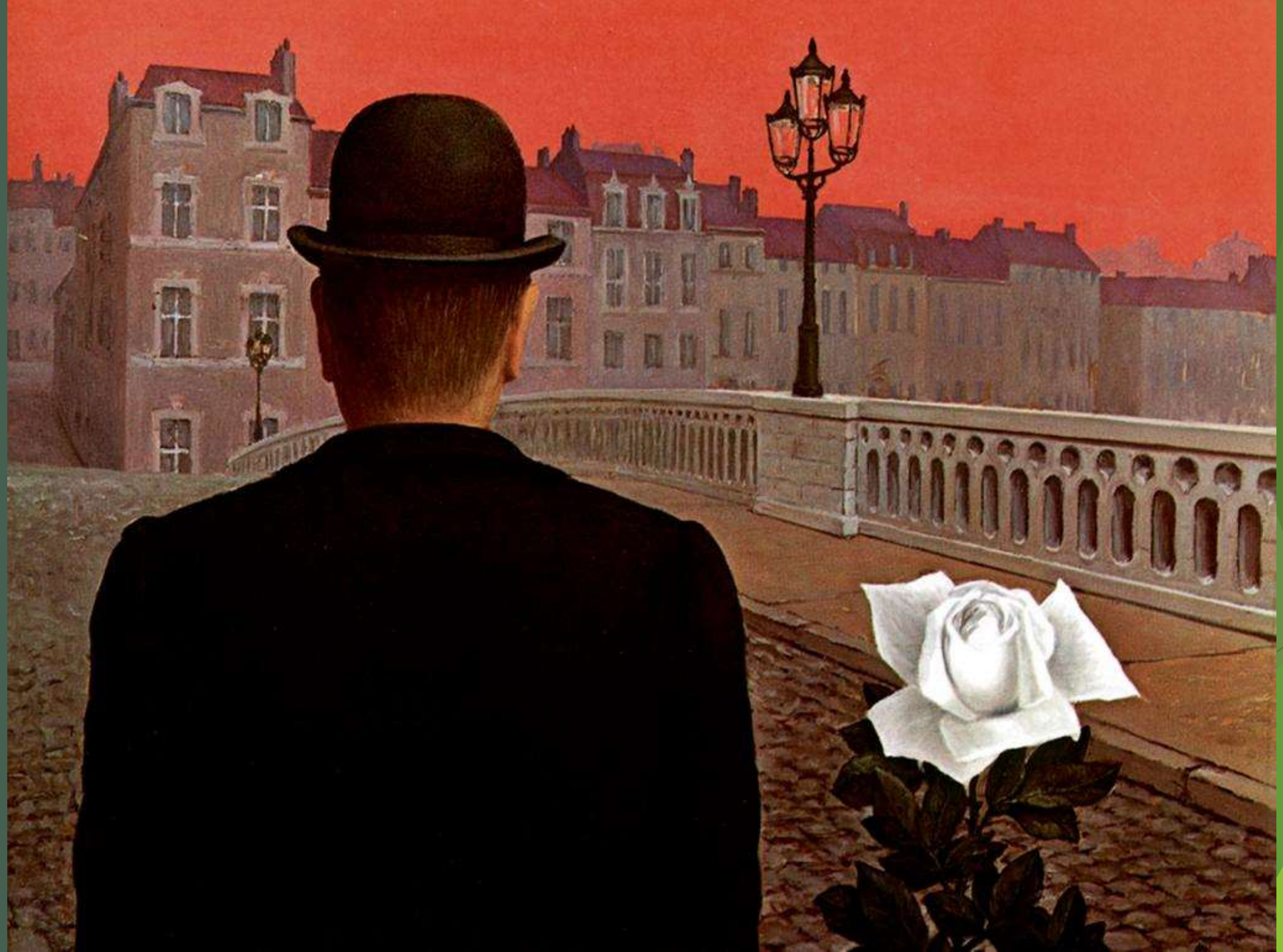
Mindfulness and Art: Paint the Music

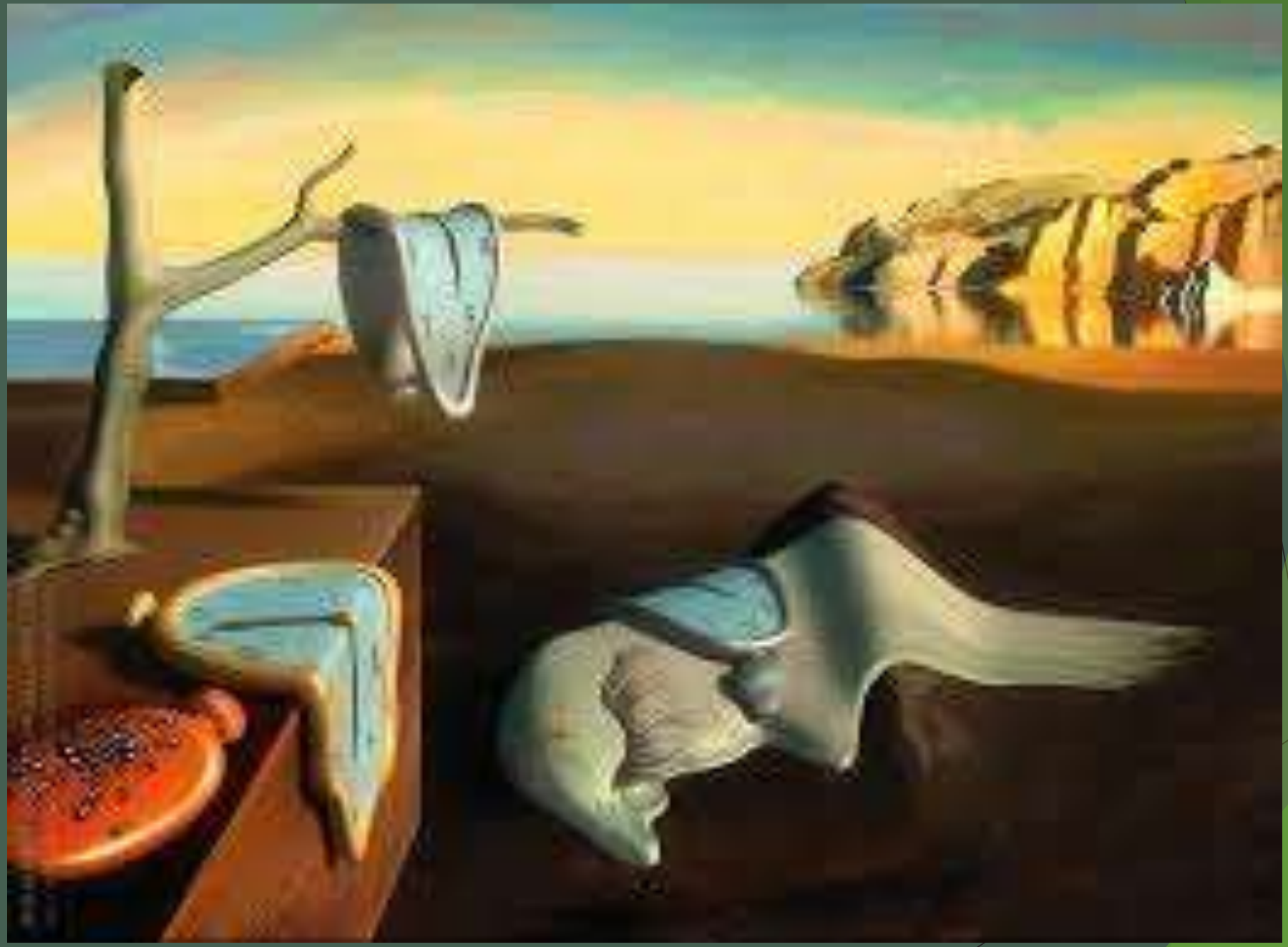
Diana Taremi and Jessica Howard

THINK BACK

to a Time you could smell the roses….



