

Chapter 1 : power of music | Brain | Oxford Academic

A delirious collection of short stories from the Latin American master of microfiction, César Aira—the author of at least eighty novels, most of them barely one hundred pages long—The Musical Brain & Other Stories comprises twenty tales about oddballs, freaks, and loonies.

They cannot think what goes on in human beings when they make or listen to music, because nothing goes on within them. They, themselves, as a species, lack music. We may imagine the Overlords ruminating further, back in their spaceships. Yet it has no concepts, and makes no propositions; it lacks images, symbols, the stuff of language. It has no power of representation. It has no relation to the world. These, indeed, are the very issues Schopenhauer raises in *The World as Will and Representation*—and Schopenhauer himself was passionately musical. Yet all this may occur without our knowledge or volition. All this is normal, and may be seen as a half-conscious resonance to music, a sort of involuntary personal expression as the music works on us. But these effects, the overflow of music into the motor system, can easily go too far, becoming irresistible and perhaps even coercive. Anthony Storr, in his excellent book *Music and the Mind*, stresses that in all societies, a primary function of music is collective and communal, to bring and bind people together. People sing together, dance together, in every culture, and one can imagine them doing so, around the first fires, a hundred thousand years ago. This primal role of music is to some extent lost today, when we have a special class of composers and performers, and the rest of us are often reduced to passive listening. One has to go to a concert, or a church or a musical festival, to recapture the collective excitement and bonding of music. It is easy to be overcome, for better or worse, in a communal setting. Trance—ecstatic singing and dancing, wild movements and cries, perhaps, rhythmic rocking, or catatonia-like rigidity or immobility—involves both motor and gross emotional, psychic and autonomic effects, culminating in profoundly altered states of consciousness; and whilst it can be achieved by a single individual, it often seems to be facilitated in a communal group. I have not encountered music-induced trance in the course of clinical practice, but it has been documented by countless films, and experienced by many thousands of people, whether in concerts, drum circles or meditation—and it has been used by various religions for millennia. Gilbert Rouet, in his monumental book, *Music and Trance*, discusses these phenomena at length. We see the coercive power of music if it is of excessive volume, or has an overwhelming beat, at rock concerts where thousands of people, as one, may be taken over, engulfed or entrained by the music, just as the beat of war drums can incite extreme martial excitement and solidarity. Mickey Hart and others have written eloquently of the power of drumming in cultures all over the world, and here it is especially the dynamic power of rhythm that is pre-eminent. This motor power of rhythm may be especially strong in various forms of motor and impulse disorder—and music can indeed be therapeutic here. Thus, patients with parkinsonism, in whom movements tend to be incontinently fast or slow or sometimes frozen, may overcome these disorders of timing when they are exposed to the regular tempo and rhythm of music. The eminent and now parkinsonian composer Lukas Foss, for example, whom I saw recently, may festinate or rocket almost uncontrollably to his piano, but once he is there, can play a Chopin nocturne with exquisite control and timing and grace—only to festinate or freeze once more as soon as the music ends. For one of my deeply parkinsonian post-encephalitic patients, Frances D. One minute I would see her compressed, clenched and blocked, or else jerking, ticking and jabbering—like a sort of human time bomb. The next minute, if we played music for her, all of these explosive—obstructive phenomena would disappear, replaced by a blissful ease and flow of movement, as Mrs D. But it was necessary—for her—that the music be legato; for staccato, percussive music might have a bizarre counter-effect, causing her to jump and jerk helplessly with the beat, like a mechanical doll or marionette. The stirring or animating power of music entails emotional no less than motor arousal. We turn to music, we need it, because of its ability to move us, to induce feelings and moods, states of mind. Therapeutically, this power can be very striking in people with autism or frontal lobe syndromes, who may otherwise have little access to strong emotional states. Music may bring them back briefly to a time when the world was much richer for them. But music can also be profoundly evocative, have deep resonances, without

