teacher (*Johnstone 20-23*). This makes sense, as classroom lectures are—essentially—structured improvisations.

Lesson plans are essentially scenarios, like those crafted by commedia performers, on which teachers will loosely base their discussions. Bad teachers will stick to their lesson plans regardless of the questions students ask, whereas good teachers will adapt to their students. Improv will always be needed in a classroom because it is impossible to anticipate every question students will have. That is why a good understanding of improv is key for competent teaching.

The importance of improv in education is so widely accepted that departments of education include improv in their curricula. Harvard, for example, teaches an education workshop entitled “Improv for Educators,” stressing that listening and saying yes to students is an essential part of being an educator in any context. It is a way of “...looking for the truth and the interesting things in what students are saying and not just trying to set them up to say the things you want them to say” (“Improv for Educators”). Establishing a classroom setting that encourages students to feel free to ask questions and challenge ideas will only occur if there is active listening and adapting on the part of the educator. This symbiotic relationship in the classroom reiterates Johnstone’s conclusion that practicing improv will engage students more and increase their learning.

The Future is Improv

What comes next? The truth is even the experts have no idea where improvisation is headed. Performance improv is a product of its time and will gradually change and evolve. Because of the universality of the skills gained through improvisation, professionals outside the discipline of theatre now embrace the positive effects of improvisation. Neurological studies prove what improvisors have known for centuries—that while improvising—something truly

incredible and unique happens in the brain. By silencing the DLPFC in individuals’ brains, improvisation allows us to make connections that would not otherwise be possible.

Everyone has improvised since the day they were born. Improvising is not something to be afraid of—it is natural and universal. Rather than shy away from these unplanned situations that are uncontrollable, we should just go with it, embracing the spontaneity of life. When we allow our natural impulses to flourish and prosper, our human minds can find new and creative solutions that might not have occurred to us had we been thinking rationally. So, do as the improvisors do: rather than shut down new ideas, say “yes” to them—because something incredible will be discovered.

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