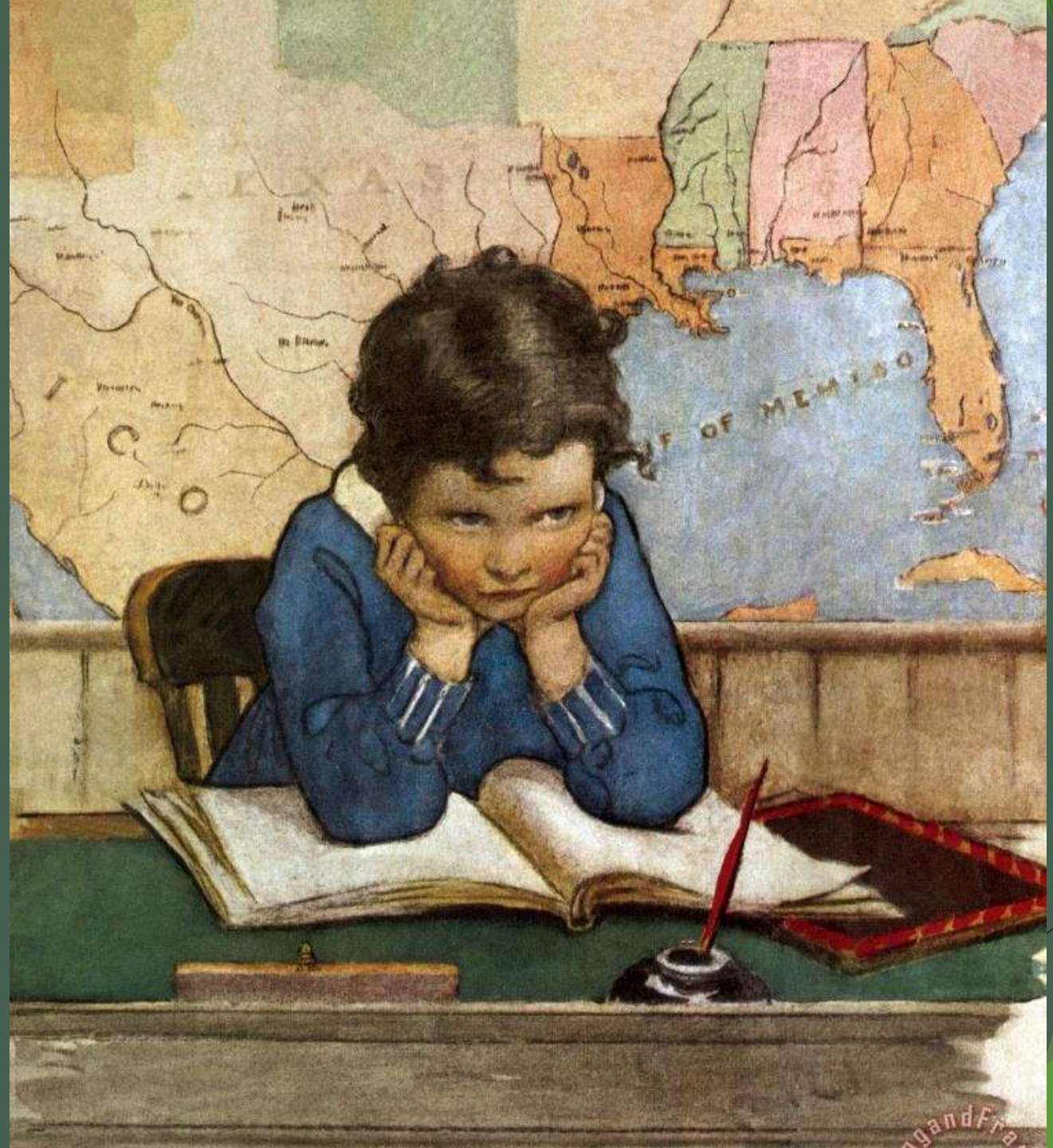
Can you think back to a time now, where you were in the present moment? Would you like to share your moment now?
Take 2 Minutes and discuss with your neighbor



What if you could provide an environment where students could be present, and build their memories…

As an Educator what would it feel like to be remembered by your students for shaping their environment, building their self-esteem and fostering their creative visions, voices and ideas?

What if you were part of that memorable moment in a child’s life? How will you be remembered?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The truth is that aesthetic experiences—and the arts—are hard-wired in all of us. They are evolutionary imperatives, encoded in our DNA as an essential part of our humanity. And they are fundamental to our health, well-being, and learning.

While artists have always intuitively understood these truths, our scientific understanding of the arts is relatively new. The field of neuroaesthetics, situated at the crossroads of brain sciences, technology and the arts, is on a quest to explore their full potential.

Neuroaesthetics is a new and rapidly expanding field of research that is aimed at the intersection of psychological aesthetics, biological mechanisms, and human evolution.

The arts have been used as healing tools

from the sacred chanting of Gregorian monks and Native American dance rituals to the present day.


PHOTOGRAPHERS
MEDIA

Aesthetic experiences, and their impact on the mind and body, are much more than the sum of individual brain regions or activities. Complex and sophisticated neural substrates and networks are created to achieve heightened states of connectivity.