being familiar, and without calling up specific memories. All of us have had the experience of being transported by the sheer beauty of music—suddenly finding ourselves in tears, not knowing whether they are of joy or sadness, suddenly feeling a sense of the sublime, or a great stillness within. I do not know how to characterize these transcendent emotions, but they can still be evoked, as far as I can judge, even in deeply demented and sometimes agitated or tormented patients. Music can bring them, if only for a little while, a sense of clarity, joy and tranquility. Isabelle Peretz and others have called attention to this, and the need for investigating how such responsiveness is maintained. There is a wide range of sensitivity to the emotional power of music, ranging from virtual indifference at one extreme Freud was said to be indifferent to music, and never wrote about it, to a sensitivity that can barely be controlled. Individuals with Williams syndrome, for example, though they have severe visual and cognitive defects, are often musically gifted, and usually extravagantly sensitive to the emotional impact of music. I have seen few sights more extraordinary than a group of 40 young people with Williams syndrome breaking into uncontrollable weeping at tender or sad music, or uncontrollably excited if the music is animated. That music and especially melody can be profoundly evocative is clear. But what is it that is evoked? The story ends with the outraged husband murdering his wife—though the real enemy, he feels, the enemy he cannot kill, is the music. An eminent psychologist friend of mine, who is intensely sensitive to music, cannot have it on as background when he works; he must attend to music completely, or turn it off, for it is too powerful to allow him to focus on any other mental activity. States of ecstasy and rapture may lie in wait for us, if we give ourselves totally to music, and these, of course, also carry the danger of excess. A common scene during the 1950s was to see entire audiences swooning in response to Frank Sinatra or Elvis Presley—seized by an emotional and perhaps erotic excitement so intense as to induce fainting. Richard Wagner, too, was a master of the musical manipulation of emotions, and this, perhaps, is a reason why his music is so intoxicating to some, and so avoided by others. The motor and emotional effects of music are visible, largely, whereas the perception or the imagining of music is internal, and we are dependent here on reports from listeners though now we are beginning to visualize the neural basis of their experiences by functional brain imaging. There are some people who can scarcely hold a tune in their heads, and others who can hear entire symphonies in their minds, with a detail and vividness little short of actual perception. There are some singular attributes of musical imagery and musical memory that have no equivalents in the visual sphere, and these may cast light on the fundamentally different way in which the brain treats music. This peculiarity of music may be in part because we have to construct a visual world for ourselves, and a selective and personal character therefore infuses our visual memories from the start—whereas we are given pieces of music already constructed, musical objects that will be retained, if they are retained, with an almost phonographic fidelity. A visual or social scene can be represented in a hundred different ways, but the recall of a musical piece has to be close to the original. We do, of course, listen selectively, with differing interpretations and emotions, but the basic musical characteristics of a piece—its tempo, its rhythm, its melodic contours, even its pitch—tend to be preserved with remarkable fidelity. This often meaningless perseveration is quite unlike voluntary musical imagery, and unlike the involuntary musical imagery that may be evoked by a sight, a sound, a word, with some significant, though often unconscious, association although this may then turn into an earworm. Perseverative music has much more the character of a cerebral automatism, suggesting cerebral networks, perhaps both cortical and subcortical, caught in a circuit of mutual excitation. I do not think there are comparable phenomena with other types of perception—certainly not with visual experience. Unlike these earworms, true musical hallucinations are experienced by those who have them as unprecedented and deeply disquieting. Working with a population of elderly patients though I have seen it in younger people as well, I am often given vivid descriptions of musical hallucinosis, and I think it is by far the most common form of non-psychotic hallucination. I related two stories of musical hallucination in my book *The Man Who Mistook his Wife for a Hat*, and since then have received hundreds of letters from people with this condition. With musical hallucinations it is common for several voices or instruments to be heard simultaneously, and such experiences are almost always attributed, initially, to an external source. Thus in I received a vivid letter from June M. All the selections are sung by a chorus—there is never a solo performance or any orchestration. I checked with my sister to see if