In the 1990s and early 2000s, French neuroscientist Jean-Pierre Changeux explored the role of memory and emotion in the contemplation of art.

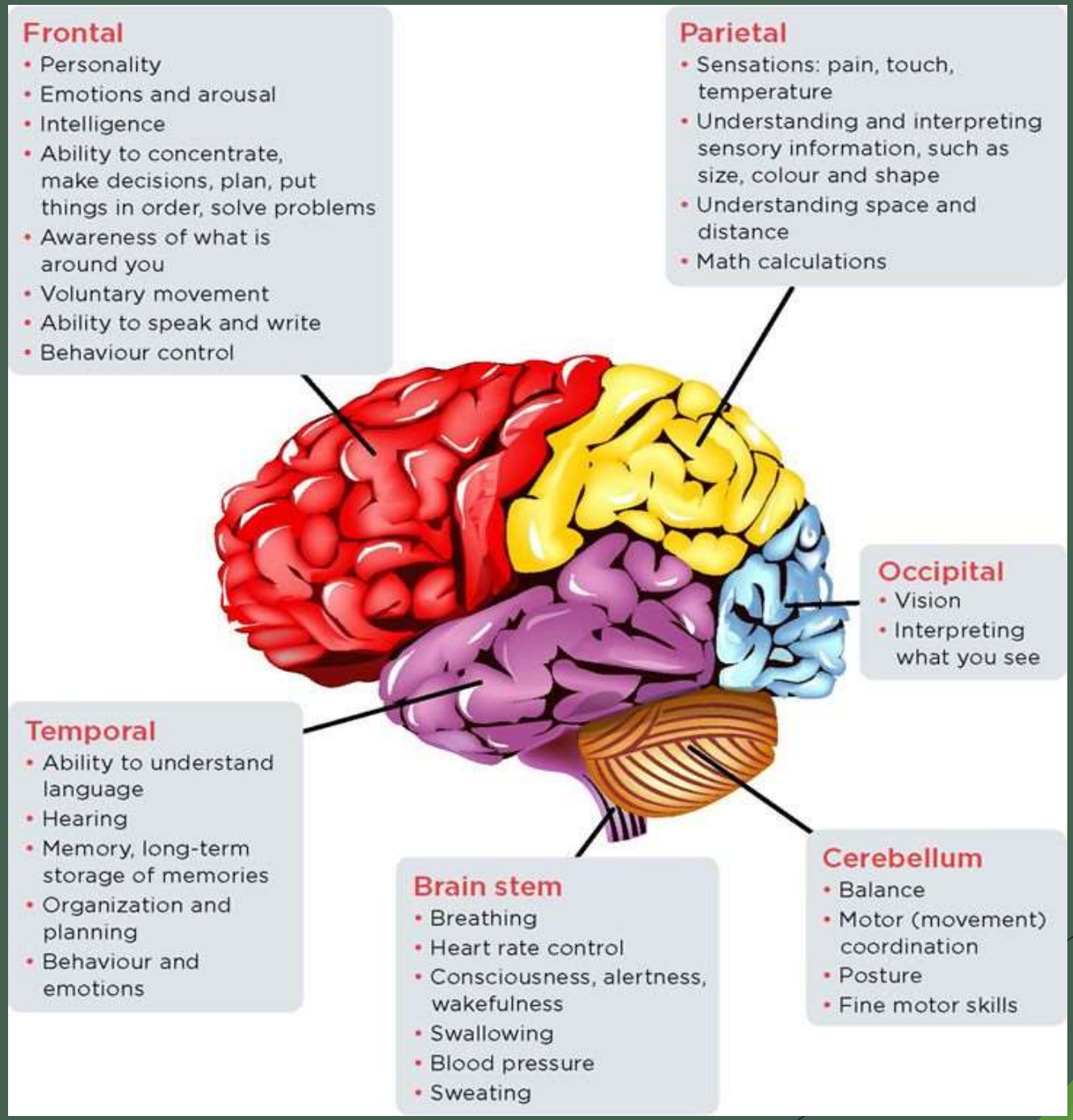
He hypothesized that the experience stimulated a complex mental synthesis involving the identification of forms, engagement of long and short-term memory processes, and recognition of the other as oneself, allowing us to link forms and figures to a larger meaning.

In the 1980s, Robert Zatorre, a cognitive neuroscientist at McGill University in Montreal, began to study the neurological impacts of music.