they had some church service on TV, but they had Monday night football, or some such. So I went onto the deck overlooking Pamlico Sound. The music followed me. It was not clear why June M. She has excellent hearing, is not epileptic, has no known medical problems and is intellectually quite intact. With her, as with many other patients, the most searching examination may fail to pinpoint the cause of musical hallucinations; though if she had a PET scan, it would, I suspect, show the widespread activation of cortical and subcortical networks that T. Griffiths has found in several subjects with musical hallucinations—an activation very similar to what occurs when one is actually listening to music. Musical hallucinations tend to be highly repetitive, sometimes with a single theme or sequence of notes being repeated again and again. Musical hallucinations cannot be stopped by an effort of will, though they can sometimes be changed, especially to music with a similar rhythmic or melodic character. There are rich reciprocal connections between our sense organs and the brain—essential for understanding the central modulation of perception—and it is postulated that normal sensory activity serves to inhibit too much retrograde activity in these. But if this inhibition is critically diminished, through sensory impairment or lack of stimulus, then a sort of reflux may occur in the form of hallucinations. One might suppose that restoring hearing with hearing aids or cochlear implants would stop this reflux, but it rarely does; one profoundly deaf patient of mine with musical hallucinations was given a cochlear implant, and while this has given her a whole new auditory world, it has done little to change her musical hallucinations. Yet deafness almost never leads to hallucinations of voices, only to hallucinations of music voices may be heard in the words of a lyric, but not muttering or talking. That musical hallucinations thus take precedence over all other auditory hallucinations shows again the special and potent character of the neural processing of music. Musicogenic epilepsy is generally considered to be very rare, but Critchley wondered if it might be notably more common than supposed. For many people, he thought, might start to get a queer feeling—disturbing, perhaps frightening—when they heard certain music, but then would immediately retreat from the music, turn it off, or block their ears, so that they did not progress to a full-blown seizure. This has certainly been my own impression, and I think there may also be similar formes frustes of photic epilepsy, when blinking lights or fluorescent lights may produce a peculiar discomfort without producing a full-blown seizure. Working in an epilepsy clinic, I have seen a number of patients with seizures induced by music, and others who have musical auras associated with seizures—occasionally both. Both types of patient have temporal lobe seizures, and, in most cases, temporal lobe lesions identifiable with brain imaging. Among the patients I have seen recently is G. Remarkably, a year later, his amnesic problems have virtually cleared though his encephalitis had involved both temporal lobes, but he remains highly seizure-prone, with occasional grand mal seizures and, much more commonly, complex partial seizures. Along with this G. Unlike another patient, Mrs N. It does not have to be loud to provoke a seizure; soft music may be equally effective. His seizures start with, or are preceded by, a special state of intense, involuntary, almost forced, attention or listening. In this already altered state, the music seems to grow more intense, to swell, to take possession of him, and at this point, he cannot stop the process, cannot turn off the music or walk away from it. Beyond this point he retains no consciousness or memory, although various ictal automatisms and automatic behaviours ensue. I have sometimes been given similar descriptions by patients whose seizures are not provoked by music, but contain hallucinatory music as a prominent feature. One such patient, Eric M. I am afraid that if I pay too much attention to it, I may not be able to escape it—like quicksand, or hypnosis. Our auditory systems, our nervous systems, are tuned for music. Perhaps we are a musical species no less than a linguistic one. But there seems to be in us a peculiar sensitivity to music, a sensitivity that can all too easily slip out of control, become excessive, become a susceptibility or a vulnerability. This is the other side of the otherwise wonderful power of music. We do not even know why, for instance, simple stroboscopic light displays can excite hallucinations, myoclonus and seizures, and this is an infinitely simpler matter than the powers of music. In the last 20 years, there have been huge advances here, but we have, as yet, scarcely touched the question of why music, for better or worse, has so much power. It is a question that goes to the heart of being human. For Permissions, please email:

Chapter 2 : Music has big brain benefits compared to other leisure pursuits

Get this from a library! The musical brain: and other stories. [César Aira; Chris Andrews] -- A collection of twenty short stories features tales about oddballs, freaks, and crazy people.