Zatorre’s work showed how making and listening to music engages networks and functions across the brain, including those involved in learning and memory, pleasure and reward, and emotion, and in the case of playing music, sensory-motor integration.

Neuroscientist Anjan Chatterjee at the University of Pennsylvania, along with others, further defined the experience of art as a triad of sensation, emotion, and meaning. He proposed that an aesthetic event triggers a somatic, emotional response that leads to a sense of deeper personal significance. When you are immersed in an aesthetic experience, you can feel it. The effect on body and mind is both profound and highly personal.

Cutting-edge brain research is revealing in greater detail how aesthetic experiences enter the brain through the portal of the senses, and—whether we're aware of it or not—profoundly impact our biological circuitry. Scientists can now identify biomarkers that offer objective, measurable ways to characterize changes in the brain.


Frontal
• Personality
• Emotions and arousal
• Intelligence
• Ability to concentrate, make decisions, plan, put things in order, solve problems
• Awareness of what is around you
• Voluntary movement
• Ability to speak and write
• Behaviour control
Parietal
• Sensations: pain, touch, temperature
• Understanding and interpreting sensory information, such as size, colour and shape
• Understanding space and distance
• Math calculations
Occipital
• Vision
• Interpreting what you see
Temporal
• Ability to understand language
• Hearing
• Memory, long-term storage of memories
• Organization and planning
• Behaviour and emotions
Brain stem
• Breathing
• Heart rate control
• Consciousness, alertness, wakefulness
• Swallowing
• Blood pressure
• Sweating
Cerebellum
• Balance
• Motor (movement) coordination
• Posture
• Fine motor skills

Can you think of a memory that is connected to music? A song that is connected to your life in a meaningful way?

Would you like to share that memory and song now? Take 2 minutes and discuss with a neighbor

But what is it about music that can evoke such vivid memories?

Music serves as a potent trigger for retrieving memories.

We all know the feeling: a golden oldie comes blaring over the radio and suddenly we're transported back — to a memorable high-school dance, or to that perfect afternoon on the beach with friends. But what is it about music that can evoke such vivid memories?

By mapping the brain activity of a group of subjects while they listened to music, a researcher at the University of California, Davis, , Petr Janata, associate professor of psychology at UC Davis' Center for Mind and Brain now thinks he has the answer: The region of the brain where memories of our past are supported and retrieved also serves as a hub that links familiar music, memories and emotion.
. The hub is located in the medial prefrontal cortex region — right behind the forehead