Advertisement X A three-course professional certificate series that teaches you the what, why, and how of increasing happiness at work. An innocent treated unfairly, and a protector who seeks to right the wrongâ€”but can only do so by finding the courage to change himself and become a better person. And, if you take a look, this structure is in the majority of the most-watched TED talks. Why are we so attracted to stories? My lab has spent the last several years seeking to understand why stories can move us to tears, change our attitudes, opinions and behaviors, and even inspire usâ€”and how stories change our brains, often for the better. Why the brain loves stories The first part of the answer is that as social creatures who regularly affiliate with strangers, stories are an effective way to transmit important information and values from one individual or community to the next. Stories that are personal and emotionally compelling engage more of the brain, and thus are better remembered, than simply stating a set of facts. Brain mechanisms engage saying there might be something valuable for you to learn, since car accidents are rarely seen by most of us but involve an activity we do daily. That is why you feel compelled to rubberneck. We have used this to build a predictive model that explains why after watching the video about half of viewers donate to a childhood cancer charity. We want to know why some people respond to a story while others do not, and how to create highly engaging stories. We discovered that there are two key aspects to an effective story. First, it must capture and hold our attention. What makes a story effective? Why do our palms sweat as we watch James Bond fight for his life? Paul Zak is helping find the answer. Any Hollywood writer will tell you that attention is a scarce resource. Scientists liken attention to a spotlight. We are only able to shine it on a narrow area. If that area seems less interesting than some other area, our attention wanders. This is why you can drive on the freeway and talk on the phone or listen to music at the same time. Your attentional spotlight is dim so you can absorb multiple informational streams. You can do this until the car in front of you jams on its brakes and your attentional spotlight illuminates fully to help you avoid an accident. What internal resources will he draw upon to be strong and support his dying son? We attend to this story because we intuitively understand that we, too, may have to face difficult tasks and we need to learn how to develop our own deep resolve. In the brain, maintaining attention produces signs of arousal: Transportation is an amazing neural feat. We watch a flickering image that we know is fictional, but evolutionarily old parts of our brain simulate the emotions we intuit James Bond must be feeling. And we begin to feel those emotions, too. Stories bring brains together Emotional simulation is the foundation for empathy and is particularly powerful for social creatures like humans because it allows us to rapidly forecast if people around us are angry or kind, dangerous or safe, friend or foe. Such a neural mechanism keeps us safe but also allows us to rapidly form relationships with a wider set of members of our species than any other animal does. The ability to quickly form relationships allows humans to engage in the kinds of large-scale cooperation that builds massive bridges and sends humans into space. We have identified oxytocin as the neurochemical responsible for empathy and narrative transportation. My lab pioneered the behavioral study of oxytocin and has proven that when the brain synthesizes oxytocin, people are more trustworthy, generous, charitable, and compassionate. What we know is that oxytocin makes us more sensitive to social cues around us. In many situations, social cues motivate us to engage to help others, particularly if the other person seems to need our help. This is surprising since this payment is to compensate them for an hour of their time and two needle sticks in their arms to obtain blood from which we measure chemical changes that come from their brains. We ran another experiment that featured Ben and his father at the zoo to find out why. I should mention that Ben was really a boy with cancer who has now died, and the featured father is really his father. People who watched this story began tuning out mid-way through. That is, their scarce attention shifted from the story to scanning the room or thinking about what to buy at the grocery store after the experiment concluded. Measures of physiologic arousal waned and the empathy-transportation response did not occur. These participants also did not offer much in the way of donations to charity. This

evidence supports the view of some narrative theorists that there is a universal story structure. These scholars claim every engaging story has this structure, called the dramatic arc. It starts with something new and surprising, and increases tension with difficulties that the characters must overcome, often because of some failure or crisis in their past, and then leads to a climax where the characters must look deep inside themselves to overcome the looming crisis, and once this transformation occurs, the story resolves itself. This is another reason why we look at car accidents. Maybe the person who survived did something that saved his or her life. Or maybe the driver made a mistake that ended in injury or death. We need to know this information. How stories connect us with strangers We also tested why stories can motivate us, like the characters in them, to look inside ourselves and make changes to become better people. This shows there is a virtuous cycle in which we first engage with others emotionally that leads to helping behaviors, that make us happier. Many philosophical and religious traditions advocate caring for strangers, and our research reveals why these traditions continue to influence us today—they resonate with our evolved brain systems that make social interactions rewarding. The form in which a narrative is told also seems to matter. This is good news for Hollywood filmmakers and tells us why we cry at sad movies but cry less often when reading a novel. Does any of this matter to you? In a recent experiment , participants watched 16 public-service ads from the United Kingdom that were produced by various charities to convince people not to drink and drive, text and drive, or use drugs. We used donations to the featured charities to measure the impact of the ads. In one version of this experiment, if we gave participants synthetic oxytocin in the nose, that will reach the brain in an hour , they donated to 57 percent more of the featured charities and donated 56 percent more money than participants given a placebo. Those who received oxytocin also reported more emotional transportation into the world depicted in the ad. Most importantly, these people said they were less likely to engage in the dangerous behaviors shown in the ads. So, go see a movie and laugh and cry. Greater Good wants to know: Do you think this article will influence your opinions or behavior?

Chapter 3 : Science Shows How Musicians' Brains Are Different From Everybody Else's'

Note: Citations are based on reference standards. However, formatting rules can vary widely between applications and fields of interest or study. The specific requirements or preferences of your reviewing publisher, classroom teacher, institution or organization should be applied.

Printer Friendly Children and Music: Benefits of Music in Child Development Singing and music play an important role in our culture. At home, music can become part of our family culture – a natural part of our everyday experiences. From birth, parents instinctively use music to calm and soothe children, to express their love and joy, and to engage and interact. Parents can build on these natural instincts by learning how music can impact child development, improve social skills, and benefit kids of all ages. Music and the Brain: Music ignites all areas of child development and skills for school readiness: It helps the body and the mind work together. Exposing children to music during early development helps them learn the sounds and meanings of words. Dancing to music helps children build motor skills while allowing them to practice self-expression. For children and adults, music helps strengthen memory skills. In addition to the developmental benefits of music, why is music important? Simply put, it provides us with joy. Just think about listening to a good song on the car radio with the window down on a beautiful day. Playing music for infants proves that, even at an early age, children sway, bounce, or move their hands in response to music they hear. Many preschoolers make up songs and, with no self-consciousness, sing to themselves as they play. Children in elementary school learn to sing together as a group and possibly learn to play a musical instrument. Older children dance to the music of their favorite bands and use music to form friendships and share feelings. Try these activities and games with your children to experience the pleasure and learning that music brings. Infants recognize the melody of a song long before they understand the words. They often try to mimic sounds and start moving to the music as soon as they are physically able. Quiet, background music can be soothing for infants, especially at sleep time. Loud background music may overstimulate an infant by raising the noise level of the room. Sing simple, short songs to infants in a high, soft voice. Try making up one or two lines about bathing, dressing, or eating to sing to them while you do these activities. Find musical learning activities for infants. Toddlers love to dance and move to music. The key to toddler music is the repetition of songs, which encourages the use of words and memorization. Silly songs make them laugh. Let them reproduce rhythms by clapping or tapping objects. Preschoolers enjoy singing just to be singing. They like songs that repeat words and melodies, use rhythms with a definite beat, and ask them to do things. Preschool children enjoy nursery rhymes and songs about familiar things like toys, animals, play activities, and people. They also like finger plays and nonsense rhymes with or without musical accompaniment. School-Age Children and Music. School-age children begin expressing their likes and dislikes of different types of music. They may express an interest in music education, such as music lessons for kids. Teenagers may use musical experiences to form friendships and to set themselves apart from parents and younger kids. They often want to hang out and listen to music after school with a group of friends. Remember those days of basement and garage bands? They often have a strong interest in taking music lessons or playing in a band. There is no downside to bringing children and music together through fun activities. From the pure pleasure of listening to soothing sounds and rhythmic harmonies, to gaining new language and social skills, whatever the setting – a quiet room at home with family, a large grassy field filled with people, or a busy classroom – music can enliven and enrich the lives of children and the people who care for them. More on This Topic: Here are some music suggestions that are appropriate for both kids and adults.