"What seems to happen is that a piece of familiar music serves as a soundtrack for a mental movie that starts playing in our head. It calls back memories of a particular person or place, and you might all of a sudden see that person's face in your mind's eye," Janata said. "Now we can see the association between those two things – the music and the memories."
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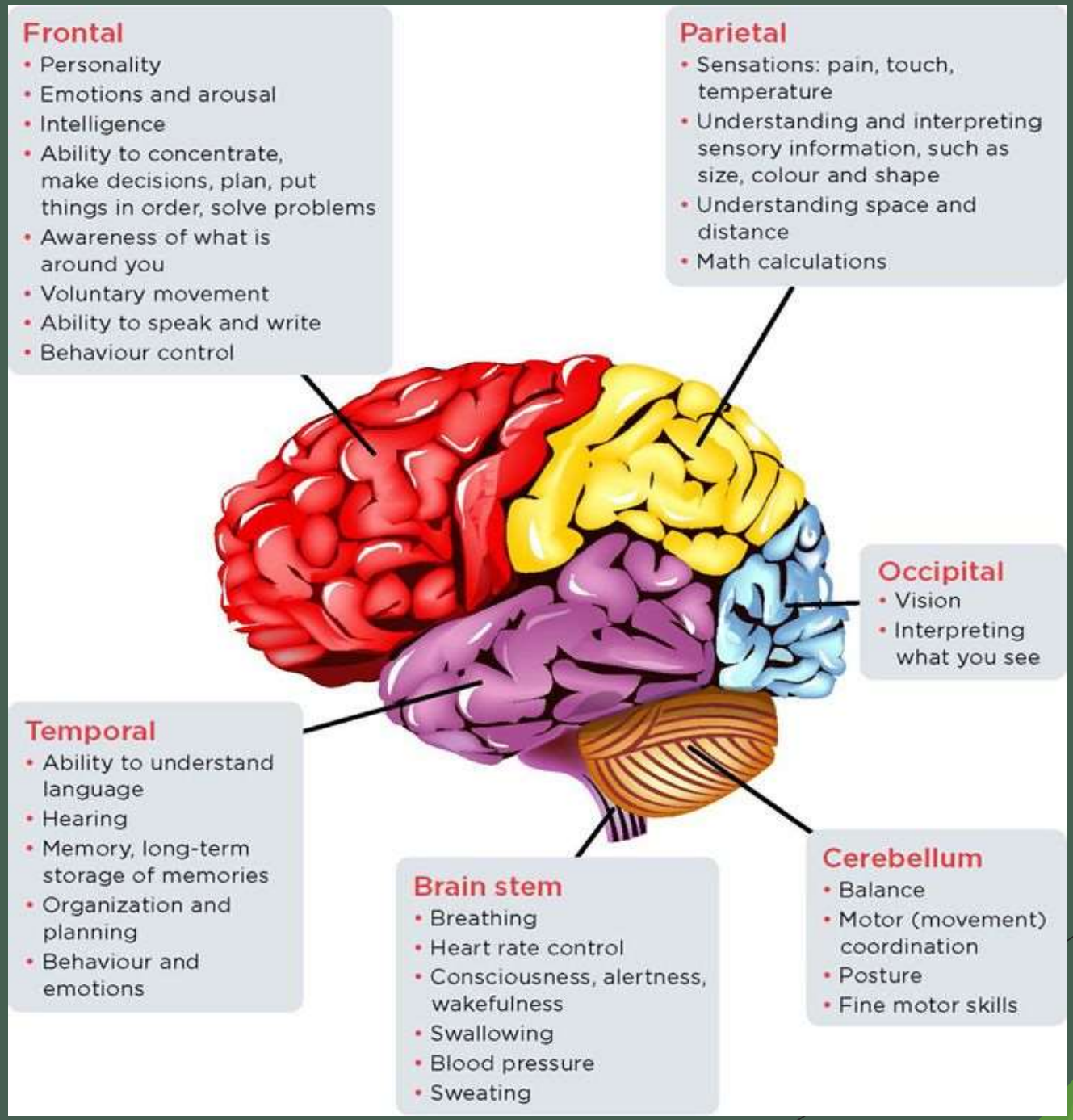
When people are familiar with a tune, their brain shows increased activity including salient autobiographical memories (most important memories), and enjoyment. The brain region known as the dorsal medial prefrontal cortex responds to both familiarity and autobiographical associations.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The dorsal medial Prefrontal cortex is a hub that responds to music, memory and emotion.

Music facilitates learning

While children come into the world ready to decode sounds and words, music education helps enhance those natural abilities. The effect of music education on language can also be seen in the brain.

Recent studies have clearly indicated that musical training physically develops the part of the left side of the brain known to be involved with processing language, and can actually wire the brain's circuits in specific ways/

"language competence is at the root of social competence. Musical experience strengthens the capacity to be verbally competent"- Dr. Kyle Pruett, Clinical Prof. of Child Psychiatry at Yale School of Medicine.

Benefits of Music and Art while being mindful

Schools that have rigorous programs and high-quality music and arts teachers probably have high-quality teachers in other areas. If you have an environment where there are a lot of people doing creative, smart, great things, joyful things, even people who aren’t doing that have a tendency to go up and do better.”

Many artists will tell you that there's nothing more soothing and relaxing than getting into the flow of a good painting. It takes your mind off your problems and can have a calming effect similar to meditation. Art-based therapy has even proven so effective at helping people cope with stress that it's become a useful tool for treating those suffering from PTSD.

Thanks to modern advances in neuroscience and brain imaging, we're now getting a clearer understanding of just how profoundly your mind is affected when you express yourself artistically. Researchers out of Germany found that people who spent time creating visual art actually showed increased connectivity in their brains during fMRI scans, and demonstrated improvements in "psychological resilience", a term describing a person's ability to cope with negative emotions and remain happy and functional during stressful life conditions.


Clay

A recent study from The Mayo Clinic found that taking up visual arts can be an important tool to prevent the problems with memory and cognition that often come with age. Participants who described themselves as artists reported far fewer incidents of cognitive impairment compared to those who never took up art. Regularly engaging in artistic activities seems to have a protective effect on aging minds. Even those who didn't begin painting until late in life showed improvement, but the greatest benefit was for those who began in mid-life and persisted as they aged. *So if you've been considering picking up a brush and palette for the first time, start now and your future self will thank you.*

https://www.youtube.com/watch?v=MWUpGAMe6jc