Chapter 4 : Children and Music: Benefits of Music in Child Development | Bright Horizons®

A delirious collection of short stories from the Latin American master of microfiction, Cesar Aira the author of at least eighty novels, most of them barely one hundred pages long The Musical Brain comprises twenty tales about oddballs, freaks, and loonies.

I still remember how it felt as time passed around me, how the light changed. The Musical Brain as the title of the collection, then, is quite fitting. This leads the narrator to reflect on one characters attempt to build a metaphorical wall in his mind to protect his thoughts from the enlightened children who are terrorizing the village of the damned. Who knows what this memory “one of my earliest” conceals. And, by way of memory, Aira moves on, in this brief fascinating story, to forgetting: That first memory, while still the first, is also a memory of what happened before, of what has been forgotten. Forgetting stretches away, before and after; my memory of the first day of school is a tiny, solitary island. And, we might have guessed and cheered when we finally saw it coming, Aira turns this to his art, to his efforts to record immediacy, even while trekking through the past. He considers the phenomenon of forgetting that attends the first several years of childhood, perhaps because, as one theory has it, children lack the building blocks to contextualize experience; thus, their experience is free of screening: For in reflecting on memory and forgetting, Aira also reflects on a childhood friend who, he just found out, has died. These mystical qualities of the mind, which are infinite as we live, still flicker out eventually. What about the remaining twenty? I even tried my hand at translating it a few years ago. Hair in a mess, bags under her eyes; the cold transfigures her drunkenness into a stunned lucidity, a crumpled isolation from the world. Her pace is slow; she could be going backwards; at the slightest deviation time could dissolve into space. As the long opening paragraph continues, she passes some men and a cat. Rather, the next, also long, paragraph talks about a narrative problem: Narrative traction cannot be suspended, even by inserting endings. The stories try desperately to coalesce, they wrap themselves in pearly teleological scruples, the wind ignites them, they fall into the void. But maybe no one cares. And why should anyone care? This is how we get to that great jazz pianist, still living, Cecil Taylor. Take a second to support The Mookse and the Gripes on Patreon!

Chapter 5 : Music and the Brain - Music and Memory

Abstract A delirious collection of short stories from the Latin American master of microfiction, César Aira-the author of at least eighty novels, most of them barely one hundred pages long-The Musical Brain & Other Stories comprises twenty tales about oddballs, freaks, and loonies.

Chapter 6 : The Musical Brain: And Other Stories by César Aira

out of 5 stars The Musical Brain: Sharp Observational Stories with Unusual Themes and Segments. By missmickee-bookreview on October 3, The Musical Brain, a beautifully done cloth bound edition with a shiny laminated cover is by notable Latin American author Cesar Aria (translated by Chris Andrews).

Chapter 7 : The Musical Brain - and Other Stories - Cesar Aira (Hardcover) () - calendrierdelascience.com

The Musical Brain by César Aira translated from the Spanish by Chris Andrews New Directions () pp. When I first read César Aira “back in I still remember how it felt as time passed around me, how the light changed.

Chapter 8 : The Musical Brain and Other Stories | UWS ResearchDirect

The Musical Brain and Other Stories by César Aira, translated by Chris Andrews A reader enthralled by the hype of Kazuo Ishiguro's The Buried Giant, which was heartily panned by Michiko Kakutani, might be better suited to the stories

of César Aira and his latest collection, *The Musical Brain: And Other Stories*.

Chapter 9 : How Stories Change the Brain | Greater Good

This story, "In the Café," appears early in the Argentine writer César Aira's new collection, "The Musical Brain: And Other Stories," and offers a playful example of Aira's.